**MINISTRY OF HIGER AND SECONDARY SPECIAL EDUCATION OF REPUBLIC OF UZBEKISTAN**

**SAMARKAND STATE UNIVERSITY OF VETERINARY MEDICINE LIVESTOCK AND BIOTECHNOLOGIES**

**FACULTY OF VETERINARY PREVENTION AND TREATMENT**

**Department of Veterinary Surgery and Obstetrics**

**"APPROVED"**
**Vice Rector for Academic Affairs**
**professor_____ A.A. Elmurodov**
**"___" _____2022**

# EDUCATIONAL-METHODOLOGICAL COMPLEX
**by subject**

# VETERINARY SURGERY

**Area of expertise:** - 400000-agriculture and water management

**Field of education:** -410000 - Agriculture, forestry and fisheries

**The direction of education** - 5440100-Veterinary medicine (by type of activity)

**Samarkand – 2022**

The educational-methodological complexis developed based on the curriculum of the subject.

**Compilers:**

**1. Yulchyiev J.B**. -Associate professor of the Department of Veterinary Surgery and Obstetrics, PhD

**2. Yuldasheva M.K.** - Assistant of the Department of Veterinary Surgery and Obstetrics

This curriculum was discussed at a meeting of the Department of Veterinary Surgery and Obstetrics No. ___ dated ___ ____ 2022 and recommended for approval to the Faculty Council.

**Headofthechair, AssociateProfessor_____Narziev B.D.**

The educational work program in Russian was discussed and approved by the Council of the Faculty of Veterinary Prevention and Treatment and recommended for use (Protocol No. ___ dated "____" _____ 2022).

**Head of faculty coyncil, professor _____Niyazov Kh.B.**

**Agreed:**
**Head of educational and methodical departament, associate professor _____ Ruzikulov R.F.**

## CONTENT

# I. Curriculum

3/39

**O‘ZBEKISTON RESPUBLIKASI**
**OLIY VA O‘RTA MAXSUS TA’LIM VAZIRLIGI**
**SAMARQAND VETERINARIYA MEDITSINASI INSTITUTI**

"TASDIQLAYMAN"
Samarqand veterinariya meditsinasi instituti rektori
_____
2021 yil "08" 08

"KELISHILDI"
Oliy va o‘rta maxsus ta’lim vazirligi
_____
2021 yil "18" 08

Ro‘yxatga olindi: № BD-5440400-2.12
2021 yil "17" 08

# VETERINARIYA XIRURGIYASI

## FAN DASTURI

**Bilim sohasi:** 400000 – Qishloq va suv xo‘jaligi

**Ta’lim sohasi:** 440000 – Veterinariya

**Ta’lim yo‘nalishi:** 5440400 – Veterinariya sanitariya ekspertizasi

**Toshkent– 2021**

| Fan/modul kodi<br>VXM 3306 | O‘quv yili<br>2022 - 2023 | Semestr<br>5 | ECTS – Kreditlar<br>6 |
|---|---|---|---|
| Fan modul turi<br>Majburiy | Ta’lim tili<br>O‘zbek-rus | | Haftadagi dars soatlari |

| 1. | Fanning nomi | Auditoriya mashg‘ulotlari (soat) | Mustaqil ta’lim (soat) | Jami yuklama (soat) |
|---|---|---|---|---|
| | Veterinariya xirurgiyasi | 90 | 90 | 180 |

**2. I. Fanning mazmuni**

Fanni o‘qitishdan maqsad “Veterinariya xirurgiyasi” - hayvonlarda uchraydigan xirurgik kasalliklarining nazariy asoslarini, asosiy tushunchalarini, xirurgik kasalliklarini aniqlash, davolash va oldini olish tamoyillarini o‘rgatish va ularni amaliyotga tatbiq etish ko‘nikmasini hosil qilishdan iborat.

Fanning vazifasi - talablarini nazariy bilimlar, amaliy ko‘nikmalar, jarrohlik kasalliklarida kechadigan jarayonlarga uslubiy yondashish hamda ilmiy dunyoqarashni shakllantirish vazifalarini bajaradi.

**II. Asosiy nazariy qism (ma’ruza mashg‘ulotlari)**

**II.I. Fan tarkibiga quyidagi mavzular kiradi:**

**1-mavzu. “Veterinariya xirurgiyasi” faniga kirish, uning mohiyati, maqsadi va vazifalari. Shikast va shikastlanish to‘g‘risida tushuncha**

Umumiy xirurgiya fanining mohiyati, maqsadi va vazifalari. Hayvonlarda uchraydigan shikastlanishlar. Shikast va shikastlanish to‘g‘risida tushuncha. Shikast va shikastlanishlarning tasniflanishi, ulardan kelib chiqadigan iqtisodiy zarar. Shikast va shikastlanishlarning oldini olish chora-tadbirlari va ularni o‘tkazish bo‘yicha tavsiyalar.

**2-mavzu. Shikastga qarshi organizmning mahalliy va umumiy reaksiyalari**

Shikastlanishlarga javoban organizmning neyro – gumoral reaksiyasi. Shok, kollaps, hushdan ketish. Yalig‘lanish jarayonlarining tasniflanishi, aseptik va yiringli yallig‘lanish jarayonlarining rivojlanish davrlari va bosqichlari, har xil turga mansub hayvonlarda yallig‘lanish jarayonining kechish xususiyatlari. Yallig‘lanishni davolashning asosiy qoidalari va usullari.

**3-mavzu. Aerob va anaerob xirurgik infeksiyalar.**

Xirurgik infeksiya to‘g‘risida tushuncha, uning rivojlanishida makro– va mikroorganizmlarning roli. Xirurgik infeksiyaning tasniflanishi va oldini olishning asosiy tamoyillari. Aerob ya’ni yiringli infeksiyaning asosiy shakllari – abssess, flegmona, ularning etiologik omillari, patogenezi, klinik belgilari va davolash

xususiyatlari. Yiringli – rezorbtiv isitmaning. Etiologiyasi va uning rivojlanishiga ta'sir etuvchi shart – sharoitlar. Sepsis turlari. Sepsisni kompleks davolash usullari.

Anaerob infeksiya to'g'risida tushuncha. Anaerob infeksiyaning qo'zg'atuvchilari; anaerob infeksiyaning asosiy shakllari: gazli gangrena va chirituvchi infeksiya. Gazli gangrena va chirituvchi infeksiyalarning etiologik omillari, patogenezi, klinik belgilari, ularni davolash va oldini olish tamoyillari.

**4-mavzu. Ochiq va yopiq mexanik shikastlanishlar**

To'qimalar shikastlanishini ta'sir qiluvchi kuchga, shikastlanish darajasiga va joylashishiga bog'liqligi. Lat yeyishlarning darajalari va klinik belgilari. Gematomalar, ularning kelib chiqish sabablari, klinik belgilari, davolash usullari. Limfoekstravazatlar, ularning kelib chiqish sabablari, klinik belgilari, davolash usullari. Gemolimfoekstravazatlarning kelib chiqish sabablari, klinik belgilari. Yopiq shikastlanishlarning oldini olish va davolash tamoyillari.

**5-mavzu. Jarohat biologiyasi va jarohatlarni davolash tamoyillari**

Mexanik antiseptika – jarohatga xirurgik ishlov berish, jarohatni kesib kengaytirish, o'lgan tuqimalarni qisman va to'liq kesib olib tashlash. Jarohatlarni birlamchi va ikkilamchi choklash usullari. Fizikaviy antiseptika – jarohatni ochiq va yopiq usullarda davolash, drenaj qo'yish usuli bilan davolash. Kimyoviy antiseptika – jarohatlarni ishqorli va kislotali vositalar yordamida davolash. Biologik antiseptika. Fermentlar yordamida davolash. Jarohat va jarohat kasalligi to'g'risida tushuncha. Jarohatlar tasniflanishi, etiologik omillari, patogenezi, klinik belgilari, klinik va morfologik tavsifi. Jarohatlarning kechish davrlari. Birlamchi tortilish bo'yicha bitish. Ikkilamchi tortilish bo'yicha bitish. Qoraqo'tir hosil qilib bitish. Patologik va sog' granulyatsiyalar.

**6-mavzu. To'qimalar nekrozi. Yara va oqmalar**

To'qimalar nekrozi turlari. Quruq va rutubotli (nam) gangrenalarning kelib chiqishi, rivojlanishi, klinik belgilari, oldini olish va davolash usullari. Yara kasalligi to'g'risida tushuncha. Yara va oqmalar hosil bo'lish sabablari. Yara va oqmalar tasniflanishi, rivojlanishi, klinik belgilari, oldini olish va davolash usullari.

**7-mavzu. Termik va kimyoviy shikastlanishlar**

Termik kuyishlar. Kuyish shikastining turli hayvonlarda kechish xususiyatlari. Kuyish darajalari, belgilari, oqibati va oldini olish tamoyillari. Kimiyoviy va termo–kimyoviy kuyishlar, ularning xususiyatlari, rivojlanishi, kasallik belgilari, oldini olish va davolash usullari. Elektr toki va chaqmoq urishi natijasida kelib chiqadigan kuyishlar, ularning ta'sir qilish mexanizmi, kasallik belgilari va patomorfologik o'zgarishlar. Kuyishda birinchi yordam ko'rsatish. Sovuq urish, sovuq qotish darajasi, rivojlanishi, klinik belgilari, oqibatlari, mahalliy va umumiy davolash usullari.

**8-mavzu. Suyak kasalliklari**

Periostitlar, ularning rivojlanishi, kasallik belgilari, oldini olish va davolash usullari. Suyaklar nekrozi va kariyesi, ularning rivojlanishi, kasallik belgilari, oldini olish va davolash usullari. Suyaklar sinishi va ularning tasniflanishi, suyaklar sinishining bitish jarayonlari. Suyak sinishlarini davolash usullari. Suyak sinishlaridan kelib chiqadigan asoratlar, ularni oldini olish.

**9-mavzu. Bo‘g‘im, pay va bursa kasalliklari**

Bo‘g‘im cho‘zilishi va chiqishlari, ularning etiopatogenezi, klinik belgilari, davolash usullari va oldini olish chora–tadbirlari. Gemartroz etiopatogenezi, kasallik belgilari, davolash usullari. Aseptik va yiringli sinovit hamda artritlarning etiopatogenezi, kasallik belgilari, davolash usullari va oldini olish chora–tadbirlari. Paylar cho‘zilishi va uzilishlarining belgilari, davolash usullari va oldini olish chora–tadbirlari. Tendinit va tendovaginit turlari, ularning etiopatogenezi, klinik belgilari, davolash usullari va oldini olish chora–tadbirlari. Bursitlar etiopatogenezi, klinik belgilari, davolash usullari va oldini olish chora–tadbirlari.

**10-mavzu. Bosh va bo‘yin sohalaridagi kasalliklar**

Bosh sohasidagi jarohatlar, ularning etiologiyasi, klinik belgilari va davolash usullari. Yuz nervi falajining etiologiyasi, klinik belgilari va davolash usullari. Chalov (qiltiq) kasalligining etiologiyasi, klinik belgilari va davolash usullari. Aktinomikozning etiopatogenezi, klinik belgilari, davolash va oldini olish usullari. Qizilo‘ngach jarohati va unga yod jismlar tiqilishi.

**11-mavzu. Yag‘rin ko‘krak va qorin sohalaridagi kasaliklar**

Yag‘rin sohasidagi nekrotik jarayonlarning etiopatogenezi, klinik belgilari, davolash va oldini olish usullari. Yag‘rin abssessi va flegmonasi. Ko‘krak devori jarohatlari. Qorin devorining jarohati, gematomasi, limfoekstravazati. Peritonitlar etiopatogenezi, klinik belgilari, davolash va oldini olish usullari. Churralar to‘g‘risida tushuncha, churra turlari, klinikasi va davolash usullari. Qorin devori gematomasi va limfoekstravazatlari. Churralar to‘g‘risida tushuncha, ularning turlari, klinikasi va davolash usullari.

**12-mavzu. Erkak hayvonlarda siydik-jinsiy a’zolari kasalliklari**

Andrologiya fanining chorvachilikda mohiyati va mol bosh sonini tiklashdagi ahamiyati. Balanopostitlar etiopatogenezi, klinik belgilari, davolash va oldini olish usullari. Fimoz va parafimoz kasalliklari. Jinsiy olatning lat yeyishi, parezi, o‘smalari va falajlanishi. Bichishdan keyingi asoratlarning etiologiyasi, klinik belgilari, davolash va oldini olish usullari.

**13-mavzu. Oyoq kasalliklari**

Qishloq xo‘jalik va uy hayvonlarida oyoq kasalliklarini keltirib chiqaruvchi sharoit va omillar. Harakat tizimi a’zolarining statikasi va dinamikasi. Oqsoqlanish

turlari. Bo‘rdoqiga boqilayotgan buqachalarda axillis payining nekrozi va uzilishining etiopatogenezi, klinik belgilari, davolash va oldini olish usullari. Qoramollarda artroz kasalligining etiopatogenezi, klinik belgilari, davolash va oldini olish usullari.

**14-mavzu. Tuyoq kasalliklari**

Ortopediya fani haqida tushuncha. Barmoq va tuyoq kasalliklaridan kelib chiqadigan iqtisodiy zarar. Barmoqlar anatomiyasi va fiziologiyasi. Deformasiyaga uchragan tuyoqlar va ularni davolash. Qishloq xo‘jalik hayvonlarni taqalash. Noto‘g‘ri taqalashdan kelib chiqadigan asoratlar.

Tuyoqlarning revmatik yallig‘lanishi. Yumshoq tovon tog‘ayi nekrozi. Tuyoq bo‘g‘imining yiringli yallig‘lanishi. Barmoqlar nekrobatsillyozi va oqsil kasalligida kelib chiqadigan asoratlar.

**15-mavzu. Ko‘z konyunktivasi va shox pardasi kasalliklari**

Chorvachilik xo‘jaliklarida ko‘z kasalliklarining sodir bo‘lish darajasi. Ko‘z kasalliklaridan kelib chiqadigan iqtisodiy zarar. Ko‘zning klinik anatomiyasi va fiziologiyasi. Ko‘zni umumiy va maxsus tekshirish usullari. Ko‘z kon’yunktivasi kasalliklarining etiopatogenezi, klinik belgilari, davolash va oldini olish usullari. Kataral kon’yunktivit. Yuzaki yiringli kon’yunktivit. Ko‘z shox pardasi kasalliklarining etiopatogenezi, klinik belgilari, davolash va oldini olish usullari. Yuzaki kataral keratit. Yuzaki yiringli keratit. Invazion konyunktivokeratit (telyazioz).

## III. Amaliy va laboratoriya mashg‘ulotlari bo‘yicha ko‘rsatma va tavsiyalar

### III.I. Amaliy mashg‘ulotlar uchun quyidagi mavzular tavsiya etiladi:

1. Xirurgik klinikasi ishi va yuritiladigan xujjatlar bilan tanishish.
2. Xirurgik kasal hayvonlarni klinik tekshirish usullari.
3. O‘tkir aseptik yallig‘lanishni sovuq va issiq muolajalar bilan davolash.
4. Yarim o‘tkir va surunkali aseptik yallig‘lanishlarni davolashda massaj va yorug‘lik nurlarini qo‘llash.
5. Yarim o‘tkir va surunkali aseptik yallig‘lanishlarni davolashda parafin va ozekeritni qo‘llash.
6. Surunkali aseptik yallig‘lanishlarni davolashda o‘tkir qo‘zg‘atuvchi malham va linimentlarni qo‘llash.
7. Novokain qamallarini qo‘llash.
8. To‘qimali terapiya.
9. Auto-, gomo-, geterogemoterapiyalar va laktoterapiyalarni kasal hayvonda namoyish qilish.
10. O‘tkir yiringli yallig‘lanishlarni davolash.
11. Maxsus xirurgik infeksiyani davolash.

12. Jarohatlangan hayvonlarni tekshirish.
13. Jarohatlangan hayvonlarni davolashni kasal hayvonda namoyish qilish.
14. Yumshoq to‘qimalarning yopiq shikastlanishlarini davolashni kasal hayvonda namoyish qilish.
15. Kasal hayvonda yara va oqmalarni davolashni namoyish qilish.
16. Termik va kimyoviy shikastlanishlarni davolashni kasal hayvonda namoyish qilish.
17. Suyak kasalliklari va sinishlarni davolashni kasal hayvonda namoyish qilish.
18. Yiringli bo‘g‘m kasalliklarini davolashni kasal hayvonda namoyish qilish.
19. Pay va pay qini kasalliklarini davolashni kasal hayvonda namoyish qilish.
20. Bosh sohasida uchraydigan kasalliklarni davolashni kasal hayvonda namoyish qilish.
21. Yag‘rin va ko‘krak sohalaridagi kasalliklarni davolashni kasal hayvonda namoyish qilish.
22. Kasal hayvonda qorin sohasidagi kasalliklarni davolashni namoyish qilish.
23. Siydik-jinsiy a’zolar kasalliklarini davolashni kasal hayvonda namoyish qilish.
24. Ko‘krak va orqa oyoqlarning statikasi va dinamikasini o‘rganish.
25. Bo‘g‘im kasalliklarida sinoviyani tekshirish
26..Kasalliklarida oyoqlarni tekshirish.
27.Qoramol barmoqlarida o‘tkaziladiyan operatsiyalar
28. Tuyoq kapsulasidagi deformatsiya turini aniqlash va uni to‘g‘irlash.
29. Ko‘zda o‘tkaziladiyan operatsiyalar.
30.Ko‘zni maxsus asboblar yordamida tekshirish

**III.II. Mustaqil ta’lim va mustaqil ishlar**

Mustaqil ta’lim uchun tavsiya etiladigan mavzular:

1. Nurlar ta’siridan kelib chiqadigan shikastlanishlar.
2. Dermatitlar.
3. Ekzemalar.
4. Qon tomirlari kasalliklari.
5. Limfa tomirlari kasalliklari.
6. Asab tizimi kasalliklari.
7. Miozitlar.
8. Miopatozlar.
9. Xavfli o‘smalar.
10. Xavfsiz o‘smalar.



**Samarqand veterinariya meditsinasi instituti**
**Veterinariya jarrohligi va akusherlik kafedrasi v.f.d. v.b professor H.B.Niyozov va v.f.n. professor R.M.Tashtemirovlar tomonidan tayyorlangan Oliy ta’limning 5440100 - Veterinariya meditsinasi (faoliyat turlari bo‘yicha), 5440400 - Veterinariya sanitariya ekspertizasi yo‘nalishlari bo‘yicha “Veterinariya xirurgyasi” fan dasturiga**

**TAQRIZ**

Dastur Oliy ta’limning 5440100 - Veterinariya meditsinasi (faoliyat turlari bo‘yicha), 5440400 - Veterinariya sanitariya ekspertizasi yo‘nalishlari uchun “Veterinariya xirurgyasi” fanidan tayyorlangan bo‘lib, uning tarkibida o‘quv fanining dolzarbligi va oily kasbiy ta’limdagi o‘rni, o‘quv fanining maqsadi va vazifasi, asosiy nazariy qism (ma’ruza mashg‘ulotlari), amaliy va laboratoriya mashg‘ulotlari bo‘yicha ko‘rsatma va tavsiyalar, mustaqil ta’lim va mustaqil ishlar hamda asosiy, qo‘shimcha va xorijiy o‘quv adabiyotlar hamda axborot manbaalari ro‘yxati ko‘rsatilgan.

Fanni o‘rganish uchun ma’ruza, amaliy mashg‘ulot. laboratoriya darslari va mustaqil ishlash uchun yetarli darajada soatlar ajratilgan bo‘lib, veterinariya sohalarining mutaxassisliklariga oid tafakkur va dunyoqarashni shakllantirishda katta ahamiyatga egadir.

Ushbu o‘quv dasturida fanning maqsadi va vazifalari; fan bo‘yicha talabalarning tasavvuri, bilimi, ko‘nikma va malakalariga qo‘yiladigan talablar; o‘quv rejadagi boshqa fanlar bilan aloqasi; o‘qitishda zamonaviy axborot va pedagogik texnologiyalar bo‘yicha uslubiy ko‘rsatmalar berilgan.

Fan dasturining asosiy nazariy qismida “Veterinariya xirurgyasi” fani barcha hayvonlarda uchraydigan xirurgik kasalliklarning kelib chiqish sabablarini aniqlash, usullari va umumiy davolash tamoyillarini o‘rgatish, xirurgik kasal hayvonlarni davolashda zamonaviy dori vositalar, asbob uskunalardan foydalanishni o‘rgatadigan fandir.

Dastur soha bo‘yicha DTS, Malaka talablari va 5440100 - Veterinariya meditsinasi (faoliyat turlari bo‘yicha), 5440400 - Veterinariya sanitariya ekspertizasi yo‘nalishlari bo‘yicha bakalavriatura talablariga javob beradi deb hisoblayman va dasturni O‘zbekiston Respublikasi Oliy va o‘rta-maxsus ta’lim vazirligi tomonidan tasdiqlash va o‘quv jarayonida qo‘llash uchun tavsiya etaman.

**“Hayvonlar anatomiyasi, gistologiyasi va patologik anatomiya” kafedrasi dotsenti, v.f.n** B.A.Kuliyev

**Samarqand veterinariya meditsinasi instituti**
**Veterinariya jarrohligi va akusherlik kafedrasi v.f.d. v.b professor**
**B.B.Niyozov va v.f.n. professor R.M.Tashtemirovlar tomonidan tayyorlangan**
**Oliy ta'limning 5440100 - Veterinariya meditsinasi (faoliyat turlari bo'yicha).**
**5440400 - Veterinariya sanitariya ekspertizasi yo'nalishlari bo'yicha**
**"Veterinariya xirurgyasi" fan dasturiga**

**TAQRIZ**

Oliy ta'limning 5440100 - Veterinariya meditsinasi (faoliyat turlari bo'yicha), 5440400 - Veterinariya sanitariya ekspertizasi yo'nalishlari uchun "Veterinariya xirurgyasi" fanidan tayyorlangan ushbu fan dasturi tarkibida o'quv fanining dolzarbligi va oily kasbiy ta'limdagi o'rni, o'quv fanining maqsadi va vazifasi, asosiy nazariy qism (ma'ruza mashg'ulotlari), amaliy va laboratoriya mashg'ulotlari bo'yicha ko'rsatma va tavsiyalar, mustaqil ta'lim va mustaqil ishlar hamda asosiy, qo'shimcha va xorijiy o'quv adabiyotlar hamda axborot manbaalari ro'yxati ko'rsatilgan.

Ushbu o'quv dasturida fanning maqsadi va vazifalari; fan bo'yicha talabalarning tasavvuri, bilimi, ko'nikma va malakalariga qo'yiladigan talablar; o'quv rejadagi boshqa fanlar bilan aloqasi; o'qitishda zamonaviy axborot va pedagogik texnologiyalar bo'yicha uslubiy ko'rsatmalar berilgan.

Fan dasturining asosiy nazariy qismida "Veterinariya xirurgyasi" fani barcha hayvonlarda uchraydigan xirurgik kasalliklarning kelib chiqish sabablarini aniqlash, usullari va umumiy davolash tamoyillarini o'rgatish, xirurgik kasal hayvonlarni davolashda zamonaviy dori vositalar, asbob uskunalardan foydalanishni o'rgatadigan fandir.

Ushbu dastur soha bo'yicha DTS, Malaka talablari va Veterinariya meditsinasi (faoliyat turlari bo'yicha), Veterinariya sanitariya ekspertizasi yo'nalishlari bo'yicha bakalavriatura talablariga javob beradi deb hisoblayman va dasturni O'zbekiston Respublikasi Oliy va o'rta-maxsus ta'lim vazirligi tomonidan tasdiqlash va o'quv jarayonida qo'llash uchun tavsiya etaman.

**Samarqand shahar Hayvonlar kasalliklari tashxisi va oziq-ovqat mahsulotlari xavfsizligi davlat markazi direktori** **A.A.Raimov**



| | |
|---|---|
| | 11. Quloq kasalliklari.<br>12. Burun kasalliklari.<br>13. Tish kasalliklari.<br>14. Yelinning xirurgik kasalliklari.<br>15. Urug'don kasalliklari.<br>16. Tuyoq ichki strukturasi kasalliklari.<br>17. Sklera va ko'z ichki muhitlari kasalliklari.<br>18. Yallig'lanishni elektr toki va yorug'lik bilan davolash.<br>19. Limfangit va limfonodulitlarni davolash.<br>20. Og'iz bo'shlig'i kasalliklari.<br>21. Siydik jinsiy a'zolar kasalliklarini davolash.<br>22. Operatsion va tasodifiy jarohatlarni davolash tamoyillari.<br>23. Taqa turlari va ularning tuzilishi.<br>24. Sport va ishchi otlarni taqalash xususiyatlari.<br>25. Ko'z qovoqlari kasalliklari.<br>26. Ko'zning umumiy xirurgik kasalliklari.<br>27. Ko'z sohasida bajariladigan operasiya turlari va ularning xususiyatlari.<br>Mustaqil o'zlashtiriladigan mavzular bo'yicha talabalar tomonidan fan bo'yicha internet ma'lumotlarini to'plash, ularni o'rganish, o'quv adabiyotlari yordamida referat tayyorlash va uni taqdimot qilish tavsiya etiladi. |
| 3. | IV. **Fan o'qitilishining natijalari (shakllanadigan kompetensiyalar)**<br>Fan bo'yicha talabalarning bilim, ko'nikma va malakalariga quyidagi talablar qo'yiladi. Talaba:<br>• hayvonlarda uchraydigan jarrohlik kasalliklarining etiopatogenezi, davolash va oldini olish tamoyillari, xirurgik kasalliklarda hayvonlar organizmida kechadigan murakkab umumiy va mahalliy patologik va fiziologik jarayonlar to'g'risida tasavvurlarga ega bo'lishi;<br>• xirurgik kasalliklarga to'g'ri tashhis qo'yish uchun umumiy va xususiy tekshirish usullarini, operatsion va konservativ usullarni qo'llash qoidalarini, yoppasiga uchraydigan barmoq va ko'z kasalliklarini davolash va oldini olish tadbirlarini tuzish va o'tkazishni, qo'llaniladigan dori vositalarining hayvon organizmiga ta'sir mexanizmini bilishi va ulardan foydalana olishi,<br>• xirurgik kasalliklarga klinik belgilar va tekshirish natijalariga tayanib tashhis qo'yish, hayvonlarning turli a'zolaridagi xirurgik kasalliklarni samarali va arzon usullar bilan davolash, oldini olish uchun qo'llanadigan asbob – uskunalardan foydalanish ko'nikmalariga ega bo'lishi;<br>• hayvonlar kasalliklarini davolashda xirurgiyaning zamonaviy usul va texnikalaridan foydalanish malakalariga ega bo'lishi kerak. |

| | |
|---|---|
| 4. | **V. Ta'lim texnologiyalari va metodlari:**<br>• ma'ruzalar;<br>• interfaol keys-stadilar;<br>• seminarlar (mantiqiy fikrlash, tezkor savol-javoblar);<br>• guruhlarda ishlash;<br>• taqdimotlarni qilish;<br>• individual loyihalar;<br>• jamoa bo'lib ishlash va himoya qilish uchun loyihalar. |
| 5. | **VI. Kreditlarni olish uchun talablar:**<br>Fanga oid nazariy va uslubiy tushunchalarni to'la o'zlashtirish, tahlil natijalarini to'g'ri aks ettira olish, o'rganilayotgan jarayonlar haqida mustaqil mushohada yuritish va joriy, oraliq nazorat shakllarida berilgan vazifa va topshiriqlarni bajarish, yakuniy nazorat bo'yicha yozma ishni topshirish. |
| 6. | **Asosiy adabiyotlar**<br>1. Niyozov X.B., "Umumiy va xususiy xirurgiya". O'quv qo'llanma. Samarqand, 2015 yil., F.Nasimov XK Matbaat bulimi.<br>2. Niyozov X.B., Davlatov N.SH., "Umumiy va xususiy xirurgiya". O'quv qo'llanma. Samarqand, 2012 yil., F.Nasimov XK Matbaat bulimi.<br>3. Tashtemirov R.M., Karimov M.G. "Ortopediya". O'quv qo'llanma. Samarqand, 2013 yil. nashiryot "F.Nasimov"<br>4. Tashtemirov R.M. "Veterinariya oftalmologiyasining nazariy asoslari". O'quv qo'llanma. Toshkent, 2015 yil. nashiryot "F.Nasimov"<br><br>**Xorijiy adabiyotlar**<br>5. Weaver, Adrian Steiner and Guy St Jean. Bovine Surgery and Lameness, Second Edition/ © 2012 year/ Blackwell Publishing Ltd, 9600 Garsington Road, Oxford OX4 2DQ, UK<br>6. Тимофеев С.В., Филиппов Ю.И и др. «Общая хирургия животных». Учебник. Москва, "Зоомедлит" 2011, год.<br><br>**Qo'shimcha adabiyotlar**<br>7. Mirziyoyev Sh.M. Erkin va farovon demokratik O'zbekiston davlatini birgalikda barpo etamiz. Toshkent, "O'zbekiston" NMIU, 2017 yil. – 29 bet.<br>8. Mirziyoyev Sh.M. Qonun ustuvorligi va inson manfaatlarini ta'minlash yurt taraqqiyoti va xalq farovonligining garovi. "O'zbekiston" NMIU, 2017 yil. – 47 bet.<br>9. Mirziyoyev Sh.M. Buyuk kelajagimizni mard va olijanob xalqimiz bilan birga quramiz. "O'zbekiston" NMIU, 2017 yil. – 485 bet.<br>10.Mirziyoyev Sh.M. "O'zbekiston Respublikasini yanada rivojlantirish bo'yicha harakatlar strategiyasi to'g'risida"gi 2017 yil 7 fevral, PF-4947-son |



| | |
|---|---|
| | Farmoni. Toshkent, 2017.<br>11. Mirziyoyev Sh.M. "Oliy ta'lim tizimini yanada rivojlantirish chora – tadbirlari to'g'risida" gi 2017 yil 20 apreldagi PQ-2909-sonli Qarori. Toshkent, 2017 yil.<br><br>**Axborot manbaalari**<br>12. WWW. Ziyo net.<br>13. http://kulikov–av.chat.ru/ma01.htm<br>14. www.vetdoctor.ru<br>15. www.veterinar.ru<br>16. www.allvet.ru<br>17. http://www.zooclub.ru/horses/73.shtml |
| 7. | Fan dasturi Oliy va o'rta maxsus, professional ta'limi yo'nalishlari bo'yicha o'quv-uslubiy birlashmalar faoliyatini Muvofiqlashtiruvchi Kengashning 2021 yil "17" 08 dagi 3 -sonli bayonnomasi bilan ma'qullangan.<br>O'zbekiston Respublikasi Oliy va o'rta maxsus ta'lim vazirligining 2021 yil "18" dagi 08 356 - sonli buyrug'i bilan ma'qullangan. Fan dasturlarini tayanch oliy ta'lim muassasasi tomonidan tasdiqlashga rozilik berilgan. |
| 8. | **Fan/modul uchun mas'ullar:**<br>R.M.Tashtemirov – Sam VMI, "Veterinariya jarrohligi va akusherlik" kafedrasi , veterinariya fanlari nomzodi, professor.<br>X.B.Niyozov– Sam VMI, "Veterinariya jarrohligi va akusherlik" kafedrasi veterinariya fanlari doktori, v.b. professor,. |
| 9. | **Taqrizchilar:**<br>A.A.Raimov – Samargand shahar Hayvonlar kasalliklari tashxisi va oziq-ovqat mahsulotlari xavfsizligi davlat markazi direktori<br>B.A.Kuliyev – SamVMI, "Hayvonlar anatomiyasi, gistologiya va patologik anatomiya" kafedrasi dotsenti, veterinariya fanlari nomzodi |

# II. Work educational program

**MINISTRY OF HIGHER AND SECONDARY SPECIAL EDUCATION OF THE REPUBLIC OF UZBEKISTAN**

**SAMARKAND STATE UNIVERSITY OF VETERINARY MEDICINE, LIVESTOCK AND BIOTECHNOLOGIES**

**Registered:**
№PB-5440100-3.04
"30" 08. 2022 y

**"I APPROVE"**
Vice Rector for Academic Affairs
professor _____ Elmuradov A.A.
"30" 08. 2022 y

# EDUCATIONAL WORK PROGRAM

## BY SUBJECT «VETERINARY SURGERY» (SYLLABUS)

| | |
|---|---|
| **Area of expertise:** | 400000 – Agriculture and water management |
| **Field of education:** | 440000-Veterinary |
| **The direction of education:** | 5440100-Veterinary medicine (by type of activity) |

**Samarkand-2022**

The curriculum for the subject (syllabus) has been developed on the basis of the approved curriculum and curriculum in 2020 y.

**Compilers:**

| | |
|---|---|
| **Tashtemirov R.M** | associate of the department "Veterinary surgery and obstetrics" candidate of veterinary sciences, professor |
| **Yulchiev J. B.** | assistant of the department "Veterinary surgery and obstetrics", PhD |
| **Yuldasheva M. K.-** | assistant of the department "Veterinary surgery and obstetrics" Phd |

**Reviewers:**

| | |
|---|---|
| **Khakimov B.** | Deputy head of the department of veterinary medicine and animal husbandry development of the city of Samarkand, candidate of veterinary sciences. |
| **Dilmurodov N. B.** | Head of the department, " Anatomy histology and pathological anatomy of animals", doctor of veterinary sciences, professor |

This curriculum was discussed at the meeting of the department of "Veterinary surgery and obstetrics" № 1 of "25" 08. 2022 year recommended for approval to the faculty Council.

**Head of the department, candidate of veterinary sciences** **Narziev B. D.**

The training work program in Russian was discussed and approved at the faculty council of veterinary prevention and treatment and recommended for use Protocol № 1 of "26" 08. 2022 year).

**Chairman of the Council**

**faculty, doctor of veterinary sciences docent** **Niyazov H. B.**

**Approved by:**

**Head of the educational and methodological**

**department, docent** **Ruzikulov R. F.**

**Subject Syllabus**

Samarkand State University of Veterinary Medicine, Livestock and Biotechnology

Information about the subject

**Item code:** BXM3306

**Item Name:** Veterinary Surgery

**Semester/year:** 6th semester/2022-2023 academic year

**Department:** Veterinary Surgery and Obstetrics

**Hours/Credits:** 6.0 ECTS (90 academic hours, 90 hours of self-study)

| Lectures | Practical classes | Laboratory | Independent work | Total |
|---|---|---|---|---|
| 30 | 30 | 30 | 90 | 180 |

**Location of classes by subject:**

**Classroom time:** scheduled class

**Requirements:**

**Responsible Department:** Veterinary Surgery and Obstetrics

**Information about the instructor:** Professor, PhD Tashtemirov R.M., assistant Yuldasheva M.K.

**Location of the department:** SamSUVMLB, 3rd academic building, room 341

**Phone:** +99899-592-49-46 office phone; mobile: +99899-592-49-46

**Email:**Ravshanbektashtemirov@gmail.com Working hours: by appointment

**Location of the department:** SamSUVMLB, 3rd academic building, room 341

Phone: + 99897-395-44-07 work phone; mobile: +99897-395-44-07

Email address: *yuldashevamadina75@gmail.com* Working hours: by appointment

**The purpose of teaching the discipline** is to teach students the methods of determination, etiology and principles of general treatment of surgical diseases of animals, the use of modern medicines and equipment in the treatment of surgically ill animals. To form knowledge, skills and qualifications, according to certain production conditions.

**The task of the discipline is to teach students all types of injuries;** the response of the animal's body to traumatic factors, wounds and surgical infection; some aspects of clinical immunology; principles of etiological and pathogenetic treatment; when studying courses of andrology, orthopedics and ophthalmology, the course, prevention and treatment of certain diseases; ways of carrying out veterinary measures without interfering with production technology.

**III. As a result of mastering the subject, the student**:

When studying the discipline "Veterinary Surgery", the bachelor: must know:- educational and scientific programs and literature on surgery to determine the ongoing complex general and local pathological and physiological processes in the body of surgically ill animals;

Taking into account the protective and adaptive reaction of the body, the use of etiotropic, pathogenetic and other methods of treatment;

- determination of the types of etiological factors and features of surgical diseases

of individual organs and systems of animals;
- in the production process, carrying out effective measures for the prevention and control of surgical diseases;

***have skills:***

- differential diagnosis of surgical diseases;

- selection of the necessary method for performing a surgical operation;

- curation of surgically ill animals;

- prevention of complications after treatment of sick animals;

***have a qualification***

- the use of general and special diagnostic methods for the correct diagnosis of surgical diseases;
- reception and registration of a surgically ill animal;
- use of medicinal substances and methods of surgery;
- preparation and implementation of measures for the prevention and treatment of diseases of the eyes and fingers of animals;
- - use of surgical instruments and equipment according to the requirements and rules.

## IV. Teaching methods:

In the process of mastering the subject, modern teaching methods are used, in conjunction with the problems of the industry and the mass form of education, the theoretical knowledge gained is supported by practical classes and seminars. Visual aids, technical training tools, as well as published lecture texts on veterinary surgery, the introduction of a system for assessing students' knowledge are widely used for the effective assimilation of educational material by students. Advanced pedagogical technologies are used in the lectures.

When designing the course "Veterinary Surgery", the following basic conceptual approaches are used:

Personality-oriented education.
A systematic approach.
Activity-oriented approach.
Dialogical approach.
Organization of joint training.
Problem education.

## V. Subject content:

### 5.1. Calendar and thematic plan of scheduled lectures of the subject "Veterinary surgery"

| Lecture topics | | | |
|---|---|---|---|
| **№** | **topic** | **plan** | **hours** |
| **1- Module. Introduction. Geneal and local reaction of the body to injury** | | | |
| 1.1 | Introduction. The content, purpose and objectives of the subject Veterinary | 1.1.1. Content, purpose and objectives of the subject veterinary surgery.<br>1.1.2. Injuries (injuries) occurring in | 2 |

| | | | |
|---|---|---|---|
| | surgery. Concepts of trauma about traumatism | animals. Concepts of trauma and traumatism. Classification. Economic harm caused by injuries (injuries).<br>1.1.3. Measures for the prevention of injuries and traumatism and recommendations for their implementation. | |
| 1.2 | The general and local reaction of the body to injury. | 1.1.1. Periods and stages of inflammation development.<br>1.1.2. Features of the course of inflammatory processes in different animal species.<br>1.1.3. Basic rules и методы лечения воспалений. | 2 |
| **2-Module. Surgical infection** | | | |
| 2.1 | Surgical and anaerobic surgical infection | 2.2.1. The concept of anaerobic infection.<br>2.2.2. Pathogens of anaerobic infection; the main forms of anaerobic infection: gas gangrene and putrefactive infection.<br>2.2.3. Etiological factors of gas gangrene and putrefactive infections (pathogenesis, clinical signs, treatment and prevention).<br>2.2.4. The concept of surgical infection, the role of macro– and microorganisms in its development.<br>2.2.5. Classification and basic principles of prevention of surgical infection.<br>2.2.6. The main forms of purulent infection: abscess, phlegmon, clinical signs and treatment features.<br>Purulent-resorptive fever. Etiology and conditions affecting its development. General surgical infection - sepsis, the concept of sepsis and types. | 2 |
| **3- Module. Open and closed mechanical damages** | | | |
| 3.1 | Open mechanical damage - wounds. Biology of the wound process. | 3.1.1. The concept of wound and wound disease.<br>3.1.2. Classification of wounds, (etiological factors, pathogenesis, clinic, clinical and morphological | 2 |

| | | | |
|---|---|---|---|
| | | characteristics).<br>3.1.3. Wound healing process. Healing by primary tension. Healing by secondary tension. Healing under the scab | |
| 3.2 | Closed mechanical damage. | 3.2.1. Dependence of tissue damage on the strength and location of the injury<br>3.2.2. Bruises (types, degrees and clinical signs). Hematomas (clinical signs and methods of treatment).<br>3.2.3. Lymphoextravasates (clinical signs and methods of treatment). Principles of prevention and treatment of closed injuries. | 2 |
| 3.3 | Tissue necrosis. Ulcers and fistulas. | 3.3.1. Types of tissue necrosis (dry and wet gangrene).<br>3.3.2. The concept of peptic ulcer. Causes of ulcers and fistulas.<br>3.3.3 Classification, clinical signs, treatment and prevention of ulcers and fistulas. | 2 |
| 3.4 | Thermal and chemical damage. | 3.4.1 Thermal damage. Features of the course of burns in different animal species. Degrees of burns (symptoms, consequences and prevention).<br>3.4.2. Chemical and thermochemical burns<br>(characteristics, development, symptoms, methods of prevention and treatment). Electric shock and lightning burns (the mechanism of their action, symptoms and pathomorphological changes). First aid for burns.<br>3.4.3. Factors causing frostbite (degree, development, clinical signs, consequences, general and local treatments). | 2 |
| **4- Module. Diseases of bones, joints and tendons** | | | |
| 4.1 | Bone diseases. | 4.1.1. Periostitis (development, symptoms, prevention and treatment).<br>4.1.2. Necrosis and caries of bones (development, symptoms, prevention and treatment). Classification of bone | 2 |

| | | | |
|---|---|---|---|
| | | fractures<br>4.1.3. Methods of treatment of bone fractures. Complications caused by bone fractures and prevention. | |
| 4.2 | Diseases of joints, tendons and bursitis | 4.2.1. Sprains and dislocations of joints (etiopathogenesis, clinical signs, treatment methods and preventive measures).<br>4.2.2. Hemarthrosis (etiopathogenesis, symptoms, treatment).<br>4.2.3. Aseptic and purulent synovitis (etiopathogenesis, clinical signs, treatment methods and preventive measures).<br>4.2.4. Types of tendinitis and tendovaginitis (etiopathogenesis, clinical signs, treatment and prevention).<br>4.2.5. Bursitis (etiopathogenesis, clinical signs, treatment and prevention). | 2 |
| **5- Module. Diseases of the head, neck, withers, chest and abdomen** | | | |
| 5.1 | Diseases of the head and neck area. | 5.1.1. Wounds and bruises of the head area. Facial nerve paralysis.<br>5.1.2. Kovylnaya disease.<br>5.1.3. Actinomycosis (etiopathogenesis, clinical signs, treatment and prevention). Wounds of the esophagus. | 2 |
| 5.2 | Diseases of the withers, chest and abdomen. | 5.2.1. Necrotic processes in the withers (etiopathogenesis, clinical signs, treatment and prevention).<br>5.2.2. Abscess and phlegmon in the withers. Chest wall wounds.<br>5.2.3. Abdominal wall wounds, hematoma, lymphoextravasate. Peritonitis (etiopathogenesis, clinical signs, treatment and prevention).<br>5.2.4. The concept of hernias (types, clinical signs and treatments) | 2 |
| **6- Module. Andrology** | | | |
| 6.1 | Diseases of the genitourinary organs in males | 6.1.1. The concept of andrology in animal husbandry<br>6.1.2. Balanoposthitis | 2 |

| | | | |
|---|---|---|---|
| | | (etiopathogenesis, clinical signs, treatment and prevention).<br>6.1.3. Phimosis and paraphimosis (atrophy, paresis, tumors and paralysis of the penis).<br>6.1.4. Post-surgical complications | |
| **7- Module. Limb diseases** | | | |
| 7.1 | Diseases of the limbs. | 7.1.1. Factors and conditions causing limb diseases in productive animals<br>7.1.2. Statics and dynamics of organs of movement. Types of lameness<br>7.1.3. Necrosis and ruptures of the Achilles tendon in fattening bulls.<br>7.1.4. Arthrosis of cattle. | 2 |
| **8- Module. Veterinary orthopedics** | | | |
| 8.1 | Hoof diseases. | 8.1.1. The concept of orthopedics. Economic damage caused by diseases of the fingers and hooves. Anatomy and physiology of the fingers.<br>8.1.2. Hoof deformity and treatment. Shoeing of farm animals.<br>8.1.3. Rheumatic inflammation of the hooves. Crumb necrosis. Purulent inflammation of the hoof joint.<br>8.1.4. Complications of necrobacteriosis and foot-and-mouth disease in the finger area | 2 |
| 9.1 | Diseases of the conjunctiva and cornea of the eyes. | 9.1.1. The extent of the spread of eye diseases in animal husbandry.<br>9.1.2. Economic damage caused by eye diseases. Anatomy and physiology of the eye. Methods of general and special eye examination.<br>9.1.3. Diseases of the conjunctiva of the eyes (etiopathogenesis, clinical signs, treatment and prevention).<br>9.1.4. Catarrhal conjunctivitis. Superficial purulent conjunctivitis. | 2 |
| **Total:** | | | **30** |

## 5.2. Calendar and thematic plan of the planned practical classes of the subject "Veterinary surgery"

| **Topics of practical classes** |
|---|

| № | themes | plans | hours |
|---|---|---|---|
| 1. | Familiarization with the work and documentation of the surgical clinic. | 1.1. The history of the surgical clinic of the department.<br>1.2. Familiarization with the work of scientists of the department.<br>1.3. Compliance with safety regulations when working with sick animals in the clinic.<br>1.4. Familiarization with the necessary documents<br>1.5. Study of the medical history. | 2 |
| 2. | Methods of investigation of surgically ill animals. | 2.1. Collecting anamnesis of a sick animal.<br>2.2. General methods of examination: examination, palpation, passive movements, percussion, auscultation.<br>2.3. Special research methods: research on "spar" (osteoarthritis of the hock joint), "wedge test", the use of ungulate ticks, research with a probe, measurements. | 2 |
| 3. | The use of massage and light rays for the treatment of subacute and chronic aseptic inflammations. | 3.1. Types of massage. Principles of treatment with massage and the order of its application.<br>3.2. Technical characteristics of the lamp Sollux and Minin.<br>3.3. Principles of treatment with Sollux and Minin lamps and the procedure for their use. | 2 |
| 4. | Application of moxibustion (thermocouterization) methods for the treatment of chronic aseptic inflammations. | 4.1. Types of thermal couterization.<br>4.2. The mechanism of action of thermocouterization.<br>4.3. Methods of cauterization. | 2 |
| 5. | The use of novocaine blockades in systemic diseases. | 5.1. The mechanism of action of novocaine. 5.2. Method of application of short and circular novocaine blockades.<br>5.3. Hemonovocaine and antibiotic-novocaine blockades. Prescribing.<br>5.4. Blockade of the stellate and caudal sympathetic nerve node. | 2 |

| | | | |
|---|---|---|---|
| | | 5.5. Suprapleural novocaine blockade according to V.V.Mosin.<br>5.6. Paranephral novocaine blockade by Tikhonin and Senkin. | |
| 6. | Hemotherapy and lactotherapy. | 6.1. The mechanism of action of hemotherapy.<br>6.2. Blood treatment, introduction into the body for therapeutic and prophylactic purposes to sick animals<br>6.3. The procedure for the use of lactotherapy. | 2 |
| 7. | Surgical infection and treatment of an injured animal | 7.1. Diagnosis of surgical infection.<br>7.2. Purulent resorptive fever (diagnosis, clinical signs and treatment)<br>7.3. Determination of the type and stage of the wound on a sick animal and the appointment of the treatment procedure<br>7.4. Methods of treatment of a sick animal (mechanical, physical, chemical)<br>7.5. Methods of biological antiseptics. Prescribing. | 2 |
| 8. | Diseases of bones and fractures. | 8.1. Methods of clinical and morphological diagnosis.<br>8.2. Showing the treatment of bone fractures on the example of a sick animal.<br>8.3. Prescribing. | 2 |
| 9. | Treatment of diseases of tendons and tendon sheaths. | 9.1. Methods of clinical and morphological diagnosis of tendons and their vaginas.<br>9.2. Conservative and operative treatment of tendinitis and tendovaginitis in an animal.<br>9.3. Prescribing. | 2 |
| 10. | Diseases of the head area. | 10.1. Facial nerve paralysis in an animal.<br>10.2. Study of the clinic, diagnosis and methods of treatment of the disease.<br>10.3. Prescribing. | 2 |
| 11. | Diseases in the chest area | 11.1. Demonstration of | 2 |

| | | | |
|---|---|---|---|
| | | pneumothorax on the example of a sick animal<br>11.2. Study of the clinic, diagnosis and treatment methods of the disease | |
| 12. | Diseases of the genitourinary system. | 12.1. Balanoposthitis, phimosis and paraphimosis<br>12.2. Study of the clinic, diagnosis and methods of treatment of the disease<br>12.3. Clinic, diagnosis, treatment methods and prevention of post-surgical complications. | 2 |
| 13. | The study of limb diseases and the operation on the hooves of cattle. | 13.1. General examination (examination, palpation, percussion and auscultation) of an animal with limb injuries.<br>13.2. Determination of the pathological process using special examination methods.<br>13.3. Technique of exarticulation on the fingers of cattle.<br>13.4. Exarticulation technique. | 2 |
| 14. | Clearing and trimming hooves | 14.1. The study of the anatomical and topographic structure of the fingers.<br>14.2. Clearing hooves.<br>14.3. Methods of hoof trimming. | 2 |
| 15. | Eye examination with the help of special tools, treatment of keratoconjunctivitis | 15.1. Clinical examination of the animal.<br>15.2. Examination of the eyes using a keratoscope, ophthalmoscope<br>15.3. Application of the Purkinje-Samson image method.<br>15.4. Clinical examination of the eyes (conjunctivitis, keratitis).<br>15.5. Methods of treatment. | 2 |
| **Total:** | | | **30** |

### 5.3. Calendar and thematic plan of planned laboratory classes of the subject "Veterinary surgery"

| **Topics of laboratory classes** | | | |
|---|---|---|---|
| **№** | **Topic** | **plan** | **hours** |
| 1. | Treatment of acute | 1.1. Methods of application of cold procedures. | 2 |

| | | | |
|---|---|---|---|
| | inflammation with warming and cold procedures. | 1.2. Methods of application of warming procedures.<br>1.3. Indications and contraindications. | |
| 2. | The use of paraffin therapy and ozokerite in subacute and chronic inflammatory processes. | 2.1. Description and action of paraffin.<br>2.2. The use of paraffin.<br>2.3. Principles of application of ozokerite. | 2 |
| 3. | The use of irritating ointments and liniments for the treatment of chronic aseptic inflammation. | 3.1. Characteristics and features of the effect of irritating ointments and liniments.<br>3.2. The procedure for the use of irritating ointments and liniments. | 2 |
| 4. | Tissue therapy. | 4.1. The mechanism of action of tissue therapy.<br>4.2. Methods of application of canned fabrics according to V.P. Filatov and N.I. Krause | 2 |
| 5. | Treatment of acute purulent inflammation. | 5.1. Determination of the phases and stages of purulent inflammation.<br>5.2. Conservative and operative treatments.<br>5.3. Prescribing. | 2 |
| 6. | Special methods of treatment of surgical infection. | 6.1. Types of special surgical infection<br>6.2. Determination of the treatment procedure.<br>6.3 Surgical treatment of actinomycosis. Prescribing. | 2 |
| 7. | Examination of a wounded animal. | 7.1. Drawing up a plan for the examination of a wounded animal.<br>7.2. General examination of the injured animal.<br>7.3. External and internal examination of the wound, palpation of the wound. Bacteriological and cytological examination of the wound. Determination of the type and stage of the wound. | 2 |
| 8. | Treatment of ulcers and fistulas. | 8.1. Clinical examination of an ulcer on the example of a sick animal and determination of a differential diagnosis.<br>8.2. Clinical examination of fistulas on the example of a sick animal and determination of the differential diagnosis<br>8.3. Treatment of ulcers and fistulas. | 2 |
| 9. | Closed soft tissue | 9.1. Clinical examination of a closed | 2 |

| | | | |
|---|---|---|---|
| | injuries. | mechanical injury on the example of a sick animal, determination of the differential diagnosis.<br>9.2. Type of hematoma and lymphoextravasata.<br>9.3. Methods of treatment. | |
| 10. | Treatment of thermal and chemical damage. | 10.1. Clinical study of a burn on the example of a sick animal and determination of a differential diagnosis.<br>10.2. Treatment of burns. | 2 |
| 11. | Diseases of the joints. | 11.1. Clinical and morphological diagnosis.<br>11.2. Conservative and operative treatment of synovitis.<br>11.3. Examination of articular fluid. Prescribing. | 2 |
| 12. | Diseases of the withers area. | 12.1. Phlegmon withers on the example of a sick animal.<br>12.2. Study of the clinic, diagnostics and treatment methods. | 2 |
| 13. | Diseases of the abdominal area. | 13.1. Hernias.<br>13.2. Study of the clinic, diagnostics and treatment methods | 2 |
| 14. | Statics and dynamics of thoracic and pelvic limbs. | 14.1. Study of the structure and functional features of the anterior and pelvic limbs.<br>14.2. Types of lameness.<br>14.3. Determination of the localization of the pathological focus. | 2 |
| 15. | Horse shoeing technique. | 15.1. Horse shoeing technique<br>15.2. Study of the disease clinic, diagnosis and treatment methods.<br>15.3. Prescribing. | 2 |
| **Total:** | | | **30** |

## VI. Calendar-thematic plan of the planned course work of students scheduled for the subject "Veterinary surgery"

| № | Topics of the course work |
|---|---|
| 1. | Treatment of wounds. |
| 2. | Closed soft tissue injuries. |
| 3. | Treatment of aseptic inflammations. |
| 4. | Treatment of purulent inflammation. |
| 5. | Treatment of thermal injuries. |
| 6. | Treatment of bone disease. |
| 7. | Treatment of joint diseases. |
| 8. | Treatment of cecilia disease. |

| | |
|---|---|
| 9. | Treatment of hoof disease. |
| 10. | Treatment of eye disease |
| 11. | Surgical treatment of withers hematoma and lymphoextravasates. |
| 12. | Surgical treatment of umbilical hernia |
| 13. | Treatment of nasal diseases. |
| 14. | Treatment of inflammation of the paranasal sinus of the head. |
| 15. | Surgical diseases of the udder |
| 16. | Inflammation of the prepuce and treatment of wounds on the genitals |
| 17. | Paralysis of the nerve end of the shoulder, treatment of nerve paralysis |
| 18. | Treatment of aseptic and purulent inflammation of the elbow joint |
| 19. | Treatment of a humerus fracture |
| 20. | Treatment of dermatitis and eczema in the area of the put joint. |
| 21. | The study of natural and pathological forms of hooves caused by incorrect placement of limbs |
| 22. | Inflammation of the hooves caused by incorrect horseshoes |
| 23. | Study of measures for the prevention of hoof disease. |
| 24. | Anatomical and topographic structure of the lacrimal apparatus and methods of its investigation |
| 25. | Methods of examination of the internal organs of the eyes |

## VII. Calendar-themed plan of independent classes of students planned for the subject "Veterinary surgery"

| № | topics of independent work | implementation of the mechanism | period of execution | hours |
|---|---|---|---|---|
| 1 | Diseases of blood and lymphatic vessels | Report | February | 4 |
| 2 | Muscle diseases (myositis, myopathosis) | Report | February | 6 |
| 3 | Skin diseases (dermatitis and eczema) | Report | February | 4 |
| 4 | Nerve diseases (paralysis, paresis) | Report | February | 6 |
| 5 | Tumors (malignant and benign tumors) | Report | March | 6 |

| | | | | |
|---|---|---|---|---|
| 6 | Diseases of the abdominal area (inguinal hernia, surgical diseases of the udder) | Literature preparation and assignment completion | March | 4 |
| 7 | Diseases of the abdominal area (inguinal hernia, surgical diseases of the udder) | Literature preparation and assignment completion | March | 6 |
| 8 | Prostate inflammation (conservative and surgical treatment) | Literature preparation and assignment completion | March | 6 |
| 9 | Brachial nerve palsy, treatment of paralysis | Literature preparation and assignment completion | April | 4 |
| 10 | Treatment of fractures of the scapula and humerus | Literature preparation and assignment completion | April | 6 |
| 11 | Treatment of aseptic and purulent inflammation of the elbow joint | Literature preparation and assignment completion | April | 4 |
| 12 | Treatment of precarpal bursitis | Literature preparation and assignment completion | April | 4 |
| 13 | Treatment of tendon wounds in the carpal joint area. | Literature preparation and assignment completion | May | 6 |
| 14 | Treatment of wounds and dislocations of the second phalanx of fingers. | Literature preparation and assignment completion | May | 4 |
| 15 | Normal and pathological forms of hooves, depending on the position of the limbs. | Report | May | 4 |
| 16 | Hoof diseases caused by improper shoeing | Report | May | 4 |
| 17 | Methods of examination of internal organs of vision | Literature preparation and assignment completion | June | 4 |

| | | | | |
|---|---|---|---|---|
| 18 | Anatomical and topographic characteristics of the lacrimal apparatus and methods of its examination. | Literature preparation and assignment completion | June | 4 |
| 19 | Diseases of the lens. Blepharitis. | Report | June | 4 |
| **Total:** | | | | **90** |

## VIII. List of proposed literature

### Basic literature:


1. Niyazov H.B. "General and private surgery". Tashkent. 2015
2. Niyazov H.B., Davlatov N.S. "General and private surgery". Study guide. Tashkent, 2012.


**Additional literature**


1. Mirziyoyev Sh.M. Birlashgan millatlar tashkiloti bosh assambleyasi 75-sessiyasida so‘zlagan nutqini o‘rganish va keng jamoatchilik o‘rtasida targ‘ib qilish. O‘quv qullanma. Toshkent, “Ma’naviyat” NMIU, 2021 yil. – 280 bet.

2. Mirziyoyev Sh.M. Yangi O‘zbekistonda erkin va farovon yashaylik. “Toshkent, “Tasvir” nashriyot uyi, 2021 yil. – 52 bet.

3. Mirziyoyev Sh.M. Insonparvarlik, ezgulik va bunyodkorlik-milliy g‘oyamizning poydevoridir. Toshkent, “Tasvir” nashriyot uyi, 2021 yil. – 36 bet..

4. Mirziyoyev Sh.M. Yangi O‘zbekiston taraqqiyot strategiyasi. Toshkent, “O‘zbekiston” nashriyoti, 2022 yil. – 416 bet.

5. O‘zbekiston Respublikasi Prezidentining 2022-yil 31-martdagi “Veterinariya va chorvachilik sohasida kadrlar tayyorlash tizimini tubdan takomillashtirish to‘g‘risida”gi PQ-187-son qarori.

6. Таштемиров Р.М., Каримов М.Г. "Ортопедия". Учебное пособие. Ташкент, 2013.

7. Таштемиров Р.М. “Теоретические основы ветеринарной офтальмологии". Учебное пособие. Ташкент, 2015.

8. Таштемиров Р.М. “Практические занятия по дисциплине научные основы хирургических заболеваний". Учебное пособие. Ташкент, 2018.

9. Weaver, Adrian Steiner and GuySt Jean. Bovine Surgery and Lameness, Second Edition/ © 2005/ Blackwell Publishing Ltd, 9600 Garsington Road, Oxford OX4 2DQ, UK

10. Тимофеев С.В., Филиппов Ю.И и др. «Общая хирургия животных» Москва, “Зоомедлит“. 2007.

**Internet Sites**

www. ziyonet.uz
www. Wikipedia.org
www. animalsurgery.com
www. Animalmedical.net

## IX. Assessment

**Students' assimilation of subjects is assessed according to a 5-point system**

**Grade 5 (excellent):**
make decisions and draw conclusions;
think creatively;
independently analyze the situation
and apply the acquired knowledge in practice;
understand the principle;
to know, to reveal the essence;
have an idea;

**Grade 4 (good):**
self-analyze;
apply the acquired knowledge in practice;
understand the principle;
to know, to reveal the essence;
have an idea;

**grade 3 (satisfactory);**
understand the principle;
to know, to reveal the essence;
have an idea;

**2 (unsatisfactory):**
not to master the program of the subject;
not to know the essence of the subject;
not to have a specific idea;
not being able to think independently.

# III.Basic teaching materials:

## 3.1 teaching materials for lectures

**Theme: Introduction of veterinary surgery. Traumatism**

**Plan:**

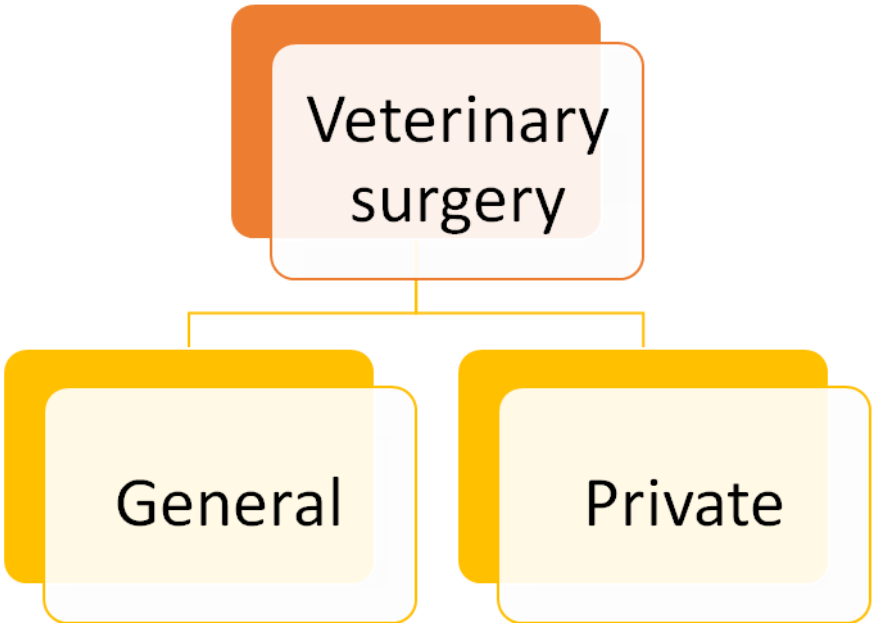
1. Subject, purpose and objectives of the subject Veterinary Surgery /
2. Development stages, advances in veterinary surgery.
3. Concepts of trauma and injury. Classification. Damage (trauma) found in animals.
4. Economic damage caused by damage (injury).

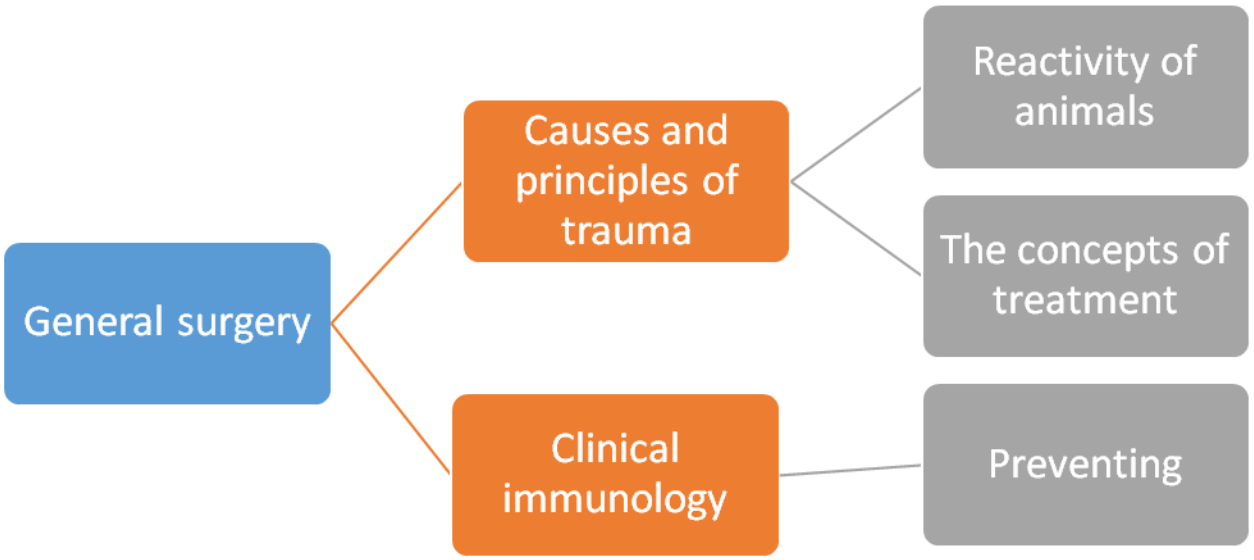
Treatment, dispanserisation, stress, surgical infection, resistance of body, regeneration, reactivity, defense-adaptation reaction, pathogenesis, etiology, semiotic, reflextherapy, pathogenesis therapy, the factors of trauma, monotrauma, economical damage.

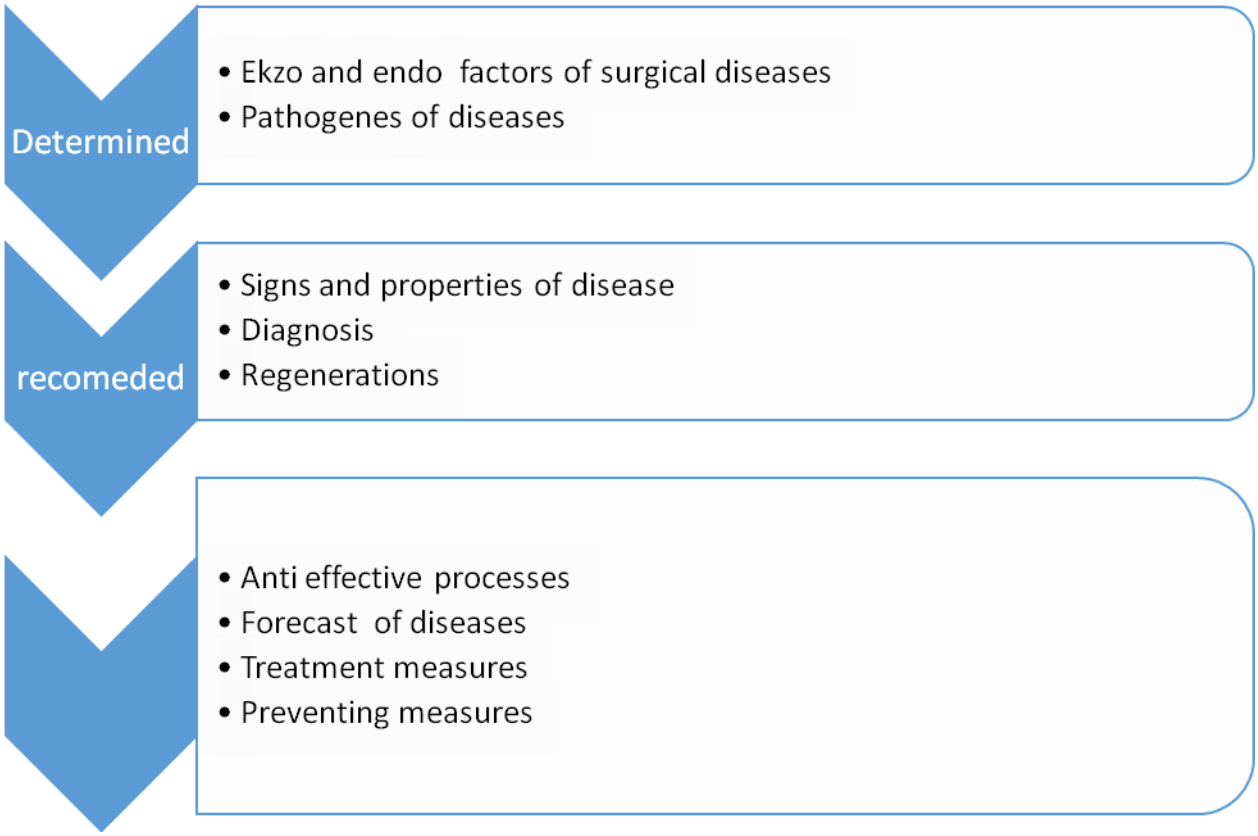
Veterinary surgery based on principles preventing and treatment of diseases and there very important preventing measures. Preventing measures does considering of feeding, keeping animals and technology of expluatasion of animals.

Who does know what is the means of word “SURGERY”???

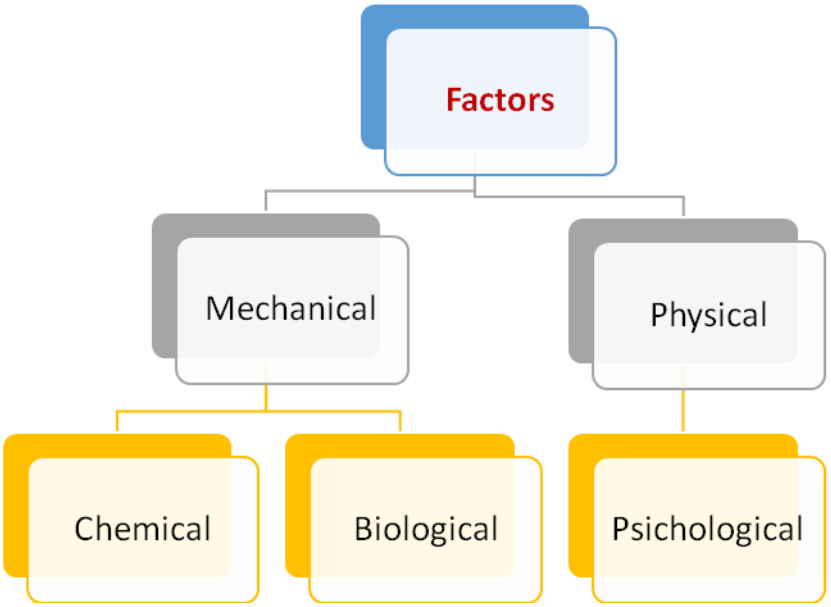
Nowadays in veterinary practices required to improve new effective treatment and preventing methods of diseases. So we have to use this methods and equipments for reduce injuring and trauma of animals, surgical infection, sepsis, and have to knowledge and skills doing surgical activity in farms, blood transfusion, tissue therapy, using sonography and laser and also injecting new drugs.


Veterinary surgery
General
Private


General surgery
Causes and principles of trauma
Clinical immunology
Reactivity of animals
The concepts of treatment
Preventing

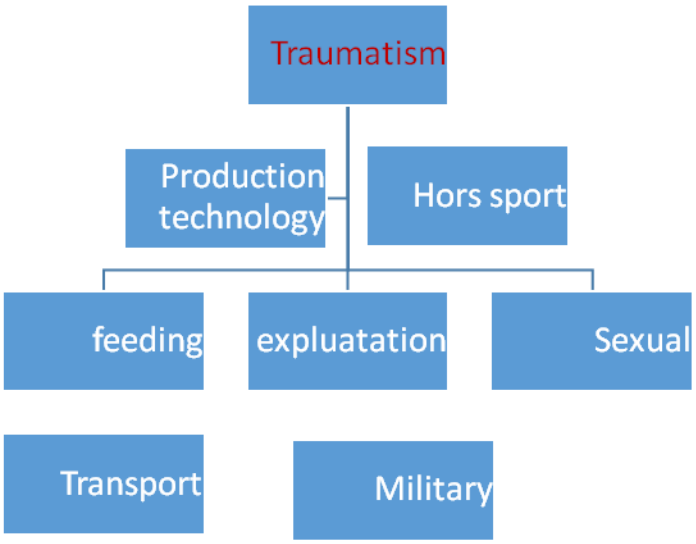



- The purpose of subject – to teach students to determinate methods of etiology of diseases, and general principles of treatment, use new drugs and equipments for treatments.
- **Trauma**– injuring, disorder of tissue.
- The factors of trauma divided two group: internal and external.
- For exam: metabolic disorders, disorder of blood circulation, autotoxins




-
-

- By the power and time of factors: Acute and Chronic
- By the number of factors: Simple and Difficult
- By the situations: Directly and Indirectly
- By the number of trauma: monotrauma and politrauma
- ***Traumatism*** – the complex of trauma. (during feeding, keeping and expluatation)




- Trauma is the biggest problem of animal husbandry. It will effect reducing meat and milk production of animals.
- Total non infectious diseases among farms is 66-88 %
- In this 10-20 % is diseases of hoof.

**2-lecture. General and local reaction of body to injury**.

The plan of lecture:

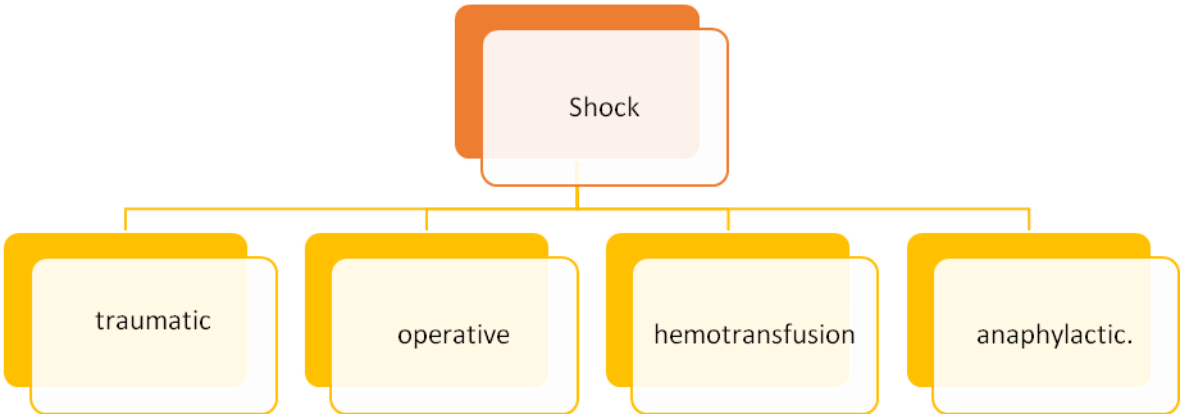
The period and stages of developing inflammation.

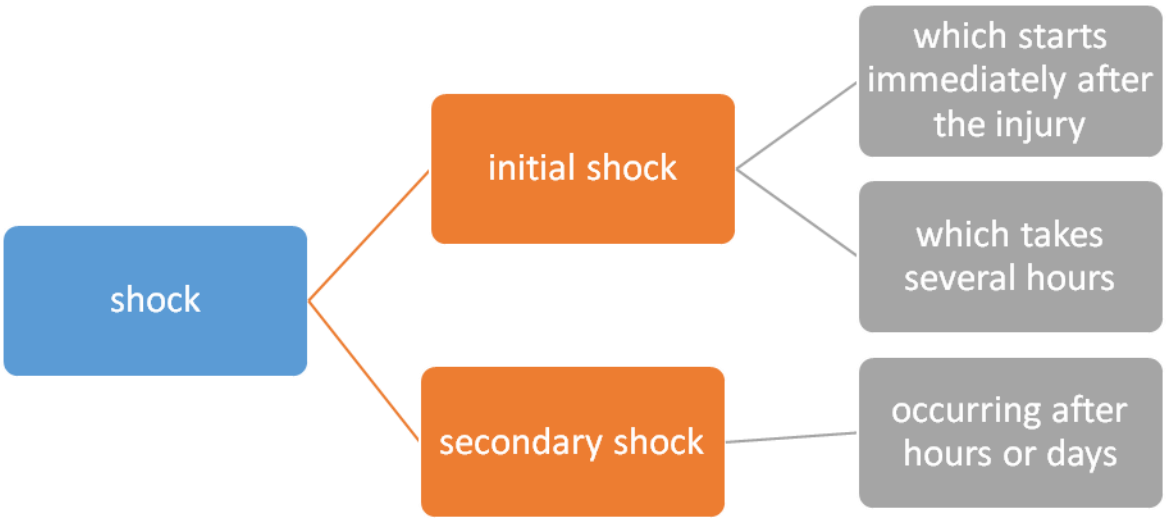
Features of inflammation in different animals.

Basic rules and methods of treatment of inflammation

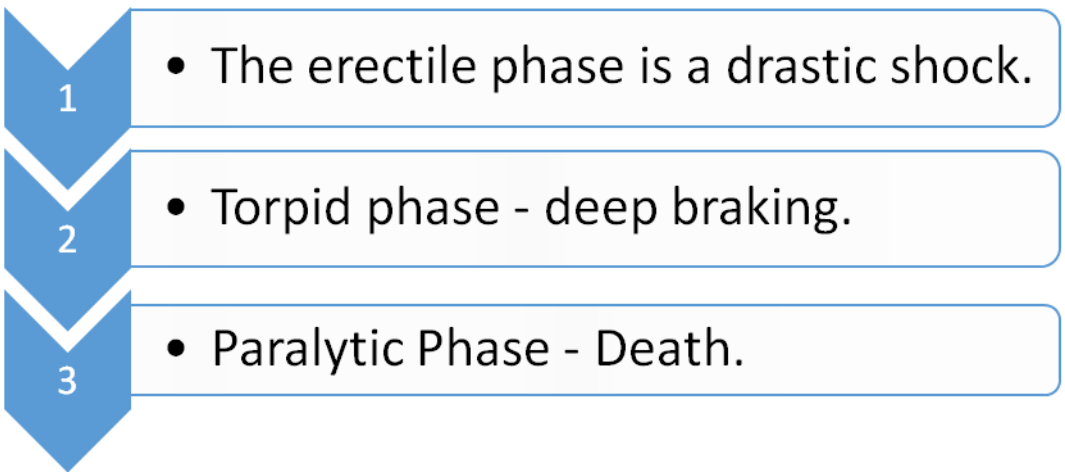
Protection - adaptation reaction. The neuro is a humoral reaction. Immunity. Degeneration and regeneration. Sympathetic and parasympathetic nerve

centers. Inflammation. Aseptic and purulent inflammation. Normative and hypergergeal inflammation. Hydration, dehydration, phagocytosis, hooposis. Pathogenetic therapy. Novocaine blockade. Tissue therapy.




Primary shock occurs in three phases:



- **Factors contributing to the causes:**
- severe excitation of the central nervous system,
- prolonged plurents,
- severe illness,
- cold,
- overheating,
- less of nutrients and water,
- loss of blood,
- Hypo A and B autoimmune diseases.
- fear.

**The collapse** is associated with a reduction in arterial pressure and all vital functions as a result of temporary heart failure and a decrease in vascular tone.

The cause is severe bleeding and pain. Occasionally, collapse may also be caused by severe intoxication, nervous stress (fear) and muscle fatigue caused by tissue disorders.

Clinical Symptoms:

- An animal may suffer from general fatigue,
- the pulse will accelerate and weaken (slippage),
- slow breathing,
- visible mucous membranes, and conjunctivation become blue.
- Animals have low temperature and reactions, their feet are cold and their muscles are loose.
- Treatment:

The causes that impair the functioning of the heart are eliminated.

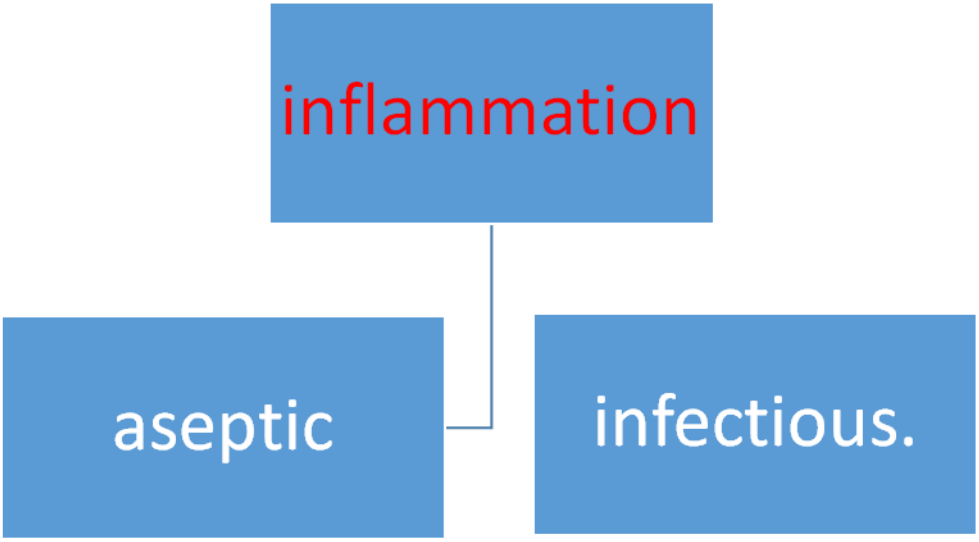
In bleeding, the affected vessel is given ligature, buffer, and intravenous calcium chloride fluid.

In addition, intravenous injection of a physiological solution with glucose and ascorbic acid. Blood or blood-replenishing fluids are effective.

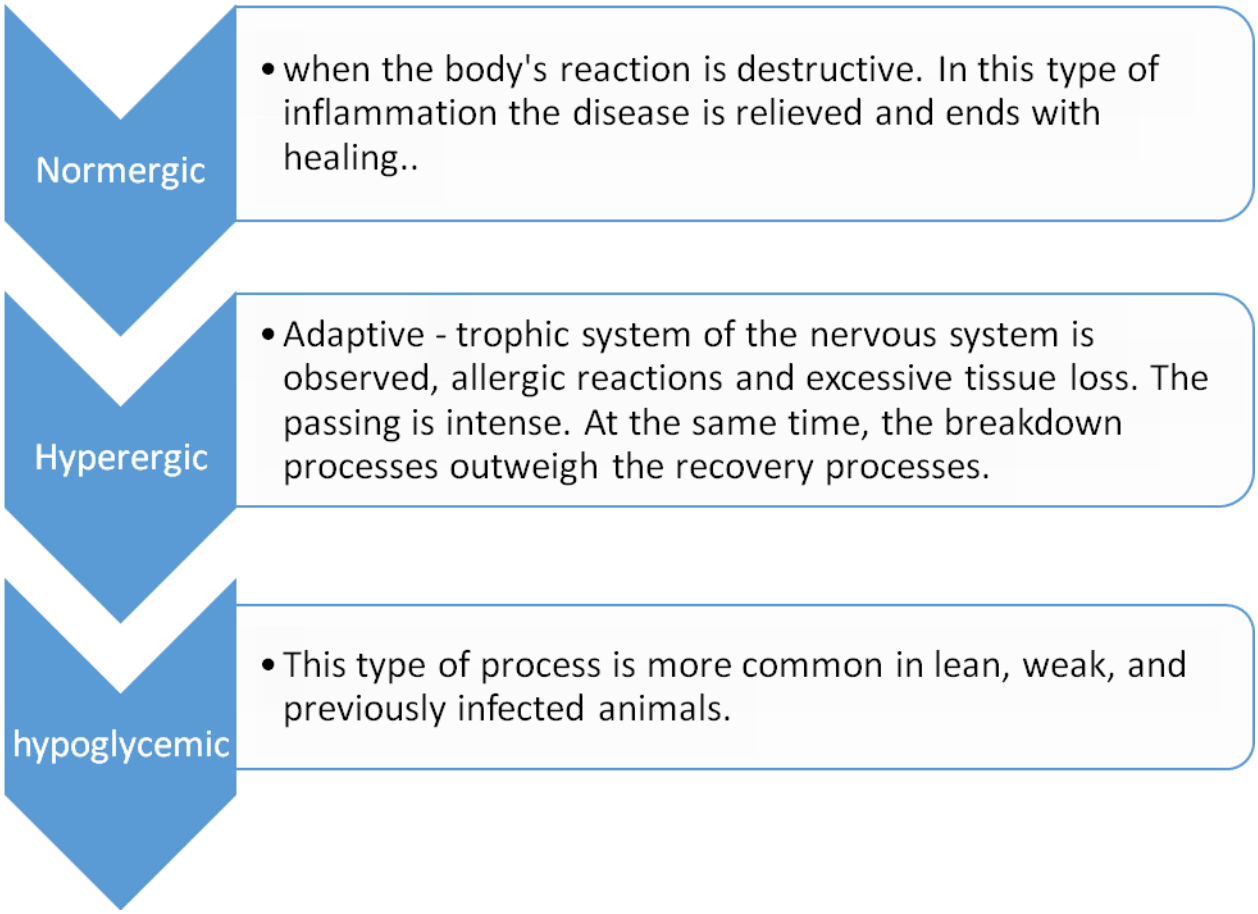
In intoxication, caffeine is administered intravenously with 40% hexamethylentetramine. Caffeine, camphor oil, intravenous camphor serum (25

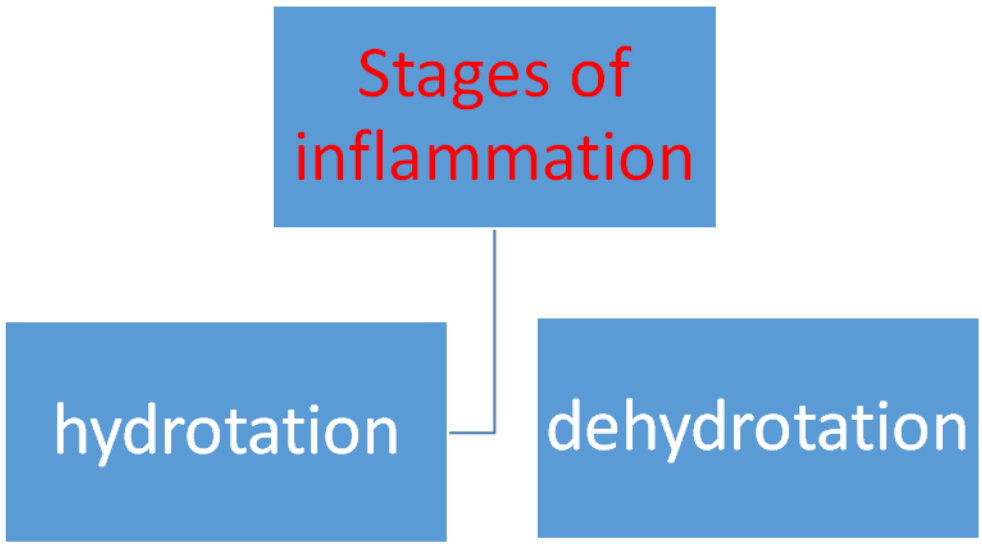
to 30 ml for small animals, 250-300 ml for adults, 2 times a day) are administered subcutaneously to improve cardiac function.

- Treatment:
- The causes that impair the functioning of the heart are eliminated.
- In bleeding, the affected vessel is given ligature, buffer, and intravenous calcium chloride fluid.
- In addition, intravenous injection of a physiological solution with glucose and ascorbic acid. Blood or blood-replenishing fluids are effective.
- In intoxication, caffeine is administered intravenously with 40% hexamethylentetramine. Caffeine, camphor oil, intravenous camphor serum (25 to 30 ml for small animals, 250-300 ml for adults, 2 times a day) are administered subcutaneously to improve cardiac function.




- Aseptic inflammation is caused by mechanical, physical and chemical factors. According to the course, it is acute and chronic, exudate to serous, serous to fibrinous and fibrinous.
- Infectious inflammation is caused by the accumulation of microorganisms into animal tissues. It will be more difficult to pass. Pus inflammation is caused by streptococcus, staphylococcus, blue pus. Optional anaerobes promote decay processes.




- The first phase consists of two stages: inflammation and cellular infiltration and phagocytosis. The third most common cause of purulent inflammation is the restriction and abscess.

- The second phase consists of two steps - biological treatment and recovery steps. In the case of purulent inflammation, there is also a ripening phase.
- In aseptic inflammation of horses and dogs serous, and in inflammatory inflammation there is purulent serous fluid (exudate), and obvious proteolysis (liquefaction of dead tissues).
- In aseptic inflammation of cattle, sheep, goats and pigs, serous fibrinosis is increased, and in infectious inflammation, proliferation is strong and purulent fibrinous exudate is accumulated. The purulent enzymatic processes are less susceptible to inflammation in horses and are characterized by purulent demarcation features. Due to the lack of proteolysis of the dead tissues, the purulent cavity is filled with connective tissue and retained there. The dead tissues are encapsulated due to the connective tissue overflowing.
- Clear fibrin exudation prevails in rodents and poultry. Fibrin coatings produce fibrin - a textile mass and then turn into scab (with open wounds). The black currant is subjected to sequestration as a result of inflammation and the development of granular seizures.
- Therefore it is necessary to:
- 1. Eliminate the etiological factors affecting the body.
- 2. Take measures to stabilize the affected organ and prevent or eliminate excessive nervous system excessive stress.
- 3. Creating good conditions for sick animals.
- 4. Create a healthy, vitamin-rich diet.
- Etiotropic and pathogenetic therapies are used to normalize the inflammatory process.

Etiotropic therapy:

- Complete elimination of damaging factors, including germs (viruses) by physical, chemical, and biological methods.
- Methods of pathogenetic therapy:
- 1. Novocaine blockade.
- 2. Intravenous administration of novocaine solution.
- 3. Application of neuroleptics.
- 4. The use of hormones.
- 5. Reflex therapy (needle injection, burns, electrolyzeropuncture).

- 6. Medicamentous sleep.
- 7. Tissue therapy.
- 8. Physiotherapy treatments (massage, hypo-hyperthermia, light,
- electromolecules, Bernard currents, magnetic field,
- ultrasound).
- 9. Pyrogenotherapy.
- 10. Endocrinotherapy and other non-specific methods.
-

**3-lecture. Surgical infection.**

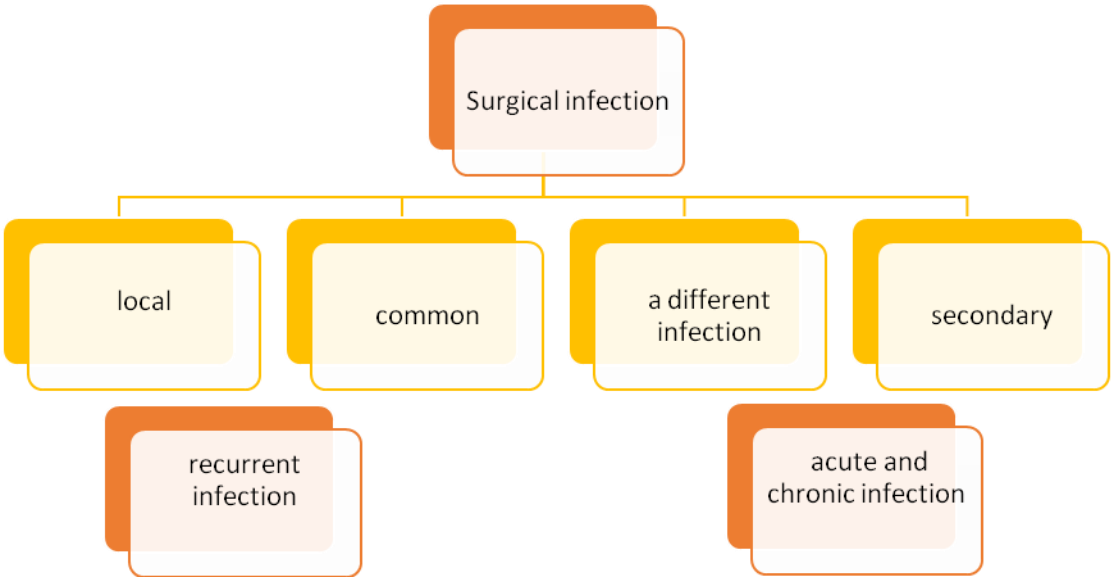
Plan of lecture

- The concept of surgical infection.
- The role of macro- and microorganisms in the development of surgical infection.
- Basic principles of classification and prevention of surgical infection.
- Main forms of purulent infection: abscess, phlegmon, their clinical signs and features**.**

Key words

surgical infection. Local, single, secondary infections, aerobic and anaerobic infections. Corrosion infection. Special infection. Cantamination. Microflora. Infection. Abssess. Phlegmona. Closer phlegmon.

**Surgical infection-** a local and common disease that develops as a result of the infection of into body, it can be successfully treated with surgical (simple and complex surgeries), antibiotics, sulfonamides




Local – abscess, phlegmon

Common - Sepsis

A different – only one type microbe, virus and fungus

- According to modern concepts, the role of germs and viruses in the development of infectious processes is as follows:
- 1. Microbial contamination
- 2. Microflora.
- 3. Infection.

**Contamination** - germs contamination from external environment for injuries and other open injuries.

**Microflora** - is accustomed to the environment of injury assimilation of invariant microbes.

**Infect** - are pathological microorganisms that move from dead tissues to living tissues and thrive on their own, toxins and enzymes from living tissues.

Different types of stimulus and organism's response are distinguished by:

- Aerobic microbes (staphylococcus, streptococcus, diplococcus, intestinal stick, blue pus, etc.). an invasive aerobic or purulent surgical infection.
- Anaerobic that dissolve tissues, anaerobes, infections that cause germs (gas gangrene, malignant edema), germs that cause toxic edema.
- Anaerobic or facultative anaerobes - Surgical infection with (vulgar proteins, spores, bowel sticks, etc.).
- Specific surgical infection (tetanus, brucellosis, tuberculosis, actinomycosis, necrobacteriosis, botriomycosis).

**The principles of surgical infection prevention include:**

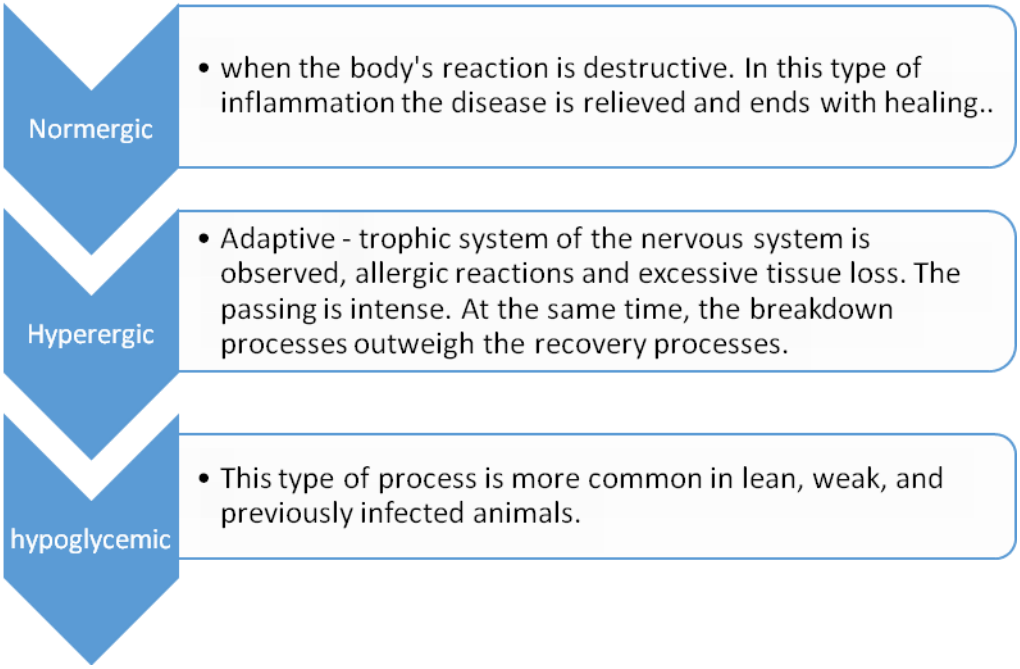
1. Injection, operative, obstetrics - gynecological and other therapeutic procedures, strict adherence to aseptic and antiseptic, preventing the infection of the animal into the environment.
2. Removal of lost tissue, operatively or otherwise, as soon as possible, and removing interconnected hinges, cuts and pockets.
3. 3. Ensure optimal drainage conditions using osmotherapy and fermentation agents.
4. 4. Local antiseptic solutions, the use of new semi-synthetic antibiotics, and the creation of a complex bacteriostatic powder repository.
5. 5. With the help of protective therapy (novocaine blockade, tranquilizers, etc.) to eliminate the sensitivity of the body and excessive stress of the peripheral and central nervous system.

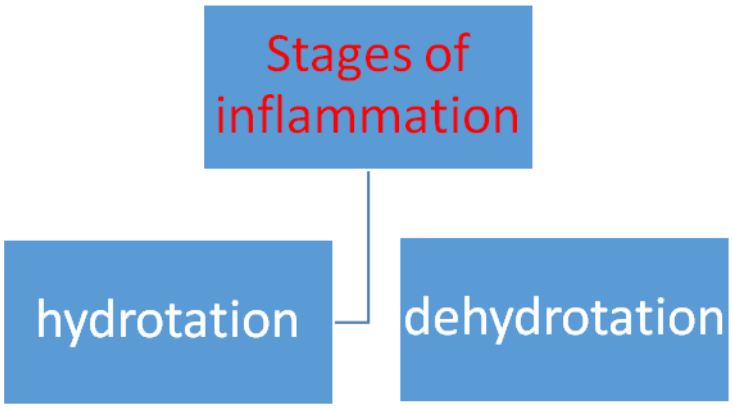
Purulent infection is one of the main features of disease-causing microbes that can only develop when there is oxygen. This infection mainly invokes local changes and only in some cases changes to gen

- Abssess is a purulent inflammation of the tissue or other tissues. This process does not spread around, leaving a clear border with healthy tissue and surrounded by pus.eral infection.
- Classification. Abscesses can be: acute, semi-acute, chronic; aseptic and infectious; superficial and deep; harmless and poor quality (hazardous); metastatic, cold, and fluid abscesses.
- Phlegmona - necrosis processes are superior to purulent processes, and unrestricted acute or degenerative inflammatory processes of subcutaneous tissue and other tissues are called phlegmonadeb.
- Classification - primary phlegmones develop in injuries and injuries caused by infectious germs, in open bone fractures. Secondary phlegmon results

from acute purulent infections (hooposis, purulent arthritis, osteomyelitis), and a "sleep" form of infection.

- Depending on the accumulated exudate, the phlegmon is divided into: purulent, purulent-hemorrhagic, flammable, and gas-producing phlegmones. Depending on topographic location: subcutaneous, subfassial, intercostal and occipital phlegmon.
- Aseptic inflammation is caused by mechanical, physical and chemical factors. According to the course, it is acute and chronic, exudate to serous, serous to fibrinous and fibrinous.
- Infectious inflammation is caused by the accumulation of microorganisms into animal tissues. It will be more difficult to pass. Pus inflammation is caused by streptococcus, staphylococcus, blue pus. Optional anaerobes promote decay processes.



- The first phase consists of two stages: inflammation and cellular infiltration and phagocytosis. The third most common cause of purulent inflammation is the restriction and abscess.
- The second phase consists of two steps - biological treatment and recovery steps. In the case of purulent inflammation, there is also a ripening phase.
- In aseptic inflammation of horses and dogs serous, and in inflammatory inflammation there is purulent serous fluid (exudate), and obvious proteolysis (liquefaction of dead tissues).
- In aseptic inflammation of cattle, sheep, goats and pigs, serous fibrinosis is increased, and in infectious inflammation, proliferation is strong and purulent fibrinous exudate is accumulated. The purulent enzymatic processes are less susceptible to inflammation in horses and are characterized by purulent demarcation features. Due to the lack of proteolysis of the dead tissues, the purulent cavity is filled with connective tissue and retained there. The dead tissues are encapsulated due to the connective tissue overflowing.
- Clear fibrin exudation prevails in rodents and poultry. Fibrin coatings produce fibrin - a textile mass and then turn into scab (with open wounds). The black currant is subjected to sequestration as a result of inflammation and the development of granular seizures.
- Therefore it is necessary to:
- 1. Eliminate the etiological factors affecting the body.
- 2. Take measures to stabilize the affected organ and prevent or eliminate excessive nervous system excessive stress.
- 3. Creating good conditions for sick animals.
- 4. Create a healthy, vitamin-rich diet.
- Etiotropic and pathogenetic therapies are used to normalize the inflammatory process.

  Etiotropic therapy:

- Complete elimination of damaging factors, including germs (viruses) by physical, chemical, and biological methods.
- Methods of pathogenetic therapy:
- 1. Novocaine blockade.
- 2. Intravenous administration of novocaine solution.

- 3. Application of neuroleptics.
- 4. The use of hormones.
- 5. Reflex therapy (needle injection, burns, electrolyzeropuncture).
- 6. Medicamentous sleep.
- 7. Tissue therapy.
- 8. Physiotherapy treatments (massage, hypo-hyperthermia, light,
- electromolecules, Bernard currents, magnetic field,
- ultrasound).
- 9. Pyrogenotherapy.
- 10. Endocrinotherapy and other non-specific methods.

**4-lecture. Anaerobic infection.**

Plan of lecture

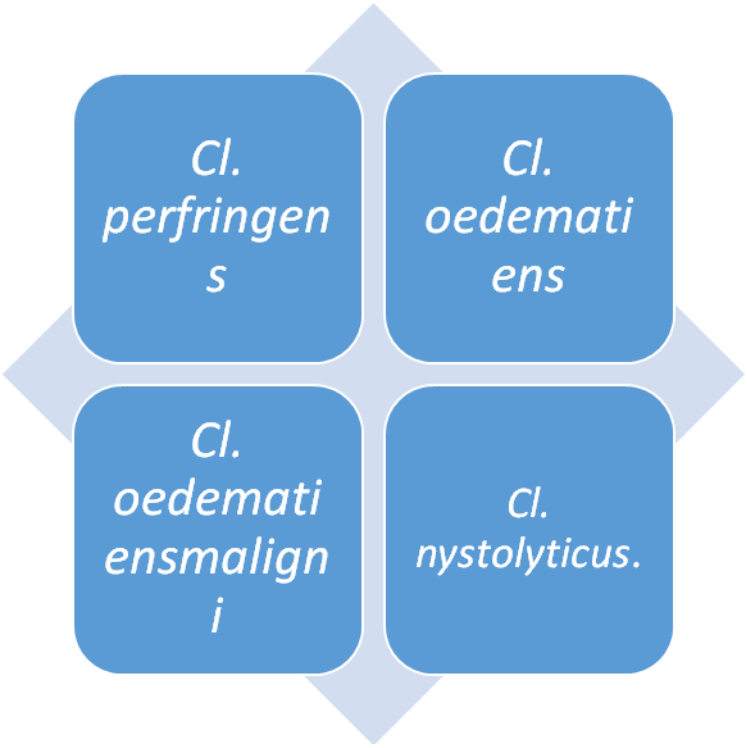
- Anaerobic infectious disease agents and their properties.
- Main forms of anaerobic infection.
- Development and clinical signs of anaerobic infection.
- Specific surgical infection
- Surgical treatment and prevention of anaerobic infection.

Key words

anaerobic infection. Gas gangrene. Clostridium. Extreme virulence. Erythrocytes. Myotoxin. Neurotoxin. Hyaluronidase enzyme. Parabiosis of the nervous system. Gas phlegmon. Creeping. Ihorose fluid. An infectious infection. Basillas. The decay process. Contraperture. Oxygen therapy. Actinomycosis. Light fungi. Druze. Necrobacteriosis, tetanus and actinobacilliosis.

**Anaerobic infections are mainly wound infections.**

Studies show that anaerobes are 100% on the ground and 95% in manure. Larger anaerobic wounds are surgically treated in a timely manner and rarely cause infections when antiseptic methods are used because anaerobes die within 10 minutes of oxygen exposure.

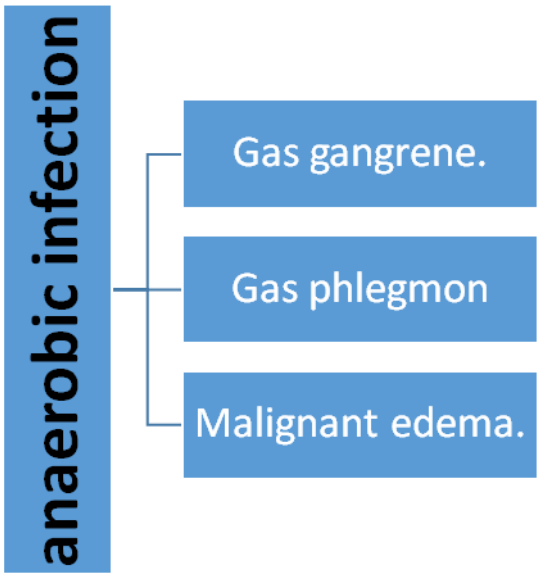



- Inadequate injury to the infection,
- presence of crushed tissue,
- pockets, blood clots;
- rupture and thrombosis of the main arteries; venous blood stagnation;
- hematomas; loss of blood;
- prolonged prolapse of the jaw;
- and other causes that lead to a loss of heart activity and a reduction in oxygen in other tissues.

In addition, the development of anaerobic infection is facilitated by hypo- and autoimmune delays and delayed surgical treatment.

- In cattle, there is a high prevalence of anaerobes due to the high accumulation of fibrin in the wound.
- In anaerobic infection, the body's immune system is weak. The inflammatory process is not apparent and may even be suppressed in the gas gangrene and gastric edema.

**Clinically, anaerobic infection is classified into:**




In the gas gangrene, severe pain and vascular paralysis occur 24 to 48 hours after exposure to toxins and enzymes. As a result, it develops rapidly developing cold painkillers, tissue loss and degradation, and worsening blood circulation.

In 2–3 days most parts of the body is die. Parabiosis develops in the nervous system, resulting in dysphagia and discoordination of all organs and tissues. Antimicrobial and antitoxic activity of the liver is impaired. The endocrine system is damaged and the process is heavily toxic. With all these changes, the animal dies within 3-4 days, including sepsis.

**Clinical Signs:** At the onset of the disease, there is a severe pain around the wound, and later the cold-free tumor develops, the skin becomes tense, and the veins and arteries surface. The color of non-pigmented skin is blue - brown, with some green marks. The wound is wide open, with a small amount of reddish brown or gray bitter fluid.

Reduced number of red blood cells, leukopenia. Eosinophils and monocytes are not.

The consequence of the disease is unlikely or bad.

Gas phlegmon is often a major injury. The process at first resembles purulent phlegmon, but then the inflammation in the center is suppressed, where the gas gangrenous process begins and the gases accumulate. Due to the rapid spread of the gas gangrene, the granulation does not succeed in formation.

The center of the process is tense, cold, and the sounds of crepitation. Pain and local temperatures are only at the edges of the process. When the

phlegmon is ruptured, a fuzzy lump of foam is released from the inside. The animal's general condition is poor, pulse, respiratory rate and high temperature.

Consequences of the disease - better than gas gangrene.

- In malignant edema, it develops quickly, within hours or 1–2 days after tissue damage. At first it is warm and less painful and then cold. Feeling creeps up. Injuries are caused by fluid resembling serum, odorless and without bubbles. The animal is in poor condition and has a high temperature. Sick animals die within 1–2 days.
- Actinomycosis is a chronic inflammatory process caused by fungi that is characterized by proliferation of connective tissue around the confines of a confined space. Pus content is found in pus.
- Caller Actinomyces fungi. They often move to the soft tissue through the mucous membrane of the oral cavity.
- Treatment: restricted actinomicomas are removed by operative management. Hemo-novocaine blockade, local-antibiotic therapy, and iodotherapy are used in small cases.
- The second method is administered in cattle for 10–14 days with oral iodine 6.0. Peptinolysates are used as immunotherapy agents.
- The edges of the manger are cleaned to prevent the disease. Cranberries are treated with green tea..
- Necrobacteriosis is a disease that occurs when an animal's fingers are infected with necrotic bacteria sticks. Finger size is enlarged, and numerous necrosis centers on the surface. Textures are condensed. Liquid and festering pus emanate from fistulas in necrotic sites. If left untreated, metastasis occurs in the lungs of the animal and elsewhere. The process deepens into the joints, bones, hooves, and then becomes sepsis.
- Tetanus is a specific acute infectious disease that causes bacteria in the sporadic anaerobic sticks. This rod produces two toxins - tetanospasmine and tetanogemolysin. Tetanospasmine affects the nervous system and causes tonic and clonal seizures in the muscles, while tetanogemolizin dissolves erythrocytes. B. theta as a saprophyte resides in domestic animals as well as in the human intestine and enters the soil through fecalis. Therefore, any injury is a good condition for tetanus.
- Complex treatment is used for treatment:
- 1. Reduction and neutralization of toxins.

- 2. Reduction and elimination of tonic and clonic disorders.
- 3. Improve the general condition of the animal, heart and lungs.
- 4. Prevention of secondary complications (sepsis, etc.).
- Actinobacilliosis is a chronic infectious disease characterized by frequent abscesses in the sheep's head. The disease is caused by microbes of the species Actinobacillus Lignieri. Microbial plants include quails, stems and more. damage to the texture as a result of mechanical damage.
- The treatment should be comprehensive. This takes into account the biological characteristics of anaerobes and the course of the disease. First of all, operative and specific treatment is required in combination with osmo-oxygen and pathogenetic therapy (non-specific therapy). The animal is provided with peaceful conditions. It is administered with antibiotics, vitamins, glucose, cadic fluid, and cardiovascular remedies.
- The gas abscess opens through a wide section, dead tissues are cut off, tissue pockets and caps are removed, and hypertonic solutions of hot (40 ° C) medium salts with hydrogen peroxide, potassium permanganate, or chloramine. applied. Chlorhexidine solution is more effective.
- Gas phlegmon, glandular swelling, and gas gangrene are opened through one or more sections and remove the dead tissue until blood is formed.
- Non-specific treatment.
- a) Protection therapy (novocaine blockade, intravenous administration of novocaine solution).
- b) Disintoxication and toxin excretion (injection of 40% hexamethylene-tetramine and caffeine, 20% glucose solution with 10% Sa Sl, or 10% polyglycine and drop of reopoliglucin injection. Use of multivitamins).
- Specific treatment and prevention measures.
- Antifungal serum is used against garngren. They are administered subcutaneously or in muscle.
- To prevent anaphylactic shock, firstly 2–5 ml of whey is administered intravenously.
- In case of adverse effects, after 1 to 2 hours, a mixture of 5–6 prophylactic serum diluted 3–5 times in sterile NaCl isotonic solution is administered for intravenous injection.
- The same amount of whey is injected around the process. Thus, a ready-made antibody depot is created in the animal body. In the presence of signs

of shock, the serum is stopped and 50–100 ml of 10% Ca Cl solution is administered to intravenous animals. Ephedrine and camphor are administered subcutaneously..

5-lecture. **Purulent resorbtiv fever. Sepsis..**

Plan of lecture

- Purulent resorbtive fever.
- Main changes in the body during sepsis.
- Types of sepsis.
- Complex treatment of sepsis.

Pus - a necrotic process. Toxins resorption. Purulent fever is a recurrent fever. Ihorozoic fluid. Sepsis, septisemia, pyemia. Metastasis. The cross of death. Antiseptic treatment complex. Parabiosis.

**Purulent resorbtive fever**. Etiology and conditions affecting its development.

General surgical infection is manifested in the form of sepsis (microbes and toxins in the blood). Its origin is based on local infectious processes and purulent-resorptive fever.

- The word resorption is the absorption of proteins by the absorption of microbes, toxins, and toxins produced by the breakdown of tissues, and by large amounts of pus.
- It is necessary to different purulent-resorbent fever from closed-resorptive fever, which is only absorbed by toxins caused by tissue breakdown and is characterized by excessive fever, neural reflex, endocrine and trophic dysfunction.
- In the case of purulent-resuscitation fever, it is not only the toxins produced from tissue decomposition, but also the development of an infectious process. The degree of purulent-resuscitation fever depends on the virulence, pathogenicity, and generation of microbes.
- **Sepsis** is a highly contagious toxic process that causes deep nerve and dystrophic changes in the body, aggravates its functional state, disrupts the function of all organs, and generates germs in the primary purulent cavity.
- Depending on the location and character of sepsis:
- 1. Odontogenic (In Dental Diseases).

- 2. Miogen (in muscle diseases).
- 3. Arthrogen (joint diseases).
- 4. Ungular (in hoof diseases).
- 5. After giving birth

## Types of sepsis.

- Classification of sepsis.
- Depending on the nature of germs causing sepsis:
- 1. Streptococcus.
- 2. Staphylococcus.
- 3. Anayerob.
- 4. Mixing.

- Depending on the origin.
- 1. Inflammation.
- 2. Injury.
- 3. Pus-necrosis.
- 4. After the operation.
- 5. Gynecological.
- 6. Cryptogen.

NI Pragagov classifies sepsis as follows:

1. Pyemia is a bacterial form of sepsis, with some bacteria in the blood and pus in the body and tissues.

2. Septemia is a form of pus, bleeding, rotting, infectious and toxic, with intoxication.

3. Septiko-pyemia is a mixed form (decomposition and decay), with strong intoxication resulting in purulent foci.

This sepsis is most often caused by reticulumoperitonitis, pericarditis, and purulent necrosis of the hooves.

Horses are found in manga, purulent necrotic processes of throat, severe thrombophlebitis.

In pigs, the most common complications are the aneurysms. Metastatic pus is one or more of these, and is present in the organs of the esophagus, the lungs, the lungs, the spleen, the heart and the liver, and other organs.

It is found in cattle, tendons and tendons, and bursa. Their prevalence is mainly through the lymph and blood vessels.

**Clinical Signs:** Primary cavity is characterized by progressive necrosis, edema, and slow-granulation tissue. More fungus and pathological granulation tissue is formed.

Characteristics in horses: Severe condition, high temperature, muscle tremors, intense sweating, poor nutrition, poor drinking water, heart tones, and respiratory distress. The daily temperature fluctuations are 2 0C, which is due to the breakage of the pus, meaning that the temperature increases when they burst. As the temperature rises, it is possible to determine the formation of metastases.

As a result of the continuous transfer of germs to the blood, the body becomes parabetic and the temperature rises to 41C. In cattle, the temperature rises to 10C and is characterized by low frequency pulse and a slight drop in blood pressure.

In dangerous cases, the temperature drops rapidly, making the pulse more difficult to detect, which is called the point of death and within hours the animal dies. Although the animal is in critical condition, it gets up, begins to eat, activates and falls into the euphoria.

Lung metastases cause bronchial pneumonia and there is an odor of exhalation.

Metastasis of the brain paralyzes the animal, and leukocytes are detected in the blood. Common infection without metastasis (septisemia).

Sepsis is the most severe form, or toxic, and is often severe and green. These germs, in contrast to their own, testify to the toxicity of substances produced by their toxins and tissue decomposition. They indicate that the central nervous system and protective functions of the body are prevented from the onset of disease, and this aneurysm causes severe death of the animal.

- Horses are like water over an animal with high temperatures, trembling and sweating. Before he dies, the temperature drops or rises rapidly, pulse is silenced, he breathes frequently, and his feet begin to cool.
- The color of the mucous membranes is the color of the brick. The animal exhibits aggressive behavior from time to time and irregular behavior.
- The animal vomits, diarrhea decreases sharply, diarrhea causes loss of fluid. The stench has a very strong odor, and within 2-3 days the animal becomes bones.

- Horses trembling, temperatures close to normal in the morning and rising in the evening, and a sudden change in the appearance of new pathological centers.
- In cattle - the temperature fluctuates up to 10C, and in dangerous cases the temperature drops to 10C and the pulse becomes insignificant and leads to death.
- Treatment of common purulent infection.
- No effective methods have been found, but the emergence of sulfonamides and antibiotics has denied the theory that they cannot be cured.
- Treatment of common infections should be complex at the outset, aimed at killing infectious germs, neutralizing and removing toxins, and restoring disturbed functional changes in the body.
- Treatment should be started as soon as possible, including local and general treatment.
- 1. The organism should focus on accumulating protective forces, providing nutrients and neutralizing acidosis. For this purpose light digestible food or 0.5% soda solution is added. Feeding with silage is prohibited. Intravenous intravenous injection of 4% solution of bicarbonate is administered in large animals 1 l, sheep, 5% to 50% in pigs, and 10 to 40 ml in dogs.
- Increase the reactivity of the body, boost the physiological system and provide it with protein. With the onset of sepsis, blood is mixed, mixed with 10% calcium chloride or 10% sodium salicylate at 1:10. The blood is slowly injected into large animals by 1 liter and 50-100 ml in small animals. It is important to send 33% alcohol to a sick animal, which should be prepared in isotonic solution of salt and give 500 ml to large animals.
- Infusion fluid, plasma and plasma substitute fluids are injected to meet the body's fluid requirements, and in large animals 15-16 l (400 kg).
- Protective therapy for parabolic disorders and normal tissue circulation: novocaine blockade, particularly Mosin, cranial, star-shaped, and other blockade.
- In suppressing infections in the body, an animal infected with sepsis must first be administered in high doses of antibiotics. Gentomycin from antibiotics is mixed with 10 ml of 0.25% novocaine in large animals. To improve the treatment, 10% of the sulfonamide is administered with a 9% dose of sulfurazole.

## lecture. Open Mechanical Injuries - Wounds

Plan of lecture

- The concept of injury
- Clinical signs of injury.
- Classification of injuries, their clinical and morphological characteristics.

Key words

Injury. Mechanical damage. Wounds. The mechanism of injury. Edges of the wound. The injury is empty. Wall of injury. Circulation. Search. Skin defect. Injury. Pain response. The type of injury. Traumatic necrosis. Mixes. Stages and stages of injury. Hydration and dehydration. Purified enzymatic purification. Securestr.

**Wounds** - are defined as a disruption of the normal structure and function of skin and underlying soft tissue that is caused by trauma or chronic mechanical stress (e.g., decubitus ulcers).

- By Plachotin **wound** is - open mechanical damage to the skin, mucous membranes and deep tissues, including pain, hemorrhage, wound opening, and disorders.
- **Injury Mechanism:** Mechanical strength and tissue resistance that resist it.
- For example: the greater the force, the lower the density and elasticity of the tissue, the greater the risk of injury.
- Weak disorders of the epidermis or mucous membrane are called skin defects, such as scratches or scratches, and the absence of skin at the site of injury.
- **Wound** consists of wound edges, walls, bottom and wound cavity.
- Edges of Injuries are caused by skin or mucous membrane.
- The walls of the wound are composed of connective tissue that is located in the muscles, fascia, and in between.
- The bottom of the wound is the deepest part of the wound.
- The injury cavity is the distance between the wound walls.
- **Injury.** Injuries often occur in the form of trauma, that is, as a general pathological reaction, it is a symptom complex of local and general changes in the organism caused by injury and subsequent toxico-infectious processes.

- Injury is associated with the process of tissue and organ degradation, the reactions of wounding agents, infection, blood loss, the general state of the body, the resistance and the quality of animal feed. The disorder is extensive and the bleeding is severe when the bleeding is severe. Minor injuries do not call for general change.
- Pain response - Nerve and knee injury as a result of injury. Depending on the type of animal, tissue features and the location of the wound. For example: hoof skin, genitals and anus skin, abdomen, bones and horns of the eye are very sensitive. The pain in the wounds of the parenchymatous organs, pleura, brain, crowns and bones is insignificant.
- Violations of activities are related to the type and location of the activity. For example, if the superficial foot injury prevents the animal from moving, deep wounds will severely impair the functioning of the foot.
- The distance from one side to the other depends on the location, orientation, length, depth and texture of the wound.
- In cut or torn wounds, the edges of the wounds are the largest, and the stab wounds are insignificant. In addition, the distal edges are more commonly associated with lateral injuries and more severe injuries. In transverse muscle injuries, the distances are more distant.
- Bleeding. In all tissues of the organism, except for the cornea and the cartilage, the blood vessels pass, so tissue damage is usually caused by bleeding.
- Bleeding is subdivided into arterial, venous, capillary, internal and external, and parenchymatous.
- External hemorrhage can be seen with normal eyes. Internal bleeding is difficult to detect because of leakage into the tissue or anatomic cavity.
- Blood accumulated in the cavities causes various complications; such as: the pleura - hemothorax, the hemorrhoids in the throat, the hematuria in the uterus, and the hemophthalmus in the eye.
- Bleeding may be primary or secondary.
- Primary bleeding may begin immediately or several hours after the injury.
- Secondary bleeding can be resumed several hours or days after stopping the bleeding.

Classification of injuries, their clinical and morphological characteristics.


Classification of injuries, their clinical and morphological characteristics.

Random injuries can be classified into several other types:

**Stab wound:** The result of compression or stabbing of a sharp-pointed body (nail, needle, wire, stalk). If an injury is combined with an anatomic cavity, it is called an invasion wound. The edges of the wound are rarely opened or felt at all. Internal bleeding can be very dangerous, which can lead to animal death.

- **A cut-off injury** is a result of a sharp cutting machine (knife, puck, scalpel, glass fracture). The edges of such an injury are flat, and it is obvious that they are moving away from each other and bleeding.
- **Acquired trauma** is caused by an unintentional stab wound (animal hoof, sticks, animal horns, iron, etc.). In these injuries, tissues and blood vessels are crushed and broken bones. The first severe pain develops later.
- **A torn wound** is caused by a sharp impact on the texture, such as sharp twists (iron hooks, animal nails, tree branches). The edges and walls of the wound are uneven, the pain is palpable, and there is little or no bleeding. There are many non-life-threatening tissues in the wound.
- **Crushed injury** is a result of high pressure and pressure (tractor tire, concrete slab). The anatomical texture of the tissues is impaired and absorbed by blood. There may be bleeding. The pain is not strong. Crushed tissues need surgical care as soon as the infection develops.

- **Bitten injury** is caused by animal teeth. This injury is dangerous because it can cause an infectious disease. In addition, bears and biting injuries can result in extensive tissue damage, broken pieces, and broken bones.
- **Traumatic Injury** - This type of injury (according to Borst) has three zones:
- 1. The wound canal (with crushed tissue, iodine, microbes, blood clots).
- 2. Traumatic necrosis zone. The wound is directly adjacent to the canal.
- 3. Molecular vibration or necrosis reserve zone. Although the tissue in this zone did not die, the cell nuclei, cytoplasm, collagen fibers and innervation were impaired. The tissues are exposed to multiple hemorrhages.
- **Poisonous wounds** (mycitis) - are caused by poisonous snakes, scorpions, scabs, bees bites and chemicals to the wound.

## 14 - lecture

## TENDONS DISEASES.

**Plan:** 1. Diseases of the tendons and tendons .
2. Principles of treatment and prevention .

***References:*** 1. 497 - 547; 3. 143 - 150; 4. 76 - 85, 181 - 185, 186 - 201; 5. 78 - 80 b.

***Basic terms:*** Tendinitis and tendovaginitis. Share tension and disconnection. Contracture. Tenotomy. "Straight" hoof. Boards. Antibiotic powders and emulsions.

**1** . ***Inflammation of the tendons - tendinitis is*** most often seen in horses and in some cases in other animals. One of the main reasons is that it is stretched too much h as a result of stress .

In other cases, joint diseases are caused by mechanical injury and the passage of a pathological process from other tissues and other causes. The process takes place in acute and chronic , aseptic and purulent forms.

***In acute aseptic tendinitis and tendovaginitis*** (inflammation of the tendon and tendon sheath), rupture of the blood vessels and even fibers of the tendon is observed. The detachable fluid collects between the fibers and the

tufts. The fibrinous portion of the fluid sinks between the severed fibers , forming collagen fibers and filling the defect.

*Clinical signs* . In case of minor injury, the animal is careful with the foot. The affected area hurts. The tumor does not develop. In severe injuries, a strong limb is observed. Pay b o ' focus long edema. Painful swelling, increased local temperature , palpasiyada krepitasiya voices will be heard. The body temperature of the animal rises by 1 $^{o}$C, the animal becomes restless.

The main symptoms of inflammation disappear by the end of 2-3 weeks. Additional injuries and strains lead to the development of chronic tendinitis .

***Chronic aseptic tendinitis and tendovaginitis*** are caused by recurrent injuries and strains , leading to more serious consequences.

*Clinical signs* : When examining the pathological lesion, a long tumor is observed along the joint. Pay intensity and tenderness , pain reaction is slow name or observed.

One of the characteristic symptoms of chronic inflammation is joint contracture (pathological flexion of the joint) . It is based on the contraction of the tendon and the growth of connective tissue. In some cases, contracture results from reflex contraction of muscles.

Secondary symptoms of chronic inflammation of the tendons: constant tension of the sphincter muscles, the development of exostoses at the junction of the tendons , ossification of the tendons and tendons; profound changes in bone architecture, the development of the "upright" hoof.

**2. *Treatment and prevention measures*** . Aseptic tendinitis and tendovaginitis the initial stage of the booster dressings , cold treatments , rishtiruvchi, compresses, massage, corticosteroids are used. Half an acute form of healing massage, together with the sharp pathogen ( gray mercury, 10 % iodine - potassium iodide). In the chronic form is also used paraffin therapy, diathermy, iodine iontophoresis, spot and tape burns, injections of fibrinolysin. Tissue therapy method proliferasiya in better absorption.

In the semi-acute form , it is recommended to drive the animal lightly after 10–15 days of treatment (driving is allowed after 4 weeks after the burn procedure).

In tendon contracture, a tenotomy of the foot should be performed.

***Purulent tendinitis and tendovaginitis*** . Wounds, abscesses, bursitis, purulent inflammation of the tissues develop. In this disease, exudate accumulates in the peritoneal and interstitial connective tissue of the foot, and they are subsequently broken down. Because the strand fibers are much stronger, they break down more slowly. The purulent process in the vagina and pelvis is very slowly limited and therefore the process is difficult.

*Treatment.* In purulent tendovaginitis, the pathological plane is cut and the exudate in the vagina is removed.

Non-viable tissue is removed using a scalpel or small scissors. The wound surface is covered with antibiotic powder or emulsion. In deep changes, capillary drainage is introduced into the process. Putting a board tie gives good results. The

bandage is left for 14–17 days. If the plaque is difficult to put on, the process is treated like an infected wound. Emulsions are used that ensure the separation of dead tissue and improve granulation growth. Drying agents (xeroform, bismuth, zinc oxide) are used to improve epithelialization. In severe cases, resection is performed.

### Bursitis in Large Animals

Bursitis is an inflammatory reaction within a bursa that can range from mild inflammation to sepsis. It is more common and important in horses. It can be classified as true or acquired. True bursitis is inflammation in a congenital or natural bursa (deeper than the deep fascia), eg, trochanteric bursitis and supraspinous bursitis (fistulous withers, *see* below). Acquired bursitis is the development of a subcutaneous bursa where one was not previously present or inflammation of that bursa, eg, capped elbow over the olecranon process, shoe boil over the point of the elbow, and capped hock over the tuber calcaneus. Bursitis may manifest as an acute or chronic inflammation. Examples of acute bursitis include bicipital bursitis and trochanteric bursitis in the early stages. It is generally characterized by swelling, local heat, and pain. Chronic bursitis usually develops in association with repeated trauma, fibrosis, and other chronic changes (eg, capped elbow, capped hock, and carpal hygroma). Excess bursal fluid accumulates, and the wall of the bursa is thickened by fibrous tissue. Fibrous bands or a septum may form within the bursal cavity, and generalized subcutaneous thickening usually develops. These bursal enlargements develop as cold, painless swellings and, unless greatly enlarged, do not severely interfere with function. Septic bursitis is more serious and is associated with pain and lameness. Infection of a bursa may be hematogenous or follow direct penetration.

The pain in acute bursitis may be relieved by application of cold packs, aspiration of the contents, and intrabursal medication. Repeated injections may result in infection. Treatment of chronic bursitis is surgical (and is done arthroscopically (bursoscopy). In infected bursitis, systemic antibiotics as well as local drainage are required.

## Capped Elbow and Hock

Capped elbow and hock are inflammatory swellings of the subcutaneous bursae (acquired bursitis) located over the olecranon process and tuber calcaneus, respectively, of horses. Frequent causes include trauma from lying on poorly bedded hard floors, kicks, falls, riding the tailgate of trailers, iron shoes projecting beyond the heels, and prolonged recumbency.

## Clinical Findings and Diagnosis:

Circumscribed edematous swelling develops over and around the affected bursa. Lameness is rare in either case. The affected bursa may be fluctuating and soft at first but, in a short time, a firm fibrous capsule forms, especially if there is a recurrence of an old injury. Initial bursal swellings may be hardly noticeable or quite sizable. Chronic cases may progress to abscessation.

### Treatment:

Acute early cases may respond well to applications of cold water, followed in a few days by aseptic aspiration and injection of a corticosteroid. The bursa may also be reduced in size by application of a counterirritant or by ultrasonic or radiation therapy. Older encapsulated bursae are more refractory. Surgical treatment (usually curettage and drainage) is recommended for advanced chronic cases or for those that become infected. A shoe-boil roll should be used to prevent recurrence of a capped elbow if the condition has been caused by the heel or the shoe. With capped hock, behavioral modification so the horse does not kick the stall offers the only hope of permanently resolving the problem.

## Fistulous Withers and Poll Evil

Fistulous withers and poll evil are rare, inflammatory conditions of horses that differ essentially only in their location in the respective supraspinous or supra-atlantal bursae. This discussion is of fistulous withers but, except for anatomic details, also applies to poll evil. In the early stage of the disease, a fistula is not present. When the bursal sac ruptures or when it is opened for surgical drainage, and secondary infection with pyogenic bacteria occurs, it usually assumes a true fistulous character.

**Etiology:**
The condition may be traumatic or infectious in origin. Agglutination titers support an infectious etiology. *Brucella abortus* can sometimes be isolated from the fluid aspirated from the unopened bursa.
**Clinical Findings:**
The inflammation leads to considerable thickening of the bursa wall. The bursal sacs are distended and may rupture when the sheet has little covering support. In more chronic, advanced cases, the ligament and the dorsal vertebral spines are affected, and occasionally these structures necrose.

### Fistulous withers

In the early stage, the supraspinous bursa distends with a clear, straw-colored, viscid exudate. The swelling may be dorsal, unilateral, or bilateral, depending on the arrangement of the bursal sacs between the tissue layers. It is an exudative process from the beginning, but no true suppuration or secondary infection occurs until the bursa ruptures or is opened.

**Treatment and Prevention:**
The earlier treatment is instituted, the better the prognosis. The most successful treatment is complete dissection and removal of the infected bursa. The expense of the protracted treatment required in chronic cases often exceeds the value of the animal. *Brucella* vaccines have not proven helpful. Sodium iodide therapy is of limited value.

***Control questions:***

1. Types of tendinitis and tendovaginitis.
2. Pathogenesis of tendinitis.
3. Treatment of aseptic tendinitis.
4. Treatment of purulent tendinitis.

**15– lecture**

**TOPIC: DISEASES OF THE HEAD AND NECK**.

Plan: 1. Injuries and bruises on the head area.
2. Paralysis of the facial and trigeminal nerves.
3. Sword disease.
4. Actinomycosis.
5. Injuries to the esophagus. Esophageal diverticulum.

Basic phrases: concussion. Deformation of the lips.I.Ye. Povajenko method. Plastic surgery. Epithelial discharge. Depressive condition. Fractures of the skull. Paralysis of the facial and trigeminal nerves. Central, peripheral, unilateral and bilateral paralysis. Stipa capillata, Seteria viridis. Chloramine paste. Light mushroom ’. Actinomyces bovis, Actinobacillus Lignieri, Streptothrics Jsraeli.

Actinomycosis. Druze. Obstruction of iodine bodies. Magnetic probe. Swallowing movements. Contrast agents. The nose is the esophageal tube. The esophageal diverticulum.

1. Injuries to the head area are caused by factors such as the damaging effects of various objects, improper transportation, storage, feeding, and punching.

Clinical signs vary depending on the severity, time, and location of the injury. Symptoms of concussion, in addition to general symptoms (bleeding, pain, opening of the wound); Injuries to the oral cavity include inability to drink water, re-emergence of food from the wound, and inhalation of air. When the salivary glands are damaged, leaks form.

Injuries to the corners of the lips and mouth can lead to ulcers and deformities of the lips. When a wound enters the nasal cavity, it produces a frothy, reddish liquid.

Diagnosis. Diagnosis is not difficult because the clinical signs are obvious.

Consequences. The result is good in superficial wounds; at intruders - cautious; the consequences of an injury aggravated by concussion are doubtful and even worse.

Treatment. In injuries of the lips I.Ye. Stitches and bandages are applied according to the Povajenko method.

In stab wounds, the edges of the wound should be as close to each other as possible using stitches. Plastic surgery is performed on large wounds. Special stitches are used for long wounds. In the epithelial stream, a circular incision is made 0.5 cm from its edges, reaching half of the lobe tissue. The resulting skin is a tissue tube that is pushed into the oral cavity and then sutured to the returned edges, muscles, and finally to the skin.

Colloidal fluid is used to protect superficial wounds: Zinc Oxide - 1.0; Olei Ricini - 5 gtt, Vaselini 3 gtt, Collodii - 20.0.

In order to prevent complications, antibiotics are injected into the carotid artery with a solution of 0.25% novocaine (10/20 - 40 ml).

Rupture of blood and lymph vessels in the head area results in hemorrhage, hematoma, and lymphoextravasation. Severe injuries include fractures, fractures, concussions, and cerebral hemorrhage.

Etiology. Animal falls, blows, point cramps, and more.

Clinical signs. Symptoms of lat eating depend on the degree of tissue damage. In mild cases, swelling, pain, itching, etc. observed. When the skull is damaged, coordination is impaired, paraplegia, depression develop, the animal's body temperature drops or, conversely, the body temperature rises, the animal becomes restless, the heart beats faster, and the pupil narrows. Repeated bruising leads to the development of ossifying periostitis and exostoses.

The diagnosis is made on the basis of clinical signs.

Consequences. In minor injuries - well, in cerebral hemorrhage and concussions - suspicious and even.

Treatment. The animal is provided with a separate room, quiet conditions, new soft bedding. In order to prevent infection, the affected areas are treated with

an alcoholic solution of 1-2% pioctanine, diamond blue, or an alcoholic solution of 5% tannin, a short novocaine-antibiotic blockade. Compression bandages and cold treatments are used to prevent blood clots and the accumulation of exudate in the tissues. After 2–3 days, heat treatment, massage with iodine ointments.

In case of depression, camphor oil, caffeine injections, foot and body massage, Kodikov's camphor serum are administered intravenously. When the animal is disturbed, it is necessary to improve heart function (caffeine delivery), simultaneously intravenously or using an enema, chloral hydrate, intramuscular neuroleptics: aminazine, rompun, kombelen, etc. will be sent.

When the skull is broken, the bone fragments are surgically removed. In the development of bony periostitis and exostoses, such treatments as spot burns, infusion of acute inflammatory ointments are performed. Exostoses are surgically removed if necessary.

2. Paralysis of the facial and trigeminal nerves. The facial nerve is the motor nerve for the ear, eyelid, lip, and cheek muscles. The facial nerve (the seventh pair of nerves in the brain) separates the posterior ear, the inner ear, the biceps, and the cervical nerve after exiting the facial canal. The main part goes forward and divides into dorsal (upper) and ventral (lower) lung nerves.

Facial paralysis is more common in all species, but more common in horses. Depending on the injury, paralysis can be central, peripheral, unilateral, or bilateral.

Etiology. Mechanical shock, trauma, bruising in the fall, abscess, hematoma, exostosis, exposure to iodine bodies, spotting, inflammation of the surrounding tissues (subcutaneous salivary glands; internal, middle and inflammation of the outer ear). In addition, central paralytic infectious diseases - petechial fever, mange, contagious pleuropneumonia, canine distemper and invasive diseases - equine trypanosomiasis; cerebral hemorrhage, tumors and abscesses; can be caused by poisoning by poisonous plants, pesticides, drugs.

Clinical signs depend on the location of the nerve and its branches. In bilateral complete paralysis of the facial nerve, the animal's ear supras and lips become droopy, the upper eyelids fall off (ptosis), the nasal cavities close, or rhinostenosis occurs. Intake of food and water, difficulty breathing. Cattle salivate. In unilateral paralysis, the symptoms are observed on one side of the head, the lips and nasal wings are pulled to the right (not observed in cattle).

In paralysis of the cheekbones, the ear supras and and eyelids are kept in a normal position.

Upper lip paralysis and nasal rhinostenosis develop when the dorsal nerve of the cheek is damaged.

When the ventral nerve of the cheek is paralyzed, half of the lower lip hangs down.

In all types of paralysis of the facial nerve and its branches, atrophy of the muscles they innervate is observed.

The diagnosis is made on the basis of clinical signs.

Consequences. It is better to restore nerve conduction. When the integrity of the nerve is compromised, it is worse in tumors of the trapezoidal body.

Treatment. Comprehensive treatment should be performed. Treatments such as a short novocaine blockade, a light massage, and heating with a sollux lamp at the site of nerve damage reduce pain and vascular spasms, and restore blood circulation. It is recommended to apply the following mixture by massaging the affected nerve: Camphorae - 15.0; Sodium chloride - 50.0; Spiritus aethylici - 300.0. 0.5% strychnine solution is injected subcutaneously: (at the expense of dry matter) in horses - 0.001 - 0.003; sheep and goats - 0.002 - 0.005; for dogs - 0.001 - 0.003. Injections start with a small dose and then move on to a larger one. Faradization and diathermogalvanization are recommended. N.S. Fedotov recommends the combined use of strychnine and galvanic current.

A.K. Kuznesov and I.P. Lipovsev notes that in paralysis, intravenous administration of a 0.5-1% solution of novocaine at a rate of 2.5 mg per 1 kg of body weight is effective.

Vitamin V12 is administered to paralyzed muscles at several points: in large animals - 1000 - 2000 mg, in small - 10 - 20 mg per injection (a total of 15 - 25 injections); parenteral administration of tissue drugs, nicotinic acid is recommended.

In bilateral paralysis and narrowing of the nasal cavities, N.F. Fatkin will undergo plastic surgery.

Trigeminal neuralgia. Occurs in all types of animals, but mostly in dogs

Etiology. The onset of the disease is caused by brain diseases (rabies, canine distemper, cerebral hemorrhage, abscesses, tumors), mechanical injuries, inflammation of the middle ear, dental disease, fracture of the lower jaw, sciatica possible.

Clinical signs. Paralysis can be unilateral or bilateral. In bilateral paralysis, the mouth does not close - the jaw hangs down. Chewing muscles atrophy. On one side, the lower jaw is tilted to the right.

Differential diagnosis. In dogs, the disease lasts a long time and causes muscle atrophy. In rabies, the animal dies in a week. The lower jaw cannot be lifted by hand at the exit of the jaw joint.

Consequences. Bad in bilateral paralysis. On the one hand, it is doubtful, and sometimes it is good.

Treatment. Mentioned above.

3. Sword disease is caused by eating grasses such as Stipa capillata or Seteria viridis.

Clinical signs. Chewing is difficult, saliva flows, bad breath. The lower jaw slides to one side. Palpation reveals tissue density, abscesses. Dark pus separates from the discharge. The animal's body temperature rises. The animal loses weight and dies in a few months. In horses, swords can pass under the eyes, into the jaw joint, and into the brain.

The diagnosis is made on the basis of clinical signs.

Consequences. It's too bad I can't have surgery.

Treatment. Abscesses are opened surgically. The pus is removed and the cavity is treated with iodine - glycerin (1–3). External streams are washed with iodized hydrogen peroxide (a few drops of iodine per 100 ml of hydrogen

peroxide). Then the channel opens longitudinally. To remove the scabs, chloramine paste is sent to the stream: Chloramine - 1.2; Cerae flavae -, Paraffin - aa - 2.5; Vaselini - 24.0.

4. Actinomycosis. The disease mainly affects cattle, sometimes pigs and other animals. The most common lesions are the jaw, lower jaw, tongue, gums, palate, lymph nodes, and the parotid gland.

Clinical signs and etiology. Callers - light fungi and microbes: - Actinomyces bovis, Actinobacillus Lignieri, Streptothrics Jsraeli. The disease is caused by eating wild animals that are moldy and contaminated with actinomycosis.

The disease develops into a diffuse, painless, dense, immobile tumor. Later a leak develops. Damaged bones thicken, necrosis occurs, and teeth fall out of place. The animal loses weight and dies.

Diagnosis. Druze is detected in actinomycoma pus.

Treatment. With the help of surgery, actinomycoma is removed by incision or internal curettage.

30–80 ml of auto- and homogeneous antibiotics in and around actinomycoma every 7–10 days; Penicillin with a 0.5% solution of novocaine (1 million T.B. per injection, 2 times a day for 12 days) or other antibiotics is administered.

Antibiotics are injected into the carotid artery with 0.25% novocaine solution (20–40 ml) once a day.

Intravenous infusion of 10% sodium iodide at the rate of 1 ml per 3 kg of live weight, once in 3 days.

Actinomycoma is injected with 40–80 ml of iodinol (8–12 injections) once every 2–4 days.

Measures to prevent the disease. On farms where the disease is spread, rough hay is crushed and evaporated. The barn is disinfected.

5. Injuries to the esophagus. Esophageal diverticulum.

Etiology. Injuries to the esophagus are often accompanied by mucous membranes. Causes: iodine blockage, improper use of the probe, rough insertion of the magnetic probe into the stomach; external injuries are caused by horn blows, bites, and bullets.

Clinical signs. In penetrating wounds, nutrient masses may protrude beyond the wound. When the integrity of the skin is not compromised, nutrients accumulate in the subcutaneous tissue. In small internal injuries, swallowing is difficult and saliva comes out of the mouth.

Diagnosis. Depending on the clinical signs. X-rays (with contrast agents) are used for chest injuries of the esophagus.

Consequences. Injuries to the neck of the esophagus - cautious, in cases of damage to the chest - bad.

Treatment. External and penetrating wounds are treated surgically, and small defects are sutured. In the first days of the disease the animal is left hungry. Later, when food is difficult to absorb, a nasal-esophageal probe is used. When a large

tumor and phlegmon develop, it should be surgically opened, necrotic tissue removed, and the process treated with antiseptic agents.

An esophageal diverticulum is a one-sided bulging wall. In horses and cattle, esophageal diverticula are mainly found in the chest.

Etiology. Diverticula are caused by narrowing of the esophagus caused by various mechanical injuries. Dense nutrient masses accumulate in front of the constricted area, causing muscle atrophy and limited expansion. In addition, diverticula can be observed in degenerative and inflammatory processes of the esophageal wall, as it sticks to the lungs.

Clinical signs. After feeding, the animal develops a painless, non-malignant tumor in the yoke area. Flatulence develops in cattle. Shortness of breath in delayed cases, cardiac dysfunction; salivation in cattle, flatulence; symptoms of vomiting are observed in dogs and cats. Symptoms of shortness of breath, cough, and vomiting in the diverticulum of the chest begin as soon as food is ingested.

Diagnosis. Clinical signs are determined by X-ray examination. Probing should be done carefully.

Consequences. In the thoracic diverticulum of the esophagus - be careful.

Treatment. The diverticulum in the neck of the esophagus is given liquid food and the esophagus is massaged towards the stomach. If necessary, the operation should be performed and the diverticulum partially cut and narrowed.

Control questions:

1. Clinical signs of head injuries. Treatment.

2. Clinical signs of lesions in the head area. Treatment.

3. Clinical signs of facial and trigeminal nerve paralysis.

4. Treatment of facial and trigeminal nerve paralysis.

5. Clinical signs of scabies. Treatment.

6. Etiology and causative agents of actinomycosis.

7. Clinical signs and treatment of actinomycosis.

8. Causes of esophageal injuries.

9. Treatment of esophageal ulcers.

10. Etiology and clinical signs of esophageal diverticulum.

## Lecture 16
## TOPIC: DISEASES OF THE ABDOMEN AND CHEST.

Plan: 1. Necrotic processes and phlegmons in the area of the lesion.
2. Chest wall injuries.
3. Pneumothorax.
4. Hemothorax.

References: 2,251 - 256; 3.73 - 77, 80 - 82, 89 - 101; 3. 171 - 185; 4. 76 - 85, 181 - 185, 186 - 201 b

Basic terms: metastases. Cyanosis. Subcutaneous, subfascial, and intramuscular phlegmons. Purulent discharge. Anaerobic phlegmon. The Cross of Death. Necrosis of the spinal cord. Bone sequestrators. Petrifiers. Cut - angular, vertical, sagittal cuts. Desmotomy. Emphysema. Perforation. Closed and valve pneumothorax. Pleurisy. Atypical sound. An occlusive bandage. Pneumopexy. Horizontal line with a muffled sound. Thoracosynthesis. Reinfusion. Intestinal perforation. Floating edema. Puncture. Tamponade. Encapsulation. Adhesions. Laparoscopy. Diagnostic laparotomy. Proteolytic enzymes. Hernia ring, sac, organs inside the hernia. Navel, chin, intercostal hernias. "Free" hernias are irreparable, irreplaceable, constricted hernias. Hereditary defect. Gerniotomy. Alloplasty.

1. Purulent-necrotic processes in the area of the ulcer (cervical spine, vertebral tumors, scapula, fascia necrosis) are pathogenetically associated with pre-existing acute purulent processes.

Clinical signs. Clinically, ulceration and leakage are important. The flow pathways are irregular, bypassing the muscle layers and locating along the blood vessels and nerves. There is no pain in the old streams, but in the necrosis of the spinal cord (purulent ostitis, osteomyelitis) the pain is severe. There is a large amount of fluid from the discharge, a mixture of fluid and blood (in the rupture of tumors), in necrosis of the cervical spine - darker and yellowish, and in purulent inflammation of the bursa - mucous-purulent.

Diagnosis. In the exudate, it is important to identify tissue fibers, small bone sequestrators, onchocerciasis, and petrifiers. If the process is contaminated with a putrid infection, it smells bad, if pus accumulates in the tissue pockets - a pungent odor.

Consequences. Osteomyelitis of spinal tumors and necrosis of the scapula. If the affected parts of the cervical necrosis are removed and the exudate flows freely, the animal will recover in 4-6 weeks.

Treatment. In the treatment of purulent-necrotic processes in the area of the lesion, the removal of dead tissue and the opening of the pus ducts using surgical methods are the basis of therapy.

The following sections are used in the operation:

- scaly-angular incision is made in purulent inflammation of the cervical bursa and necrosis of the plate-like part of the neck. The base of the cut is 15 cm long and the tip is turned down.

- Vertical sections are used to open wide pus. The distance between the cuts is 7–10 cm.

- The sagittal incision is used in the middle and caudal parts of the abdomen. The incision is made to allow access to the spinal cord and the neck. The length of the cut should not exceed 15 cm.

Desmotomy of the cervical spine prevents the spread of necrotic processes. Because it is difficult to stop bleeding mechanically, drugs that reduce bleeding are given intravenously: serum, calcium chloride. After the operation, antimicrobials and general antiseptic therapy are used.

Phlegmon of the esophagus is a diffuse acute purulent inflammation of the soft connective tissue in the esophageal region.

Etiology. Yagrin phlegmons are often the result of a combination of mechanical and biological damage. Mechanical damage is caused by the bite of a yoke, saddle, and rarely other objects or wild animals. In some cases, purulent inflammation as metastases can occur in infectious diseases (brucellosis, paratyphoid).

Allergic conditions, fatigue, fever, hypovitaminosis, and weight loss are the main causes of the disease.

Clinical signs. Phlegmon of the abdomen is characterized by unilateral or bilateral diffuse intense, hot and painful swelling. The skin is tight and shiny. The body temperature rises to 41 0 C and above. Heart rate and respiration speed up. The animal does not receive food, suffers, the mucous membranes of the eyes become red, and the mucous membranes of the nose become cyanotic and itchy. The number of young leukocytes in the blood increases.

In subcutaneous phlegmon, the symptoms of inflammation subside in 3–4 days, and in the process appear softened foci. On days 6–7, the abscesses rupture spontaneously. In subcutaneous and intramuscular phlegmons, the purulent cavities are deep and rupture after 8–12 days. The general condition of the animal improves considerably after the pus bursts and the pus comes out. Wounds appear instead of pus, from which a large amount of pus and fragments of dead tissue are removed.

If the wound is large and the pus hole through it is completely cleared of pus and dead tissue, the animal will heal. If the wound is small and the pus does not come out completely, pus will form and the process will become chronic.

Anaerobic phlegmon of the ulcer does not produce pus, but develops a large tumor instead. The exudate is similar to lymph and smells dead. The animal's body temperature first rises and then falls ("death cross"). The pulse accelerates to 100 and more, and the animal's condition deteriorates sharply. If pus forms in the process, the animal's condition improves.

Diagnosis. It is determined using clinical signs and puncture. Blood tests are important in making a diagnosis.

Consequences. If antibiotics are used in the early stages, the outcome of the disease is good, in late cases - suspected, anaerobic phlegmon is always suspected.

Treatment. Surgery is performed in the serous infiltration stage of phlegmon (before the abscess). This prevents the formation of pathological pockets in the tissues and necrosis. Tissues are infiltrated with an antibiotic solution - novocaine. The process takes 4-5 days to drain. To reduce the risk of inflammation, it is advisable to put a second tomorrow.

2. Chest wall injuries. When superficial wounds of the chest are completely or partially removed, the animal usually heals quickly. Complications can occur when the injury reaches deep muscle layers. This causes emphysema, which extends to the head and neck as a result of air being sucked into the tissues. Lateral inward thoracic injuries may present with damage to the carotid artery, jugular vein, and trachea. When the lower part of the chest is injured, the external vein of the chest is damaged (heavy bleeding). There is a risk of developing anaerobic infections in deep, tight wounds (when punched). Various iodine bodies that have been injured are encapsulated in cattle and leaked in horses.

Consequences. Good in small superficial wounds; in injuries of large blood vessels and trachea, when contaminated with anaerobes - bad.

Treatment. Surgery and antiseptics.

3. Pneumothorax. Etiology and pathogenesis. Perforation of the chest wall is life-threatening. Air enters the chest from the outside or from a lung injury. When air stops flowing after an injury, the process is called closed pneumothorax.

In open pneumothorax, air enters and exits the chest cavity during respiration. Valve pneumothorax is less common. In this case, part of the wall pleura or muscle layer forms a valve. In this case, the air enters the chest cavity and does not come out again, and as a result, the pressure in it increases.

Clinical signs. In pneumothorax, the animal begins to become restless; breathing speeds up; heart rate increases; mucous membranes turn blue. Later, with the development of pleurisy, the animal suffers, the body temperature rises. Fluid leaks from an open wound. An atypical sound is heard in percussion.

Consequences. Horses, dogs, sheep, and cats are at risk for developing bilateral pneumothorax. It is lighter in cattle. If there is lung disease before pneumothorax or if there is a purulent process in the lungs and pleura, the consequences are bad.

Treatment. Applying an occlusive bandage that prevents air from being sucked out of the wound is effective. Immediate anti-shock measures (intravenous 0.25% novocaine solution, vagosympathetic blockade) are performed. Closed pneumothorax absorbs more air. A mixture of streptocide and antibiotics or an emulsion is injected into the wound. Antibiotic therapy is used for 3-4 days. The wound is left under the bandage for 8–9 days, after which secondary sutures are placed. In open pneumothorax, surgery is performed, ie the wound is sutured layer by layer; the ribs are brought together (with metal brackets); rib resection is performed; pneumopectomy - suturing to the pleura of the lung wall. In all cases, the tips of the broken ribs are smoothed

4. Hemothorax. Etiology. Blood collects in the pleural space when the intercostal vessels, the thoracic artery, the pulmonary arteries, and the large veins are damaged.

Clinical signs. Limited blood flow is not detected. If 0.5 l or more of blood is collected in an adult animal, a suffocating horizontal line is detected in the percussion. Thoracosynthesis is performed to confirm the diagnosis. In the pleural cavity, the blood stays in a liquid state for a long time. Hemothorax is often accompanied by pneumothorax, so it is very dangerous.

Treatment. The intercostal vessels are connected. In other cases, blood thinners are used.

Sodium chloride in animals to compensate for the loss of blood glucose solutions, blood transfusions. Reinfusion gives good results. To do this, blood is drawn from the pleural cavity, to which is added 150 ml per 1 liter of 10% solution of calcium chloride, the mixture is filtered through 4 layers of gauze and immediately injected intravenously. Reinfusion or delivery of blood substitutes or cardiac agents may increase blood pressure and cause re-bleeding, so they should be given slowly and infrequently.

Control questions:

1. Causes of phlegmons in the area of inflammation.
2. The course and clinical signs of phlegmon in the area of the wound.
3. Principles of treatment of phlegmons in the area of the wound.
4. Causal features and clinical signs of necrotic processes in the area of the lesion.
5. Principles of treatment of necrotic processes in the genital area.
6. Characteristics of chest wall injuries and. reasons.
7. Causes of pneumothorax.
8. The course and clinical signs of pneumothorax.
9. Principles of treatment of pneumothorax.
10. Causes and clinical signs of hemothorax.

**17 - report.**

**Topic: DISEASES OF THE ABDOMINAL AREA.**

Plan: 1. Abdominal wall injuries, hematoma, lymphoextravasation, peritonitis.
2. The concept of abdominal hernia.
3. Types, clinics and treatment of hernias.

**References: 2,251 - 256; 3.73 - 77, 80 - 82, 89 - 101; 3. 171 - 185; 4. 76 - 85, 181 - 185, 186 - 201 b**

**Basic terms:** metastases. Cyanosis. Subcutaneous, subfascial, and intramuscular phlegmons. Purulent discharge. Anaerobic phlegmon. The Cross of Death. Necrosis of the spinal cord. Bone sequestrators. Petrifiers. Cut - angular, vertical, sagittal cuts. Desmotomy. Emphysema. Perforation. Closed and valve pneumothorax. Pleurisy. Atypical sound. An occlusive bandage. Pneumopexy. Horizontal line with a muffled sound. Thoracosynthesis. Reinfusion. Intestinal perforation. Floating edema. Puncture. Tamponade. Encapsulation. Adhesions. Laparoscopy. Diagnostic laparotomy. Proteolytic enzymes. Hernia ring, sac, organs inside the hernia. Navel, chin, intercostal hernias. "Free" hernias are irreparable, irreplaceable, constricted hernias. Hereditary defect. Gerniotomy. Alloplasty.

1. Abdominal wall injuries, hematoma, lymphoextravasation, peritonitis. There are two types of abdominal wall injuries:

a) does not pass into the abdominal cavity. In this case, the skin, tissue and muscles are damaged, and the integrity of the peritoneum is not compromised.

b) injuries entering the abdominal cavity. Such injuries damage all the tissues of the abdominal wall and even some internal organs.

**Etiology.** Injuries are usually caused by horns, hooves, horseshoes, iodine bodies, and animal teeth.

Clinical signs. Pain, bleeding, and opening of the wound edges are evident in cuts, lacerations, and tears; bleeding from stab wounds and gunshot wounds may not be noticeable. The larger the injury, the more likely it is that the intestines and other internal organs will come out. Perforation of the stomach or intestines can contaminate the abdomen and lead to the development of peritonitis. When the liver and blood vessels are injured, blood collects in the abdomen.

Diagnosis. Based on the anamnesis, clinical signs, the results of the wound revision.

Consequences. In superficial wounds - good. Injuries to the abdomen - caution or suspicion.

Treatment. First of all, the wound is treated with primary surgery. Then a short novocaine blockade is performed and antiseptic treatments are performed. The abdominal wall is sutured layer by layer.

Hematomas of the abdominal wall can be subcutaneous, subfascial and intramuscular, localized and diffuse.

Etiology. Hematomas are formed by closed mechanical injuries.

Clinical signs. After an injury, a rapidly growing, hot, fluctuating tumor develops. When punctured, blood flows from the needle.

Diagnosis. Based on clinical signs and puncture results.

Consequences. In new normal hematomas - well, if contaminated with infection - be careful.

Treatment. After 4–5 days, the hematoma is cleaned of blood and blood clots with a needle or incision, and the cavity is washed with an antiseptic solution. The wound is partially sutured, leaving the lower part open and, if necessary, drained.

Lymphoextravasations in the abdominal wall are formed during the traumatic separation of the subcutaneous tissue from the subcutaneous tissue. Lymph accumulates in the newly formed cavity as a result of rupture of lymphatic vessels.

Etiology. Lymphoextravasation is more common in cattle. It is formed when an impenetrable object strikes the skin of the abdomen in an oblique direction. For example, when an animal falls, gets stuck in narrow doors, hits trees, is transported, etc.

Clinical signs. Unlike a hematoma, lymphoextravasation does not occur suddenly, but within 3–4 days after injury. Initially, a small bulging tumor develops at the site of injury, and within a week, the tumor grows into a sac. There is usually no local temperature rise and no general reaction.

Diagnosis. Based on clinical signs and puncture results.

Treatment. The animal is provided with a calm environment, a short novocaine blockade is performed, and in 5–6 days the lymphoextravasation is opened surgically; fibrin and blood inside are removed; The cavity is swabbed with Vishnevsky liniment or napkins soaked in a solution of iodoform in 5–10% ether. The upper part of the wound is sutured.

Peritonitis is an inflammation of the lining of the abdomen that occurs in all animals, but is most common in horses and cattle.

Etiology. In most cases in penetrating lesions of the abdominal wall; surgical operations - rumenotomy, cesarean section, herniotomy, as a complication of puncture of the large abdomen and intestines. In addition, peritonitis abscesses open into the abdominal cavity; may also develop in the bladder, intestines, uterine rupture.

Clinical signs. Peritonitis can be acute or chronic, limited in distribution, and widespread. Restricted peritonitis may be absorbed or encapsulated.

In acute peritonitis, the general temperature rises, the animal's appetite decreases sharply, and the number of breaths and pulses increases; the inflamed area becomes tense and painful. The animal suffers. Horses sweat and tremble. Cattle body temperature rises only at the beginning of the disease. They develop atony of the anterior gastrointestinal tract. The disease is usually fibrinous or fibrinous - purulent in nature. This type of inflammation causes adhesions and abscesses in the abdomen.

Diagnosis. Based on clinical signs and puncture results. If it is difficult to make a definite diagnosis, laparoscopy or diagnostic laparotomy is performed.

Consequences. In acute peritonitis - with caution; in limited aseptic peritonitis - good. However, in this case, a large number of adhesions are formed between the peritoneum and internal organs.

Treatment. In order to prevent the disease, V.V. Abdominal nerve entrapment is performed on the mosin. Proteolytic enzymes, oxygen, and antihistamines are used to prevent adhesions. Before administration of proteolytic enzymes, 8–10 ml of 2.5% diprazine or 2–3% suprastin solution was administered intramuscularly, followed by 20–30 mg of chymotrypsin (50 ml of 0.5% novocaine solution) intravenously. with antibiotics should be administered once a day for 3 days. Injecting 10 liters of oxygen into the abdomen works well.

Treatment should be approached as early as possible. A puncture or incision is made in the lower abdomen to remove the purulent exudate.

2. The concept of abdominal hernia refers to the movement of internal organs along the parietal layer of the peritoneum from the abdominal cavity under the skin or between other tissues and into the cavities. The anatomical elements of a hernia include the hernia ring, the hernia sac, and the organs inside the hernia.

The hernia ring is formed by a pathologically enlarged natural fissure (umbilical ring, cheek canal) or ruptured abdominal wall. The hernia ring can be small or wide, and often expands over time.

The hernia sac consists of the peritoneum and fascia and consists of the entrance, neck, and torso.

If the hernia is not treated for a long time, connective tissue barriers (adhesions) will form inside. When the muscular layers of the abdominal wall are severed, the integrity of the peritoneum and yellow fascia can also be compromised. In such cases, the internal organs fall under the skin, and clinically - the process is hernia, and pathologically - anatomically - prolapse. The contents of a hernia consist of tissue close to the hernia ring, parts of the internal organs, and a transudate.

Classification of hernias: by anatomical location - umbilical, femoral, intercostal, etc .; by origin - congenital (pathological formation of natural cracks, for example, excessive width of the rectal canal) and acquired (injuries of the abdominal wall, severe stress at birth, falls, heavy work, diarrhea) 'ladi. Hernias are caused by avitaminosis, malnutrition, malnutrition, macro-and micronutrient deficiencies, and poor breeding practices.

A hernia that can be corrected or "free" depending on the condition of the hernia is another type of hernia that cannot be corrected, is irreplaceable, and clinically requires immediate surgery. In this type of hernia, the internal organs (intestines, intestines, etc.) that enter and leave the hernia sac are compressed in the neck of the hernia sac, in the hernia ring. Compressed hernias can also occur when the elastic band narrows and the nutrient mass in the intestine does not pass.

Let's look at abdominal hernias as an example of umbilical hernia. Umbilical hernia is more common in pigs and dogs. The economic damage will be significant. Sick piglets at 2.5 to 3 months of age weigh a few pounds lighter than others, meaning they stop growing, and some die.

Etiology. Many authors believe that this is a hereditary defect, due to the formation of a wide umbilical cord in the fetus in the mother's womb. In addition, the umbilical vein, umbilical artery, and uraxus are slowly reduced in such animals. Their remains, such as umbilical cords and umbilical cords, have also been found in sick 5-month-old animals. In addition, the disease is associated with strain on the animal, tightening of the abdominal wall, rough rupture of the umbilical cord; diarrhea, constipation, and vomiting also develop.

Clinical signs. An abscess can develop when an hernia becomes infected. Such an abscess is covered with a strong pyogenic membrane and does not rupture spontaneously and does not cause strong general changes. Palpation reveals a round, less painful fluctuating tumor in and around the hernia ring. In some hernias, the ring is not found.

Nonspecific umbilical granuloma is one of the chronic inflammatory processes that complicates the diagnosis of hernia. It is usually associated with infectious inflammation of the umbilical cord or the growth of granulation tissue in the constricted uterus.

Treatment. Conservative treatments (bandages, ointments, alcohol or hypertonic saline solution) do not work well.

The best and most effective method of treatment is herniotomy. It has the following types:

3. Types of hernias, clinic and methods of treatment.

A portion of the hernia sac is cut and removed along with the thin, damaged, or sticky wound skin.

1. In all cases, the hernia ring is closed with a circular suture.

2. The hernia, which is difficult to reposition, is removed along with the excess of the hernia sac.

3. A massive, thick-walled hernia sac can be cut open in all cases. The part of it that forms an adhesion with the intestine is cut off and returned together with the intestine.

1. When the hernia sac is very large, it is dangerous to cut it off at once, as the bowels in the abdomen may protrude sharply. Such a hernia sac is gradually cut and stitched one by one.

2. No matter what stitch the hernia ring is covered with, it is necessary to put stitches on the skin to strengthen it. The sutures should pass through the skin along the aponeurosis, which is close to the "white line".

3. Alloplasty is used in recurrences of umbilical hernia. For this purpose, lavsan, Teflon, photolone and other synthetic materials are used.

4. It should always be remembered that intestinal resection is performed in compressed hernias and when the hernia sac ruptures.

Control questions:

1. Etiology, clinical signs and methods of treatment of abdominal wall injuries.
2. Clinical signs of abdominal wall hematoma and its treatment.
3. Etiology of abdominal wall lymphoextravasations.
4. Clinical signs of abdominal wall lymphoextravasations and their treatment
5. Etiology and clinical signs of peritonitis.
6. Treatment of peritonitis.
7. The concept of hernias and their types.
8. Clinic of hernias and methods of their treatment.

## Lecture 18
## TOPIC: ANDROLOGY.

Plan:

1. Balanoposthitis.
2. Phimosis. Paraphimosis.
3. Postoperative complications: bleeding, hemorrhage, general vaginal discharge and loss of the seminal vesicles.
4. Phlegmon of the seminal vesicles.
5. Funiculitis.
6. Complications from cutting in rams.

References: 2. 129 - 138, 149 - 158; 4. 185– 189; 4. 76 - 85, 181 - 185, 186 - 201; 5. 205 b.

Basic terms: prepuce, postit, balanitis. Smegma. Bitter urine. Prepus diverticulum. Wounded balano - postites. Erosion. Ring wound. Fibrous tissue. Trichomoniasis, vibriosis. Wrinkling and burning tools. Sacral, permeable, infiltrative anesthesia. Suspension link. Vaporization. Sollux, infrared lamp. Phimosis, "fake" phimosis. Paraphimosis, paresis, paralysis. Phlegmon of the seminal vesicles. Penis. Warm bath. Sewing technique. Seed system. Adhesions. Funiculitis. Demarcation barrier.

Balanoposthitis.

1. Inflammation of the prepuce sac (postit) and inflammation of the head of the penis (balanitis) occur in all types of male animals. Balano-postites are especially common in multi-bull bulls, oxen, buffaloes, rams, and male pigs.

Etiology. Balano-postitis is caused by: contamination of the abdominal wall and prepuce with manure; urinary retention due to accumulation of smegma; exposure of the prepuce mucosa to bitter urine; mechanical damage; effects of specific infections (spirochetes, viruses, fungi, necrotic bacilli, strongilyata larvae, etc.). In addition, the bull's prepuce is dense and long, and the presence of prepuce diverticula in male pigs predisposes to inflammation of the prepuce sac.

Clinical signs. At the beginning of the disease there is a slowness of animal reactions and frequent urination. In the prepuce area, the skin becomes swollen, hot, and painful. Serous or serous-mucous exudate flows from the prepuce sac and sticks to the hairs around the prepuce hole. If the exudate drains for a long time (1 month), the skin around the hole becomes macerated and covered with sores, and pus develops under the skin. During the acute phase of the disease, the male's ability to escape decreases.

Over time, the process can spread to the genitals, abdominal wall and seminal vesicles.

I.S. Chernenko distinguishes 3 clinical stages of wounded balano-postitis in bulls:

1. There is a small erosion and several superficial wounds around the prepuce. The skin is warm, slightly swollen and less painful. The wool sticks together. The prepuce is swollen and has a raw consistency.

2. A soft annular wound forms around the prepuce. The wound is covered with a brownish exudate. The wounds then merge into one large wound. Fibrous tissue grows on the wall of the prepuce, and hair falls out. Urination is painful.

3. The most difficult stage is the addition of mucous membranes to the process; the ring-shaped wound is packed. As the fibrous tissue develops, the prepuce narrows. The last part of the prepuce is dense, painful, large and mushroom-shaped. Urine is difficult and painful to pass, and it is lined up in a thin, scattered stream.

The prepuce is filled with purulent-necrotic exudate. The sick animal suffers, loses weight. With the development of phlegmonous process may develop necrosis of the prepuce sac and genital tissue, sepsis.

Diagnosis. It is based on the clinical signs mentioned above. The penis is removed using a conductive anesthetic to determine the extent of the damage.

Using microscopy and serological examinations, trichomoniasis, vibriosis and other balano-postites are distinguished from each other.

The use of rational treatment at the onset of the disease gives good results. In the 2nd stage - cautious; 3 - stage - suspicion; in tissue necrosis - bad.

Treatment. In acute and semi-acute cases, the prepuce is cleansed of mucous exudate and antiseptic, anti-inflammatory, anti-wrinkle and anti-inflammatory agents are used: potassium permanganate (solution or powder) with boric acid, iodoform or naphthalene; ok streptoside powder or solution; rivanol solution; penicillin, streptoside, and syntomycin powders, solutions, or ointments. Sacral, permeable, or infiltrative anesthesia should be used for free administration.

Wounds are treated with a mixture of potassium permanganate boric acid powder (1: 3). The protruding penis is inserted and a suspension bandage is applied. In the case of fibrinous changes in the tissues should be used vaporization (evaporation), sollux lamp, infrared, UYUCH therapy, tissue therapy. Advanced phimosis requires surgical treatment.

In phlegmonous balano-postitis, small incisions are made on the skin surface to reduce intra-tissue pressure, improve local blood and lymph circulation, and remove toxic substances.

2. As a result of pathological narrowing of the phimozdaprepus hole, the penis cannot be removed. The disease mainly affects stallions, bulls and male dogs. If an animal can't get the head of a swollen penis out, it's called a "fake" phimosis.

Clinical signs. When an animal urinates, it does not ejaculate. It will be difficult to produce artificially or it will not work at all. It is difficult to urinate and comes out with a thin stream. The prepus sac contains smegma with a foul odor. Palpation reveals swelling, pain, and local fever.

In congenital phimosis, the animal is disturbed in the first hours; enlargement of the fork and prepuce sac is observed.

Consequences. Properly treated, it is good, and in preputial tumors - suspicious.

Treatment. An operative method is used after the prepuce is cleared of urine and smegma.

Paraphimosis is a constriction of the penis in the prepusial ring. In this case, the penis is left out and does not return to the prepuce. Rare in slaughtered animals.

Etiology. Mechanical injuries of the genitals, rough catheterization, paresis, paralysis, cold sores, postoperative edema, tumors, scars, wounds; general weakness.

Clinical signs. The penis hangs passively. At the beginning of the disease, it can be injected, but it still comes out. The penis swells and tightens quickly. Penis (genitals) is easily damaged and can cause bleeding, hematomas, wounds, sores and foci of necrosis.

Consequences. If the disease is treated at the beginning - well. In wounds and tumors - be careful.

Treatment. For small inflammatory tumors, gauze pads soaked in Burov's fluid and a weak bandage are used; the penis is placed horizontally using a suspension bandage.

Once the swelling has subsided, the penis is placed in the prepuce and held artificially. When cold treatments do not help, hot treatments (vaporization, warm bath) are used, massage with camphor oil or ichthyol ointment. Treatment should be performed 2-3 times a day.

Wounds are treated with 1% alcohol pioctanin or diamond blue. Pathological granulation should be sprinkled with lyapis, copper sulphate powder or pressed with heated metal. The paralyzed penis is amputated. Surgery is performed when the prepuscular hole narrows.

3. Postoperative bleeding during surgery - primary; may be secondary shortly after surgery and delayed for several days after surgery.

Etiology. Violation of sewing techniques, use of faulty tools; vascular diseases.

Clinical signs. Blood drips from the seminal vesicles and flows weakly or strongly. In stallions, bulls, and pigs, blood is collected when the seminal vesicles rupture in the abdomen. In severe blood loss, the mucous membranes turn white, the pulse and respiration speed up, and the animal trembles.

Treatment. Bleeding from the seminal vesicles or common vaginal membrane is stopped with hemostatic forceps. Blood from the seminal vesicles is stopped using hemostatic tweezers, a ligature, or a tampon. The ligature should be tied 2-3 cm higher than the cut end of the system.

In case of heavy bleeding, the animal is transfused with calcium chloride (10% - 150 ml), vikasol (0, 1 - 0, 3 / 0,01 - 0,03 g 2-3 times a day).

Decreased caries and bowel movements can often be seen in stallions, male pigs, and rabbits.

Etiology. The size of the oviduct, the hernia, the tension (during the operation), the rough pulling of the seminal vesicles. Clinical signs. When the animal falls, the animal remains calm, the pulse beats normally, there is no pain. The bowel is usually lowered during the operation, in which the animal is disturbed, the pulse accelerates, a sting is observed.

Consequences. If the intestines or intestines are dirty, damaged or swollen, it is suspected.

Treatment. The carcass is cleaned, washed, and a ligature is tied above the contaminated area. The lower part of the ligature is cut off. If the bowel comes out during the operation, anesthesia is used. The protruding bowel is wrapped in a cloth soaked in a warm antiseptic solution (to prevent contamination) and then re-inserted into the abdominal cavity. The edges of the common vagina are sutured.

Fall of the seminal vesicles.

Etiology. Failure to follow the cutting technique, excessive traction of the system during the operation, hemorrhage, disconnection of the system handle away from its tip.

Diagnosis. Sewing wounds are easy to identify when examined.

Clinical signs. The rupture of the seminal vesicles occurs immediately or 1-2 days after surgery. Initially, there is an unchanged systemic remnant of the surgical

wound. Over time, serous-fibrinous, and then purulent inflammation begins. Delayed granuloma, chronic funiculitis, botryomycosis, etc. develops.

Consequences. In new, unpolluted cases, it is better to carry out treatment on time.

Treatment. A new ligature is attached to the fallen part of the seminal vesicle from above and the excess is resected.

4. Sperm sac phlegmon is mainly a secondary condition and is often caused by infection of the surgical wound.

Etiology. Improper performance of surgical techniques (small cuts, rough separation of tissues), violation of the rules of asepsis and antiseptics, improper storage of animals in the postoperative period; anatomical and constitutional features and other factors that contribute to the decline of the microflora.

Clinical signs. The clinical picture may be different. In some cases, uncomplicated, limited edema develops. In some cases, the tumor spreads very quickly, causing severe complications.

Inflammatory tumors are characterized by stagnation, redness, pain, local and general fever. Examination of the surgical wound reveals adhesions of the seminal vesicles, seminal vesicles, and common vaginal membrane. Serous or serous-fibrinous exudate flows from the wound.

In phlegmon, the tumor spreads to the entire seminal vesicle and even to the prepuce, abdominal wall, and hip area. The animal suffers, loses appetite, develops neutrophilic leukocytosis. If not treated in time, the animal may die of sepsis.

Tishhis. Based on clinical signs.

Consequences. In the first stage - cautious; When delayed treatment - suspicious or worse.

Treatment. In order to create better conditions for the exudate to flow, it is first necessary to open the wound to a larger extent and remove the adhesions. In order to prevent secondary adhesions, 5% borate ointment is injected into the process. Drainage soaked in iodo-ether should be applied to the wound (changed daily) to allow the exudate to drain more quickly. In diffuse tumors, vertical incisions of 2-3 cm in length are made in the skin. Antibiotic, pathogenetic and general therapies are used.

5. Funiculitis (inflammation of the seminal vesicles). Inflammation of the seminal vesicles is one of the most common postoperative complications.

Etiology. Failure to adhere to the technique of suturing (prolonged exposure to the seminal vesicles and crushing of many parts of it, rough ligature ligation, rough vascular injury), infection; botryomycosis, actinomycosis, etc.

Clinical signs. The site of inflammation is where the systemic tissue is crushed or roughly ligated. It is usually aseptic due to the formation of a demarcation barrier around it, resulting in the absorption or separation of dead tissue.

When the infection subsides, the process can be acute, semi-acute or chronic, septic. In the acute form, after 3–5 days, there is a unilateral or bilateral hot and painful swelling in the seminal vesicles, and the seminal vesicles thicken. Stallions produce pus from stitches, and cattle produce a foul-smelling exudate. The

animal's body temperature rises, it suffers, it is difficult to move, it loses its appetite.

When the process goes well, after 3 to 10 days, you can see the signs of delimitation, that is, the inflammation subsides. In the acute and chronic stages, numerous abscesses and purulent discharges develop.

Consequences. Timely and effective treatment is good. In chronic course - be careful.

Treatment. Acute adhesions are eliminated. The surgical site is treated with antiseptics and drainage is introduced into the wound. Antibiotic therapy, paranephral novocaine blockade is performed. If ineffective, the affected area is removed surgically.

Control questions:

1. Balano - causes and clinical signs of postitis.
2. Balano - stages of development of postites.
3. Balano - treatment of postitis.
4. The concept of phimosis, clinical signs and treatment methods.
5. The concept of paraphimosis, clinical signs and treatment methods.
6. Clinical signs and treatment of postoperative bleeding.
7. Clinical signs of eruption of the cervix, common vaginal membrane and seminal vesicles.
8. Treatment of hernias, common vaginal and seminal vesicles.
9. Causes and clinical signs of phlegmon of the seminal vesicles.
10. Treatment of phlegmon of the seminal vesicles.
11. Causes and clinical signs of funiculitis.
12. Methods of treatment of funiculitis.

## 20 - report
## TOPIC: DISEASES OF THE HOOF CAPSULE.

Plan:

1. Anatomy and physiology of the fingers.
2. Deformed hooves and their treatment.
3. Soft heel necrosis.

4 Purulent inflammation of the hoof joint.

References: 2. 353 - 365, 375 - 377; 3. 236 - 244; 5. 60 - 76, 136 - 145 b.

Basic terms: Hoof wall, horny capsule, skin base of hoof, glossy layer, tubular horn (horn), leafy layer. Hoof bone, hoof circumference. The palm of the hand, the arrow, the arrow, the soft heel. A mountain of soft compensation. Moisture, elasticity of the hoof capsule. Examine before hoofing. Hoof length and width measurements. Standard horseshoe. Adapt the heel to the hoof. Cold and hot

methods. Attach the heel to the hoof. Incorrect connection. Purulent pododermatitis, wound contamination. Soft compensation wounds. Hoof circle phlegmon. Phlegmon of the soft heel of the hoof, rheumatic inflammation of the hooves. Dislocation of the hoof bone. Animal colds. Eating Disorders. Allergic disease. Antihistamines. Skin maceration. Necrosis of the hoof bone, necrosis of the humerus. Parachondral phlegmon. Necrosis of the vagina. Necrobacteriosis.

1. The distal part of the legs of ungulates is surrounded by a branched capsule. The horny capsule protects the soft tissues beneath it from various injuries.

The structure of the hoof is complex. Its branched capsule is caused by changes in the skin on the fingertips. The bones, tendons, ligaments, and other soft tissues in the hoof are called hoof tissues, although they do not belong directly to the hoof. The hooves of different species of animals vary in structure.

From the outside to the inside, the hoof is made up of 3 main layers: the epidermis, which consists of the fruiting and branched layers; hoof skin base; subcutaneous layer.

According to their anatomical location, the hoof is divided into the hoof bone, the hoof circle, the hoof wall, the heel of the hoof and the soft heel.

The hoof bone is located between the skin of the toe and the hoof and is 5-6 mm wide. From it grows a shiny layer of the wall of the hoof branch capsule. The glossy layer protects the hoof from moisture and drying.

The hoof circumference is in the form of a cushion 1–2 cm wide, located deeper than the chin. From it grows a tubular horny layer of the hoof wall.

The hoof wall consists of glossy, tubular and leafy branched layers, and the hoof wall consists of a leather base. The base of the skin is further divided into 3 layers: leaflets, veins and periosteum.

The palms of the hands are made up of a tube-shaped horn and a base of skin.

On the hoof axis, a white line running along the edge of the wall is 4 mm wide and is located between the bullet and the hoof wall.

The soft sole of the hoof is ponasi-shaped and is located on the heel of the hoof. Because the soft heel is made up of collagen, elastic and fatty tissue, it acts as a spring.

In addition, the horses have soft heels. They are located on both sides of the hoof, partly under the hoof capsule and partly under the hoof circumference.

The hoof area is supplied with blood through the volar (plantar) arteries and veins of the finger, and its innervation is done through the volar (plantar) nerves.

In addition to the basic function, the fingers act as distal shock absorbers, lowering the body weight point in animal movement. In ungulates, the finger bones are tilted relative to the ground (at rest), while the bed and round bones bend even more in motion. This, in turn, causes the elongated joints to elongate, and the hooves expand under the influence of gravity, while in bipedal animals it leads to the widening of the interdigital cleft, resulting in increased amortization of the toes.

In ungulates, the outer (lateral) hooves are larger than the inner ones, and the widening of the interdigital cleft helps to lengthen the intersecting strands and

consequently reduce the body weight falling on the finger, leaving more weight on the inner third toe. At the same time, in the base phase, the soft compensation is compressed, which in turn acts as a shock absorber. Thus, in the base position, most of the animal's weight is transferred to the toes and tendons of the fingers, falling into the soft heel and hoof capsule, and together they act as a distal shock absorber. As the hoof breaks off the ground and moves forward, the elongated stakes and strands return to their original position and come together.

In ungulates, the weight falls on the soft heel, the bent corners of the hoof wall, and the heel arrow. In ungulates, the hoof mechanism is as follows: under the influence of the animal's weight, the pelvis and round bones become more oblique, so the round bone affects the deep flexor foot and the humerus, squeezing the soft heel and arrow, resulting in compensation expands by 2–4 mm.

In the second phase of the support position, the above changes shift the force in the transverse direction and the compensation begins to contract, while the animal's body moves forward. As the foot hangs off the ground, the hoof returns to its original position.

Such movements massage the hoof tissue in addition to ensuring the damping function of the hooves. In turn, it improves the blood supply to the hoof and leads to the development of hooves.

The hoof wall consists of glossy, tubular and leafy branched layers, and the hoof wall consists of a leather base. The base of the skin is further divided into 3 layers: leaflets, veins and periosteum.

The palms of the hands are made up of a tube-shaped horn and a base of skin.

On the hoof axis, a white line running along the edge of the wall is 4 mm wide and is located between the bullet and the hoof wall.

The soft sole of the hoof is ponasi-shaped and is located on the heel of the hoof. Because the soft heel is made up of collagen, elastic and fatty tissue, it acts as a spring.

In addition, the horses have soft heels. They are located on both sides of the hoof, partly under the hoof capsule and partly under the hoof circumference.

The hoof area is supplied with blood through the volar (plantar) arteries and veins of the finger, and its innervation is done through the volar (plantar) nerves.

In addition to the basic function, the fingers act as distal shock absorbers, lowering the body weight point in animal movement. In ungulates, the finger bones are tilted relative to the ground (at rest), while the bed and round bones bend even more in motion. This, in turn, causes the elongated joints to elongate, and the hooves expand under the influence of gravity, while in bipedal animals it leads to the widening of the interdigital cleft, resulting in increased amortization of the toes.

In ungulates, the outer (lateral) hooves are larger than the inner ones, and the widening of the interdigital cleft helps to lengthen the intersecting strands and consequently reduce the body weight falling on the finger, leaving more weight on the inner third toe. At the same time, in the base phase, the soft compensation is compressed, which in turn acts as a shock absorber. Thus, in the base position, most of the animal's weight is transferred to the toes and tendons of the fingers,

falling into the soft heel and hoof capsule, and together they act as a distal shock absorber. As the hoof breaks off the ground and moves forward, the elongated stakes and strands return to their original position and come together.

In ungulates, the weight falls on the soft heel, the bent corners of the hoof wall, and the heel arrow. In ungulates, the hoof mechanism is as follows: under the influence of the animal's weight, the pelvis and round bones become more oblique, so the round bone affects the deep flexor foot and the humerus, squeezing the soft heel and arrow, resulting in compensation expands by 2–4 mm.

In the second phase of the support position, the above changes shift the force in the transverse direction and the compensation begins to contract, while the animal's body moves forward. As the foot hangs off the ground, the hoof returns to its original position.

Such movements massage the hoof tissue in addition to ensuring the damping function of the hooves. In turn, it improves the blood supply to the hoof and leads to the development of hooves**.**

Hoof growth and their physical properties.

The hoof capsule is made of very strong horny tissue (horn) that protects the fingertips from chemical, physical, biological factors, and its hooves are resistant to cold and heat due to the low thermal conductivity of the horny layer.

In horses, the hoof capsule is 40% water, with a minimum moisture content of 28.5% in the hoof wall, 45.6% in the heel, and 48% in the hoof arrow. The hoof loses 4% of its moisture in 24 hours at 120 C and 12% in 10 days. Drying of the hooves leads to a decrease in their flexibility and a decrease in mass. The hoof capsule grows by 8 mm per month in horses.

Its growth rate is affected by various factors. For example: more in winter, less in summer and less when the animal is thin; in the second stage of pregnancy, the growth rate of the hooves decreases even when the calves are milked. In bulls, the hoof grows 6.5–8.5 mm per month, in sheep 5 mm in winter, in summer 10 mm, and in pigs 5.3 mm. This growth is possible only with proper feeding and storage. The main purpose of studying the growth of hooves is to determine the timing of trimming the hooves, and in horses to plan the timing of trimming and changing the hoof.

2. Hooves are deformed for the following reasons: external defects (improper placement of the feet), lack of hoof care, hypokinesia, malnutrition, some hoof diseases, the simultaneous removal of old and new hoof horn 'smasi. In deformed hooves, the deformed stratum corneum constantly damages the skin base and disrupts its trophism, which in turn affects the quality of the newly growing stratum corneum, leading to its abnormal growth. In a deformed hoof, not only the hoof capsule changes, but also morphological and functional disorders and changes in metabolic processes at the base of the skin. Its collagen skeleton is strengthened, and the elastic elements gradually begin to disappear. Deformed hooves are common when keeping animals (especially cattle) tied up.

***3. Soft heel necrosis occurs in horses.*** The disease is characterized by phlegmon of scattered soft tissue surrounding the mountain. Phlegmon causes necrosis of the pelvis.

Etiology. Phlegmonous process occurs as a result of aggravation of torn hooves ("zasechka" in Russian) of the hoof, which is opposite to the hoof or horseshoe, and the surrounding tissue of the hoof. The causes of blockages are due to the following factors:

1. Improper placement of the legs - wide, in which when the foot is brought forward, the convex side moves in an inward arc;

2. When the work of the blacksmith is of poor quality - insufficient cutting of the hoof horn, excessive cutting of the inner wall edge of the hoof, making the inner horn of the hoof too wide, the horseshoe teeth are too long and sloping outwards, the nail tips are not returned properly ;

3. Conditions for storage and operation of horses - slippery and uneven roads, deep snow, close placement of horses;

4. Mismanagement of horses, etc.

In rare cases, the phlegmonous process passes through the surrounding tissues (pododermatitis, gangrenous dermatitis, etc.).

Pathogenesis. The development of phlegmon results in vascular thrombosis leading to the soft palate and its necrosis. When phlegmons rupture into abscesses, sores form in their place. Unclean necrosis can be partial or widespread. The dead parts of the ridge are yellowish-green in color and are surrounded by granulation or delayed connective tissue.

Clinical signs. The horse is normal. There is a painful swelling and an infected wound in the area of the soft heel. Later, the wound heals, but a painful swelling remains. Foot function may change over time. Instead of a mountain, streams open and pus flows out.

Diagnosis. Based on clinical signs. Parachondral phlegmon differs from hoof circumference phlegmon in the location and the tumor hanging over the hoof capsule. Flow formed in parachondral phlegmon can be probed.

Parachondral phlegmon is acute, and mild heel necrosis is chronic (up to several months). There is a risk of the purulent-necrotic process spreading to the joints, joints and tendons.

Treatment. In phlegmon, the animal is kept calm, novocaine-antibiotic blockades and alcohol-based bandages are used.

In mountain necrosis, it must be removed: the flow is widened and the inside is thoroughly curettageed to remove dead tissue. After the operation, antibiotics and tissue regeneration agents are used.

4. Purulent inflammation of the hoof joint. Purulent inflammation of the hoof joints of cattle is sometimes called "panarisiy" or "hasmol". It can be primary in penetrating wounds, and secondary in inflammation when it penetrates surrounding tissues or is improperly operated on. Purulent inflammation of the hoof joint can develop in three places:

- from the back of the joint capsule;

- from the anterior synovial bulge of the joint capsule;
- interdigital tissue.

Purulent lesions of the hoof joint occur in the following order: synovitis, capsular phlegmon, paraarticular phlegmon, arthritis, osteoarthritis (panarthritis).

Clinical signs. At the beginning of the disease, the body temperature rises sharply, and then remains at the upper limit of normal. The general condition of the animal is severe, there is a basic paralysis, in some cases it does not step on the patient's leg at all. The animal sleeps a lot and gets up with difficulty.

In the area of the hoof circle, there is a clear borderless swelling and enlargement of the inter-hoof crack. When the process is acute, the swelling becomes painful and the local temperature rises. Later, a fissure opens in the area between the hoof cracks. In the progressive disintegration of paraarticular tissue, the joint movements become too free. In progressive rupture of paraarticular tissue and joint capsule, exhalation, or third phalanx, may occur. The animal loses weight quickly. Hyperleukocytosis and neutrophilia are observed in the blood.

An X-ray can help make the diagnosis. Pathological changes in the joint bone are detected in 15-20 days. Osteoporosis and caries are first observed on the axial side. When the capsule melts, a joint may form.

Treatment. There are several methods of treatment. The combination of etiotropic and pathogenetic methods is effective. It is recommended to use sulfonamides and antibiotics to stop the purulent process in the joint. When conservative treatment does not help, radical surgery is performed: amputation of the finger, exarticulation of the third phalanx or arthrotomy. The choice of type of operation takes into account the sex of the animal, its importance in the farm and the equipment of the operating room. Finger amputation is often used. The operated animal retains its full economic value.

Control questions:

1. Economic damage caused by hoof diseases.
2. Hoof growth and its physical properties.
3. Appearance and correction of long, sharp-pointed hooves.
4. Appearance of the monkey hoof and methods of correction.
5. Appearance and methods of correction of a crooked hoof.

## Lecture 21

## TOPIC: DISEASES OF THE BASE AND SOFT TISSUES OF THE HOOF SKIN.

Plan: 1. The concept of orthopedics. Economic damage caused by finger and hoof diseases.

2. Tethering of farm animals.
3. Complications from improper attachment.
4. Complications of necrobacilli of the fingers and proteinuria.

References: 2. 353 - 365, 375 - 377; 3. 236 - 244; 5. 60 - 76, 136 - 145 b.

Basic terms: orthopedics. Hoof diseases. Economic damage. Hoof wall, horny capsule, skin base of hoof, glossy layer, tubular horn (horn), leafy layer. Hoof bone, hoof circumference. The palm of the hand, the arrow, the arrow, the soft heel. A mountain of soft compensation. Moisture, elasticity of the hoof capsule. Examine before hoofing. Hoof length and width measurements. Standard horseshoe. Adapt the heel to the hoof. Cold and hot methods. Attach the heel to the hoof. Incorrect connection. Purulent pododermatitis, wound contamination. Soft compensation wounds. Hoof circle phlegmon. Phlegmon of the soft heel of the hoof, rheumatic inflammation of the hooves. Dislocation of the hoof bone. Animal colds. Eating Disorders. Allergic disease. Antihistamines. Skin maceration. Necrosis of the hoof bone, necrosis of the humerus. Parachondral phlegmon. Necrosis of the vagina. Necrobacteriosis.

1. Orthopedics is an independent branch of veterinary surgery, which deals with the etiology, diagnosis, treatment and prevention of diseases of the fingers of farm animals, especially hooves, as well as cleaning, trimming, tying, deformed hooves. Teaches the use of healing and healing horseshoes.

The distinction between hoof diseases is due to their anatomical and topographic location and the prevalence of the disease.

Since ungulates, especially horses, have not lost their importance in the national economy, veterinary orthopedics pays great attention to the pathology, therapy, and prevention of ungulates, along with the study of hoof diseases in productive animals.

In the study of hoof diseases, modern veterinary orthopedics takes into account not only the regional characteristics of the animals, but also the methods of their storage (cattle or stables, pastures) and animal husbandry technology, as these factors are often the main causes of these diseases. lib comes out.

An analysis of data from the available literature and practice shows that hoof diseases account for 50–60% of foot diseases, or 14–17% of surgical pathologies.

Hoof disease reduces the productivity of farm animals, incurs high costs of treatment, additional control and care, and as a result, it suffers great economic losses.

According to SG Chabanovsky, hoof diseases are not uncommon even when animals are kept in the wild, ie 288 out of 1,000 cows are diagnosed with various hoof diseases.

According to Richter and Mitt, in cases of purulent inflammation of the hooves of cows, they are deprived of an average of 1,000 kg of milk and 100 kg of meat during the course of the disease.

The cause of hoof diseases is not only related to keeping animals in the wrong conditions, but also to not taking proper care of them. Under the influence of these negative factors, the hoof is deformed, eroded incorrectly, the joints and joints become elongated (dystrosio), the animal feels pain and becomes lame. As a result of not paying enough attention to the hooves of animals, the hooves grow (ungulyoz), the productivity of such animals is reduced by up to 10% and they get

20-30 kg less meat, S.N. According to Pankov, sick sheep produce less than 1.8 kg of milk and 1.07 kg of meat in 24 days.

2. Breeding of farm animals.

Examine the horses before tying them. The use of toothpicks prevents animals from getting tired and, as a result, from injuring their legs and other parts of the body. Putting orthopedic shoes on animals with incorrectly pressed legs and deformed hooves increases the efficiency of such animals.

Prior to grooming, the characteristics of the horse's feet, the shape of the hooves, the presence or absence of pathological processes in them (rheumatic inflammation of the hooves, inflammation of the toes, etc.) are determined. To do this, the animal is carefully examined while standing and moving.

Determine the correct placement of the feet on the ground. A well-shaped hoof is only possible when the feet are placed correctly.

To determine the correct position of the horse's foot, it is brought to a flat path and examined from the front, back, and sides.

Properly placed forelegs are parallel. A vertical line through the front of the shoulder joint runs through the middle of the leg. A vertical line is drawn through the middle of the shovel to determine the correct placement of the front legs from the side. When the feet are placed correctly, the line runs from the elbow to the ankle joint in the middle of the foot and touches the soft sole of the hoof.

A vertical line is drawn across the seat back to determine the correct placement of the hind legs. When the foot is placed correctly, the line runs along the middle of the foot between the folds of the hoof. When viewed from the side of this line, it touches the bulge of the calcaneus and falls to the ground from behind the soft heel of the hoof. On the outer surface of the foot, a vertical line passing through the middle of the pelvic joint touches the lateral wall of the horn capsule as it descends to the ground.

In this position, the weight of the body is equal to all parts of the hoof, and therefore its shape is maintained.

The anterior wall of the right ankle is 45–500 degrees to the ground. The parts of the side wall gradually become vertical, and the parts of the heel are almost at right angles. The anterior wall of the hoof is 2.5–3 times longer than the heel wall. The outer side wall of the hoof is sloping than the inner side wall, so the edge of the palm is relatively round. The widest part of the forelegs is in the middle. The heel of the front hoof is less concave and thicker than that of the back hoof. The palm edge of the front wall is 2 times thicker than the compensation wall.

The right hind hoof is perpendicular to the front hoof. Its front wall is 55-600 inches above the ground and is twice as long as the compensation wall.

The information on the correct front and back hooves should be taken into account when making and selecting the hoof, as well as when preparing the hoof for hoofing.

Fixing the horse in the saddle. It is not always easy to lift a horse's leg and hold it. It is very difficult to fix (immobilize) wild horses. They are annoyed when they see a blacksmith carrying tools. Such horses need to be gentle, patient,

courageous and at the same time careful. When approaching a horse, call it first, then stroke its neck and shoulders, calling for signs of trust and obedience. Then you need to boldly stroke the horse's leg from top to bottom to prepare it for lifting. The legs of a quiet horse are held by the hands of a harness, and the foot of a troubled horse is held by a rope. It is not recommended to use forced fixation (screw, machine) as it may injure the foot. In addition, when using the screw, the horse does not notice that the nail has penetrated into the skin of the hoof.

The upper lip of the troubled horse is twisted or its eyes are closed by hand. Such horses should be used for 2-3 hours before tying. Tired horses are calm when riding. The horse’s leg should not be pulled too far to the side and back, as this will trigger a painful reaction in the animal and it will try to pull the leg away. The very high rise of the horse's leg in the saddle creates an uncomfortable situation for the saddler.

Particular care should be taken when tying young horses, as they may later become more resistant. However, it is not possible to tie some horses without fixing them. In such cases, the horse's front leg is held in place by a rope, while the hind leg can be held in place by a rope.

*Horse and cattle hoofs.* Tools used to make horseshoes. Since horseshoes are mainly used for horses, it is advisable to first study the structure of the horseshoe.

The hoof is in the form of a metal plate bent to the shape of the edge of the hoof horn wall. The board has upper and lower surfaces, a nail groove, nail holes and folds. In addition, the horseshoe is divided into outer and inner branches, outer and inner edges, front and back (heel) parts.

The upper surface of the heel consists of external and internal parts. The outer part is horizontal and serves as a support for the outer edge of the hoof, the white line and the palmar edges of the hoof wall. In the past, the upper surface of the horseshoe was inclined inwards (bay). The depth of the bay is 3/1 of the outer edge of the heel. The bay is made only on the front and sides of the horseshoe and ends less than 30-40 mm from the end of the horseshoe branches. The bay is made so that the hooves do not touch the horseshoe.

However, tests have shown that when the animal moves, its hooves do not touch the hoof. In addition, the skin base of the hoof can be damaged as a result of mud and small stones getting stuck between the hoof and the hoof. Therefore, there is currently no blockage and the upper surface of the heel is flat.

On the lower surface of the heel, near the outer edge, a nail strip is made.

The nail bed is made on the sides of the horseshoe branches and has nail holes in it. There is no nail polish on the front of the heel. The distance between the aisles should be twice the thickness of the horseshoe. The nail path ends less than 2–3 cm from the ends of the horseshoe branches. The depth of the mix path is 3/2 of the thickness of the horseshoe. The shape of the aisle should match the head of the horseshoe. The aisle prevents the nail head from breaking, reduces the weight of the heel, and improves the grip of the hoof on the ground.

The nail holes are located in the nail path as described above. Depending on the number of the horseshoe, 3-4 nail holes are made in each branch. The holes of the outer horn are called the outer, and the holes of the inner horn are called the inner. The first two holes are called the first and second front holes, and the two back holes are called the main holes. In this case, the first of the ends of the horseshoe horn is called the main first, and the second is called the main second. The shape of the nail holes should match the neck of the horseshoe (rectangular). On the upper surface of the hoof, the nail holes are located along the white line of the hoof. The direction of each hole should correspond to the slope of the part of the horn wall that belongs to it. To do this, the direction of the front holes should be inclined from bottom to top and from the outside to the inside, the direction of the main second check should be less inclined, and the direction of the main first, ie the last holes should be vertical.

The return is a semicircular plate, which is made on the outer edge (front or side) of the heel. The return is 1.5 cm high, 2 cm wide and 0.5-1 mm thick. The reins prevent the horse from slipping backwards when the horse is moving and protect the front of the hoof from injury.

The heel edges of the forelegs and hind legs are not the same shape, so the heels are different. The middle part of the hooves for the forelegs is wider, and the hind legs are wider closer to the back of the horn. The outer edge of the heel is more rounded than the inner edge.

The horseshoes are handmade and factory made. Standard heels are made of ST 2 and ST 3 soft steel. The shape of such steel horseshoes can be changed without heating them. In addition, threaded holes for teeth are made in standard heels. There are two such threaded holes in the hooves of horses, and they are placed at the ends of the hooves. One or two more threaded holes are made in the front of the horseshoes to be added to the cart.

There are 13 sizes of standard heels: № 0, 00, 1; 2; 2.5; 3; 3.5; 4; 4.5; 5; 6; 7; 8. As the number of horseshoes increases, so does their size and mass. Each standard horseshoe is marked with the letters "P" or "Z" (Russian front or back). These letters indicate which hoof the hoof is intended for. In addition to the number and letter, the top of the horseshoe bears the logo of the manufacturer.

Two threaded holes are made in the front of medium and large-sized horseshoes starting from № 3. The size of the nail holes also depends on the size of the horseshoe. For example, № 3–4.5 heels have 10 nail holes, and № 5–8 heels have up to 12 nail holes.

Horseshoe teeth. The teeth of the horseshoe are in the form of bulges on the lower surface of the horse, on the front and back. The first of these is called the molars and the second the back teeth. The teeth ensure that the horse's feet are firm and smooth and do not slip on slippery ground when moving. The anterior teeth are usually slightly shorter than the posterior teeth. In practice, permanent and interchangeable teeth are used.

Permanent teeth can only be made by hand. The rear teeth are made from the ends of the horseshoe horns, while the front teeth are usually made of a separate

piece of steel and welded to the horseshoe.

Replacement (removable) teeth are made separately at the factory. They are carved. Permanent teeth are relatively strong and provide more stability to the horse.

Even if the replacement teeth are not very strong, they can be replaced in time without removing the heel (premature erosion, slippery ground).

The teeth of the horseshoe are sharp and pointed. They come in a variety of shapes: cube, scaffold, pyramid, and ponasimon; the length of the front tooth is twice the width of the horse's bridle, and its thickness is equal to the thickness of the horseshoe. Teeth shaped like the letter "N" are called "Nays" or N-shaped teeth. These teeth are made in two sizes: short - 22 mm high and long - 28 mm. The mass of one thousand short, blunt teeth is 20 kg, long blunt teeth - 25 kg, short sharp points - 21.5 kg.

Removable teeth are divided into three parts: the part that touches the ground is the crown, the upper part is the neck and the part that is screwed into the heel.

In winter, special conical horseshoe teeth are used to ensure that the horse's foot does not slip. There is a refined steel core in the middle of this tooth. As the horse moves, the soft metal around the steel core breaks, causing the tip of the tooth to sharpen on its own.

Horse nails. Horseshoe nails are made in the factory according to a certain standard. Special, flexible steel is used to make the nails, so that the nail does not bend when it hits the hoof.

The nail needs to be bent several times to check its flexibility and brittleness. A good steel nail stays intact even after 1800 bends 4 times.

The mix is made in a flat shape. The horseshoe nails are divided into the following parts: head, pin or blade and tip. On the wide surface of the tip of the nail there is a slope - naklyopka. When the nail stumbles on the heel, the paddle gives it the right direction. Because the slope of the hoof horn wall varies, the slope of the hoof can also be changed by bending it with a light blow of a hammer.

There are basically 6 sizes of horseshoe nails: № 4, 5, 6, 7, 8, 9. Small nails are designed for small horseshoes. Large nails (№ 9) are used to attach large, heavy heels (№ 7, 8) to the hoof. For example, uzunligi 4 nails are 45 mm long and 5 mm thick. The mass of one thousand nails depends on the number:: 4–2.9 kg, ,9 5–3.1 kg, № 6–3.6 kg, № 7–4.1 kg, № 8–5.3 kg, № 9–6.7 kg. Wooden boxes with nails should be stored in a dry room, otherwise the nails will rust and lose their quality. Nails should be free of any defects.

Horse hoof trimming (cleaning). The hooves of young and untrained horses should be trimmed and cleaned every 1–1.5 months. This treatment allows the hooves to maintain their normal shape and prevent deformation.

The purpose of trimming a horse's hooves is to remove any overgrown hooves. This gives the hoof a shape that matches the foot. Cutting the hoof horn is

an important step in preparing the hoof for tying, as improper cutting and cleaning of the hoof will always lead to the wrong tying.

The hooves of animals are cleaned in a certain order: first the hoof arrow, then the arrowhead of the hoof wall, and finally the arrow.

The hoof is cleaned with a hoof knife. This removes the dead horn. The dead horn is dry, shriveled when cut, layered, and usually gray. Underneath the dead horn lies a young, "alive" horn. This horn is soft and pliable, does not crack and is easy to cut. It is not possible to cut such a horn in order not to reduce the protective properties of the palm horn.

After cutting the arrowhead of the hoof wall with a hoof hoof, it is straightened with a hoof knife and flattened. When leveling, make sure that the heel edge of the hoof wall, the white line, and the edge of the hoof heel are flat. Because the hoof axis is more concave, its surface is not aligned with the white line and the edge of the bullet wall.

After cutting the folded walls of the hoof, they should be higher than the surface of the arrow. At the front, the fold walls are relatively more cut, and they are equal to the surface of the shaft at the junction with the tip of the arrow. The folds of the wall are involved in the expansion of the hoof (the “mechanism”). Excessive cutting of them leads to hoof stiffness. The branch arrow is usually eroded by the movement of the animal, so only the detached parts are removed when cleaning it. You also need to straighten the arrow legs when they are tilted to the side. It should be borne in mind that excessive cutting of the arrow can lead to constriction (narrowing) of the heel.

In a properly trimmed normal hoof, the heights of the front and heel walls should be relatively proportional and the axis of the finger bones should be straight.

The axis of the finger bones is the line drawn along the middle of the finger from the upper end of the calcaneus to the axial edge of the hoof wall. In the normal hoof of a straight leg, this line runs as follows: anteriorly - the tibia and fibula pass through the anterior surfaces of the foot and continue to the middle of the anterior wall of the hoof without breaking; laterally - the bed and round bones run parallel to the anterior surface of the hoof wall without breaking along the middle of the lateral surface.

When the hoof walls are cut incorrectly, the axis of the finger bones breaks in the area of the hoof bone where the hoof wall is longer than normal. For example, the toe axis breaks when the wall of the hoof is cut too little, the finger axis breaks when the wall of the hoof is cut too much, the finger axis breaks when the wall of the hoof is cut too much, breaks towards the wall.

When cutting hooves, periodically lower the foot to the ground and look at the toe axis. When any errors are detected, they should be corrected.

Cleaning the hooves of large horned animals, sheep and pigs. It is best to use a two-pronged hook to cut the hooves.

The hooves of the sheep are cut and cleaned while the animal is lying down. It is better to lay the sheep on the table. The hooves are cut with a small hoof knife

and a hoof. The sheep's hooves are easy to cut, so other types of knives can be used. When cutting a sheep's hoof, only the heel wall is usually cut, which should be 2–3 mm higher than the hoof. They do not cut the hoof, because it is self-sufficient.

The procedure and equipment for cleaning pig hooves is similar to that of large animals. In pigs, the outer hooves are larger than the inner hooves, so they are not lengthened.

Hoof measurements. New horseshoes are made according to the sizes or ready standard horseshoes are obtained. Measurements are made using a simple ruler or stick.

Usually 1 hoof length and 2 width hoof measurements are taken. The length of the hoof is measured from the front edge to the corner of the heel. The width is measured once on the widest part of the hoof between the two side edges and the second time between the corners of the heel. The three dimensions are added together to determine the length of the piece of iron needed for the horseshoe. In addition, a podometer is used to determine the length of the heel.

Adapt the heel to the hoof.

This is the most basic operation. It is usually necessary to adjust the hoof to the hoof, not the hoof to the hoof.

If the saddle is adjusted correctly:

1. The horseshoe covers the outer edge of the hoof wall.
2. The nail bed and nail holes match along the white line.
3. Horseshoe 0.5–1 mm in front of the hoof; 3–5 mm in the heel area stands out.

There are two ways to adjust the hoof to the hoof:

Cold method - in this method it is possible to expand, contract, flatten the heel without heating. This method is used when the standard heels fit the hoof.

Hot method - after cleaning the hoof, the selected horseshoe is heated until it turns white and pressed on the sole of the hoof for 2-3 seconds. The hot horse burns the uneven parts of the hoof and adapts to it. Some authors say that if this treatment is done correctly, it will have almost no negative effect on the hoof wall. However, it is bad to use the hot method to burn the overgrown part of the hoof without cleaning it, as this can lead to deformity of the hoof.

Attach the heel to the hoof.

It mainly consists of 3 operations:

1. Nail the horseshoe nails.
2. Pull the heel to the hoof.
3. Return the mix ends.

First, the first two nails are nailed and the hoof is placed on the ground. If the horseshoe is twisted a little, it will be hit with a hammer and straightened, and the remaining nails will fall. The exit point of the nail tips should be 3/1 of the hoof wall or 2 cm above the bottom edge. Once the nails have stumbled, the nails are struck again with a hammer, and if pain is felt, the nail is pulled out, and then the

animal is moved. Horses are usually replaced every 6-8 weeks. Horses that walk on soft ground are not harnessed.

3. Complications from Improper Stitching Often the hoof wall is caused by direct or indirect injury to the skin base when the horseshoe nail is hit incorrectly. In a direct injury, the nail injures the skin base. In indirect injuries, the nail goes very close to the base of the skin and compresses it. Inflammation develops later in the area and the animal becomes paralyzed after 2-3 days. If the nail is pulled out again, the limb will disappear.

In a new direct wound, the nail is removed and an alcoholic solution of 5% iodine is injected into the wound using a syringe.

6. Rheumatic inflammation of the hooves, or in other words, diffuse-serous inflammation of the skin base of the hoof wall, is observed in all ungulates, but most often in horses. The disease is acute and chronic. In chronic cases, the hoof bone shifts and the hoof capsule deforms. Mainly both forelegs and in some cases hind hind limbs are affected.

Etiology. It is well known that the disease is caused by improper care and feeding of animals. Currently, a number of scientists claim that the disease is caused by:

1. Animal colds, that is, drinking cold water on a hot horse or bathing in cold water and keeping it in the wind for a long time.

2. Disorders of feeding. Eat rye, barley, wheat, peas and other protein-rich or spoiled foods. In such cases, horses have a sting, and sheep have a sting. The disease can also develop when lambs are fed oats or alfalfa.

3. Prolonged mechanical action on the skin base of the hoof. For example, transporting animals by rail and water, by car, long distances in the pasture, fatigue.

4. Excessive and incorrect use of certain drugs (sabur, kerosene, etc.).

5. Complications of some infectious diseases - influenza, inflammation of the upper respiratory tract, etc.

6. Abortion and postpartum complications.

7. At present, it is believed that allergies are the basis of this disease.

Secondary causes include impaired hoof shape (in flat or narrow hooves), impaired heart function, and others.

Pathogenesis. In the horse's hooves, the blood vessels are strongly developed and are located between the hard tissues - the hoof wall and the hoof bone. During the first 12–36 hours of the disease, hyperemia develops, followed by inflammation. As the amount of exudate increases, the skin at the base of the hoof wall compresses and the animal experiences severe pain. If the animal is treated in a timely manner, the exudate will be absorbed and the animal will recover quickly. In other cases, the process becomes chronic, with irreversible changes in all parts of the skin base and hoof. The mechanism of change is well studied: the animal feels pain and tries to push its legs as far forward as possible and press on the heel of the hoof. In this case, the deep flexor joint of the finger is strongly stretched and pulls the hoof bone back and up. The hoof bone rotates around its transverse axis

and shifts naturally, and the leaflets of the base of the skin separate from the connective tissue sheets, where the process of secondary inflammation begins. Pathological rings ("hedgehog hooves") appear on the hoof wall due to a violation of the ability of the base of the skin to form a branching substance in the hoof wall.

When the process is chronic, the hoof bone gradually assumes an upright position and compresses the skin base of the hoof palm. The tissues in the palmar area of the hoof atrophy, bulge down, and in some cases perforate.

Treatment. 1.5–2 ml of 1: 1000 adrenaline or a mixture of adrenaline with 2% novocaine is injected subcutaneously around the finger arteries.

The use of antihistamines from the first hours of the disease gives good results (I. Ditz, G.S. Kuznesov), in practice, 0.3–0.4 g of diphenhydramine is often injected subcutaneously. If the rheumatic inflammation is caused by a sudden cooling of the body, a mixture of 10.0 hexamethylenetetramine, 10.0 sodium salicylate and 2.0 caffeine in 200 ml of saline is used.

This mixture is intended for single intravenous administration. Injections are given daily for 3-5 days. Alternatively, 10% sodium salicylate with 3–4% sodium bicarbonate is administered intravenously.

With the use of drugs, grains are removed from the diet and the amount of water given to animals is limited. When the pain in the hooves subsides, the animals should be moved slowly.

7. Soft heel necrosis occurs in horses. The disease is characterized by phlegmon of scattered soft tissue surrounding the mountain. Phlegmon causes necrosis of the pelvis.

Etiology. Phlegmonous process occurs as a result of aggravation of torn hooves ("zasechka" in Russian) of the hoof, which is opposite to the hoof or horseshoe, and the surrounding tissue of the hoof. The causes of blockages are due to the following factors:

1. Improper placement of the legs - wide, in which when the foot is brought forward, the convex side moves in an inward arc;

2. When the work of the blacksmith is of poor quality - insufficient cutting of the hoof horn, excessive cutting of the inner wall edge of the hoof, making the inner horn of the hoof too wide, the horseshoe teeth are too long and sloping outwards, the nail tips are not returned properly ;

3. Conditions for storage and operation of horses - slippery and uneven roads, deep snow, close placement of horses;

4. Mismanagement of horses, etc.

In rare cases, the phlegmonous process passes through the surrounding tissues (pododermatitis, gangrenous dermatitis, etc.).

Pathogenesis. The development of phlegmon results in vascular thrombosis leading to the soft palate and its necrosis. When phlegmons rupture into abscesses, sores form in their place. Unclean necrosis can be partial or widespread. The dead parts of the ridge are yellowish-green in color and are surrounded by granulation or delayed connective tissue.

Clinical signs. The horse is normal. There is a painful swelling and an infected wound in the area of the soft heel. Later, the wound heals, but a painful swelling remains. Foot function may change over time. Instead of a mountain, streams open and pus flows out.

Diagnosis. Based on clinical signs. Parachondral phlegmon differs from hoof circumference phlegmon in the location and the tumor hanging over the hoof capsule. Flow formed in parachondral phlegmon can be probed.

Parachondral phlegmon is acute, and mild heel necrosis is chronic (up to several months). There is a risk of the purulent-necrotic process spreading to the joints, joints and tendons.

Treatment. In phlegmon, the animal is kept calm, novocaine-antibiotic blockades and alcohol-based bandages are used.

In mountain necrosis, it must be removed: the flow is widened and the inside is thoroughly curettageed to remove dead tissue. After the operation, antibiotics and tissue regeneration agents are used.

4. Purulent inflammation of the hoof joint. Purulent inflammation of the hoof joints of cattle is sometimes called "panarisiy" or "hasmol". It can be primary in penetrating wounds, and secondary in inflammation when it penetrates surrounding tissues or is improperly operated on. Purulent inflammation of the hoof joint can develop in three places:

- from the back of the joint capsule;
- from the anterior synovial bulge of the joint capsule;
- interdigital tissue.

Purulent lesions of the hoof joint occur in the following order: synovitis, capsular phlegmon, paraarticular phlegmon, arthritis, osteoarthritis (panarthritis).

Clinical signs. At the beginning of the disease, the body temperature rises sharply, and then remains at the upper limit of normal. The general condition of the animal is severe, there is a basic paralysis, in some cases it does not step on the patient's leg at all. The animal sleeps a lot and gets up with difficulty.

In the area of the hoof circle, there is a clear borderless swelling and enlargement of the inter-hoof crack. When the process is acute, the swelling becomes painful and the local temperature rises. Later, a fissure opens in the area between the hoof cracks. In the progressive disintegration of paraarticular tissue, the joint movements become too free. In progressive rupture of paraarticular tissue and joint capsule, exhalation, or third phalanx, may occur. The animal loses weight quickly. Hyperleukocytosis and neutrophilia are observed in the blood.

An X-ray can help make the diagnosis. Pathological changes in the joint bone are detected in 15-20 days. Osteoporosis and caries are first observed on the axial side. When the capsule melts, a joint may form.

Treatment. There are several methods of treatment. The combination of etiotropic and pathogenetic methods is effective. It is recommended to use sulfonamides and antibiotics to stop the purulent process in the joint. When conservative treatment does not help, radical surgery is performed: amputation of the finger, exarticulation of the third phalanx or arthrotomy. The choice of type of

operation takes into account the sex of the animal, its importance in the farm and the equipment of the operating room. Finger amputation is often used. The operated animal retains its full economic value.

Protein virus is etiotropic. In some cases, the pathological process involves the soft tissues of the hoof, along with the oral mucosa and udder skin.

Clinical signs. One or more legs may be injured. Their distal skin is swollen with pain, fever, and redness. Walnut-sized blisters (aphthae) develop rapidly in the affected area. The fluid inside the bubbles is first clear and then yellow.

Over time, the bubbles burst and erosion occurs. If the erosions are contaminated with infection, phlegmon, pododermatitis, arthritis, etc. develops.

In addition to the typical aphthous ulcers, there are gaps between the soft sole of the hoof, the palm, and even the wall of the cornea and the base of the skin. Therefore, even if the disease is cured, various defects develop in the hooves of the animal.

Sick animals should be kept in separate, dry rooms for treatment and prevention of complications. Dyogot should be applied to the distal parts of the legs or animals should be bathed in copper sulfate and formalin. After thoroughly cleaning the affected areas from wool and dirt, local antiseptic powder, novocaine sieves are applied.

Hoof necrobacteriosis develops when open pathological processes are contaminated with necrosis rods.

Clinical signs. Necrobacteriosis is characterized by an increase in the size of the fingers, the development of deep streams and numerous foci of necrosis, the growth of fibrous tissue in cattle (necrobacteriosis pandactylitis). Involuntary movement of the animal leads to generalization of the pathogen and the development of metastases in the lungs and gums. Wet necrosis of tissues is observed, the general temperature rises, pulse and respiration speed up.

A few days after the onset of the disease, skin necrosis and dislocation are observed. At the site of the process, a wound appears, which, when smeared, begins to emit odorous pus. Gradually, the disease spreads to surrounding tissues. Sepsis can develop in the joints, tendons, joints, hooves, joints, and bones.

Treatment. Complex treatment works are carried out. The sick animal is at peace. The volume of surgical operations is determined by the nature and depth of the lesion. However, all purulent necrotic lesions should be cut and dilated, and the inside should be curettage. Common antiseptics include vitamins, antibiotics, glucose, Kadikov fluid, and other medications.

Control questions:

1. The concept of veterinary orthopedics and its functions.
2. Etiopathogenesis and clinical signs of hoof injuries.
3. Methods of treatment of hoof injuries.
4. Take measurements from hooves for tying.
5. Clean the hooves of large horned animals, sheep and pigs.
6. Attach the heel to the hoof.
7. Complications from improper attachment.
8. Causes and treatment of rheumatic inflammation of the hooves.

9. Pathogenesis and treatment of necrosis of the soft palate.
10. Pathogenesis and treatment of purulent inflammation of the hoof joint.
11. Clinical signs and treatment of proteinuria in the fingers.
12. Pathogenesis, treatment of necrobacteriosis.

## Lecture 22
## TOPIC: DISEASES OF THE CONJUNCTIVA AND CORNEA.

Plan: 1. The incidence of eye diseases in livestock farms. Economic damage.
2. Anatomy and physiology of the eye.
3. Methods of eye examination.
4. Catarrhal conjunctivitis.
5. Follicular conjunctivitis.
6. Purulent conjunctivitis.
7. Superficial catarrhal keratitis.
8. Superficial purulent keratitis

References: 2. 417 - 431; 3. 270 - 288; 5. 339 - 347 b.
Basic terms: ophthalmology. Economic damage. Eye contact. Leaking curtain. The cornea of the eye. Vascular tract. Colored curtains. Ciliary or ciliated body. The optic nerve. Light-refracting environments. The pearl of the eye. Refraction. Emmetropia. Myopia. Hyperopia. Blepharospasm. Permeability of the tear ducts. Ophthalmoscopy. Desquamation. The amount of lysozyme. Telyaziya larva. Conjunctival sac. Conjunctivitis. Blepharospasm. Hardeners. Retrobulbar blockade. Follicular conjunctivitis. Episcleral and and pericorneal blood vessels. Superficial catarrhal keratitis. Vascularization, potassium iodide. Superficial purulent keratitis. Corticosteroid therapy. Keratocele.
1. The word ophthalmology consists of two Greek words: eye and examination. Ophthalmology is the study of the anatomical and physiological features of the organ of vision, methods of examination, causes of disease, pathogenesis, clinical signs, diagnosis, treatment and prevention.
Objectives of veterinary ophthalmology: to organize the scientific treatment of eye diseases, their prevention and at the same time reduce material damage and increase the efficiency of veterinary work.
Diseases of the visual organs of animals impair their ability to see and, as a result, severely interfere with their ability to adapt to the effects of the external environment and fight for life. Eye diseases are now common on livestock farms. They are found in cattle, horses, sheep, pigs, rabbits, dogs, cats, camels and other animals.
In some farms, eye diseases account for 40-80%. In this case, mainly young animals are affected. 25–30% of infected animals later lose their eyesight completely, and 30% of animals lose up to half of it.
2. Because the organs of vision are important receptors of the central nervous system and are directly related to the state of the whole organism, their diseases

have a significant impact on the productivity and performance of animals. 'rsatadi. In some cases, eye diseases can even lead to the death of the animal. For example, the development of sepsis in purulent panophthalmitis, mass-affecting eye diseases (telasiosis, infection, etc.). Eye diseases cause great economic damage. Massive conjunctivoceratitis in cattle leads to complete blindness of one or both eyes, resulting in stunted growth of young animals, decreased milk yield of cows, stunted growth of living mass, all of which can lead to infertility. causes indirectly.

Eye diseases can cause great economic damage in various infectious and non-infectious internal diseases, as well as secondary pathological processes, for example: proteinuria in cattle, measles, hemosporidiosis, tuberculosis, anthrax; smallpox, pustular stomatitis, avitaminosis in sheep and goats lead to a decrease in the productivity of wool, milk and meat. Pigs develop plague and catarrhal purulent conjunctivitis, in which pigs die and their meat yield decreases sharply.

In dogs, plague, gastroenteritis, rhinitis, and brain abscesses affect the movement of the eyelids and eyelids. Therefore, it is important to carefully study, treat and prevent diseases of the visual organs.

A thorough knowledge of the anatomy, histology, and physiology of the eye in the examination and study of eye diseases provides a solid foundation for their treatment.

The eye is the organ of vision and consists of the eyeball, auxiliary or protective devices. The eyelids are spherical, slightly flattened from front to back. The eyelid is located in front of the eyeball, behind the eyelids. The retrobulbar space behind the eyeball is filled with muscle, fascia, nerves, blood vessels, and fat. The eyeball connects to the brain through the optic nerve.

In horses, the eyeball weighs 30 g and has a volume of 5–8 cm3. The eyelid contains the following anatomical elements: fibrous membrane; vascular tract; vision - the nervous system; light-refracting environments.

The outer fibrous membrane of the eye is in the form of a closed circular capsule, which consists of the cornea (posterior) and the cornea (anterior). The cornea covers 4 to 3 parts of the eyelid. It does not transmit light, is dense and has few blood vessels. At the back of the cornea is a lattice plate through which the fibers of the optic nerve pass, the thickness of the cornea is 2 mm at the equator and 0.4 mm at the poles.

The cornea is very clear, very dense, and contains a large number of nerves, but no blood vessels. It feeds by diffusion. There is a semi-transparent ring - the limb - around the cornea.

Histologically, the cornea is composed of 5 layers: outer - epithelial, bowmen (absent in horses and pigs), stromal (parenchymatosis), decimation and endothelial layers.

The vascular tract is composed of a colored membrane, a ciliary or ciliated body, a special vascular membrane, or a chorioid.

- colored curtain - located behind the cornea, in front of the eyeball. There is a hole in the middle - the pupil. At the top of the membrane are small, dark grape-like shapes. The color curtain is activated by two muscles - the sphincter and the dilator. Histologically, the colored membrane separates the outer endothelium, the

anterior border layer (where pigmented cells are located), the vascular layer, and the posterior border layers.
- ciliary or ciliary body - the middle part of the vascular tract. It is in the form of an arch between a colored and a special vascular vein, 10 mm wide. The ciliary muscle is located in the ciliary body, to which the eyeball is attached by the sinuses. As the muscle contracts, its ciliated growths compress the pearl, making it more rounded, allowing the eye to see objects farther and closer.
- The special vascular membrane makes up 3/2 of the vascular tract. Located between the sclera and the retina. Dark brown (melanin). On the dorsal side of the membrane is a light-reflecting layer, which is cellular in dogs and fibrous in herbivores. It is blue-green in horses, green to blue in cattle, and golden-yellow in dogs. Its physiological function is to enhance the effects of light.

The vascular membrane consists of 5 layers: outer (subrachorioidal), large vascular layer, reflective layer (tapetum), capillary vascular layer, vitreous or basal plate layer. This plate plays a key role in nourishing the inner part of the eyelid.
Sight is the nervous system or the retina of the eye. It is made up of nerve tissue and is a continuation of the central nervous system. The retina consists of the front blind and the back. The part of the optic nerve that goes to the retina is called the optic nerve.
Histologically, the retina consists of 10 layers, and functionally - two layers: the outer - the light-receiving and the inner - the light-transmitting. The main light-receiving elements are rod and cone cells. The wand (130 million) is used to separate light, and the flasks (8 million) are used to separate color.
The optic nerve. The second pair of cerebral nerves. In the cranial cavity of the skull, the two optic nerves join together to form a chiasm. The physiological significance of this is that the impulses travel to both retina and merge into one hemisphere of the brain, creating a single field of vision for both eyes (binocular vision).
Light-refracting media include intraocular fluid, the eyeball, and the vitreous. The fluid in the eye is clear and colorless. Contains water, 0.02% protein, mineral salts, vitamins, acetinolins. Fluid is produced by the ciliated body. The fluid flows from the fountain protocol in the corner of the anterior chamber into the circular canal and through it into the veins. Glaucoma is a dangerous disease that affects the absorption of fluid in the eye.
The vitreous body is a vibrating mass containing 98.5% water and the rest is a dense substance. The vitreous body creates intraocular pressure and maintains the retina and vascular membrane in a normal position.
The eyeball is located on the back of the cornea and is in the form of a double convex lens. Its back wall is relatively convex. The surface of the ore is covered with a capsule, while the parenchyma consists of a dense core and a shell.
The blood supply to the eye is mediated by 3 pairs of vascular systems: the system of the arteries of the eyelids, the system of the cilia, and the system of the central artery of the retina.

3. In the case of eye diseases, first of all, it is necessary to collect a complete medical history. This is especially important in diseases of infectious and invasive etiology, metabolic disorders (hypovitaminosis), or other diseases associated with factors that affect many animals in general.

Examination of the affected eye should take into account that the disease is primary, ie the cause is directly affecting the eye or its protective organs, or secondary - the disease of all organs of the body.

The general condition of the animal is examined according to the scheme given in the course of diagnostics of individual organs and systems. However, there are several features of eye examination that need special attention.

Visual acuity test. Care should be taken when examining an animal. For example, a blind animal raises its legs and head high, opens its eyes wide, and constantly moves its ears. When one eye is blind, the animal's head tilts to one side.

When inspecting large animals, they should be led to a barrier. The blind man hits him, and the one who sees stops before he goes.

The other method is to stand next to the animal and gently shake the whip or stick in front of the animal, that is, to develop a conditioned reflex. Then, when he lifts the stick in front of the animal's eyes, the one who does not see it is silent, and the one who sees it avoids himself.

When inspecting small animals, they should be left free in a room with a variety of objects. An animal that cannot see will inevitably collide with these objects.

Examination of the eyelids and the organs that protect them. The eyes and surrounding tissues should be examined in the light without touching them. It focuses on the condition of the wound, eczema, swelling, tears, eyelids and eyelashes.

Swelling of the eyelids can be caused by inflammation or a tumor. When inflamed, it becomes swollen, red, and painful. The local temperature rises. If the tumor is located under the upper eyelid, it indicates inflammation of the lacrimal gland.

Tears can be associated with diseases of the conjunctiva, cornea, sclera, vascular tract, retina, optic nerve. Chronic leakage is characterized by impaired tear duct permeability.

Blepharospasm (closure of the eyelids) or simply fear of light occurs in the form of a reflex reaction in response to diseases of the conjunctiva, cornea, sclera, vascular tract, retina, optic nerve. It should not be confused with the fall of the upper eyelid.

In addition, the eyelids may turn inwards or outwards, the eyelids may swell, and eye atrophy may be observed.

In severe cases, a 0.5% solution of novocaine is injected around the conjunctiva to examine it. Examination of the conjunctiva focuses on its color, dryness or moisture, swelling, bleeding, wounds, the presence of tumors, signs of inflammation.

The cornea should be smooth, shiny, transparent, and flat. Examination revealed surface defects, dullness, enlarged blood vessels, and erosions.

Examination of the tear ducts. The permeability of the tear ducts and tubes should be checked with a Bowman probe. Tear points are located in the inner corner of the

eye at the edges of the upper and lower eyelids. Through them, the probe is inserted to a depth of 1 cm, facing the tear gland.
Tears - 1% methylene blue is instilled into the conjunctival sac to check the permeability of the nasal canal. If the dye comes out of the nostrils after 15-20 minutes - the canal is healthy. Tears in horses and cattle - the nasal passages can be washed from the nose using a syringe or syringe. The syringe is fitted with a Bobrov needle or milk catheter that does not pass through a rubber tube.
Ophthalmoscopy. An ophthalmoscope can be used to examine the refractive medium of the eye and its depth. The ophthalmoscope is a circular flat or concave glass with a hole in the center. To examine the refractive medium, the pupil is dilated (atropine sulfate, gomatropin, platyphyllin), light returning from the ophthalmoscope is sent into the eye at a distance of 0.5 m, and the examiner looks into the eye through a hole in the middle of the ophthalmoscope. The test detects cholesterol, dizziness, bleeding, and more.
The inside of the eye can be examined by direct and indirect imaging. For proper vision, an ophthalmoscope with a focal length of 15–20 cm is placed in front of the examiner's eye and placed 15–20 cm into the animal's eye. This method can only examine parts of the fundus. To see small objects, a +15 - 20 D lens is placed in front of the center hole of the ophthalmoscope and the eye is seen from a distance of 6–8 cm.
On retrospective, the fundus is inverted. It shows all areas of the fundus. The test is performed in a dark room, at a distance of 0.5 m, using artificial light. A +15 - 20 D lens is placed between the ophthalmoscope and the examiner's eye.
Examination of the conjunctiva and cornea. Used to monitor the inflammatory process. Stamps or cuts are removed at different stages of the disease. It determines the desquamated cells of the epithelium, degenerative changes in their nucleus and cytoplasm, the nature of the microflora and hematogenous cells, their quantity and ratio, the presence of phagocytosis.
4. Inflammation of the conjunctiva is caused by mechanical, physical, chemical and biological factors.
- Mechanical injuries - the action of iodine, the return of the eyelashes; the lids roll back and forth, not close, and so on.
When parasites enter the conjunctival sac, they not only become iodine bodies, but also react chemically.
- chemical factors - accumulation of large amounts of ammonia gas in barns, disruption of air circulation, dusting during loading and unloading of chemical fertilizers, improper use of drugs (alcohol solutions, sharp ointments, alkalis) 'llash.
- Physical factors - high temperature, ultraviolet and X-rays. In early spring, the sun's rays are especially rich in ultraviolet light.
- Biological factors - the appearance of fungi and microbes when feeding on poor quality food. Activation of existing microbes in the conjunctival sac when the body's resistance decreases or the amount of lysozyme in the tears decreases. Mature and larval forms of teliasis.
Conjunctivitis can also be symptomatic. Examples include plague in dogs, influenza, catarrhal fever in cattle, and diphtheria in poultry. Conjunctivitis is also

caused by diseases of the protective organs of the eye (skin, eyelids, tear glands, cornea) and vice versa.
Classification of conjunctivitis: depending on the cause and the nature of the exudate: aseptic or catarrhal, fibrinous, purulent and specific (in tuberculosis). Acute and chronic; superficial and deep, depending on the depth of the process (parenchymatous or rather phlegmonous); follicular conjunctivitis occurs in dogs with damage to the third eyelid follicle.
The etiology of acute catarrhal conjunctivitis is described above. The disease is common in all farm animals. The disease causes inflammation of the epithelial layer of the conjunctiva and the basement membrane. In the acute form they are infiltrated with exudate and cellular elements, and in the chronic form there grows connective tissue.
Clinical signs. Blepharospasm in acute inflammation - closure of the eyelids, ie fear of light; from the inner corner of the eye there are tears with a cloudy-slimy character. The conjunctiva becomes red and swollen, painful, and the local temperature rises.
Chronic inflammation develops when an animal loses weight, ages (eye drops), decreases vitamin A levels, and decreases lysozyme activity. It is much milder than the acute form - the symptoms of fear of light disappear, the tears are constant, but in small amounts, thick, mucous; the conjunctiva is dry, reddish, bluish in color, and the veins bulge to the surface. If the disease persists for a long time, the eyelashes and eyelids will go back inside.
Consequences. Good in sharp form. In chronic cases, it requires long-term treatment.
Treatment. The cause will be lost. To reduce exudation, 0.25-2% zinc sulfate, 2-8% protargol, 3% sodium tetraborate, 1-2% resorcinol are added dropwise. For severe pain use 0.05% dicaine, 1: 1000 adrenaline hydrochloride. It is also recommended to use retrobulbar novocaine blockade and Filatov tissue therapy.
5. Follicular conjunctivitis is an inflammation of the lymphatic follicles on the inner surface of the third eyelid. The disease is prevalent among cultured dog breeds. The exact etiology is unknown. The disease is usually thought to be caused by intoxication caused by infection, metabolic disorders, exposure to ultraviolet rays or pollen (allergies), and hypovitaminosis.
Clinical signs. At first there is a fear of light, tears, and then a purulent-mucous exudate. Itching around the eyes. The third squash swells, reddens; The follicles on the inner surface become enlarged, red. Later blepharitis, loss of lashes, thickening of the edges of the eyelids and return to the inside can be observed.
Consequences. Usually good. However, in some cases there may be a relapse.
Treatment. Disinfectant solutions in the form of drops, corticosteroids in the form of ointments; A.N. Golikov and S.T. According to Shitov, the upper stellate sympathetic ganglion of the neck is blocked, tissue therapy is used. An effective method is to burn the inner surface of the third eyelid with a silver nitrate stick (excess of the drug is washed off with 1% sodium chloride solution). This procedure is performed 2–4 times. After burning, a strong reaction develops and it

disappears after 2-3 days. Reheating can be repeated after 5-7 days. If burning does not help, the third squash is extirpated.

6. Superficial purulent conjunctivitis develops in trauma, decreased body resistance, infectious diseases, hypovitaminosis and other conditions. It can be artificially induced as a positive reaction in tuberculinization and malleinization.

Clinical signs. The affected conjunctiva is painful, with local fever; there is a state of fear of light. Superficial blood vessels become red. The conjunctiva is swollen, the surface is covered with purulent-mucous exudate. Necrosis, wounds and erosions occur in the mucous membrane. The treatment is ineffective and the conjunctiva grows towards the eyelid as the treatment is prolonged.

Consequences. It is better to treat in time, and if the treatment is delayed, it is dangerous, the process can spread to the cornea, and the squash can grow and merge with the eyelids.

Treatment. As with catarrhal conjunctivitis, antibiotics and sulfonamides are administered in high concentrations. In the early stages of the disease, the addition of hydrocortisone and antibiotics to novocaine and retrobulbar blockade work well. Ointments and liniments are applied with painkillers. When the squash and eyelids grow and stick to each other, they are cut off, the surface should be washed with silver nitrate (lyapis) to burn, and then apply ointments.

Deep purulent conjunctivitis. The disease is mainly in the form of phlegmon of the subconjunctival tissue. Independently, it develops in trauma, when the process passes through surface tissues, and in some infectious diseases.

Clinical signs. The disease affects both eyelids and is characterized by severe swelling, dryness, cracking, and bleeding from the surface of the conjunctiva. The conjunctiva turns dark red and is covered with pus. Later abscesses develop. The phlegmonous process is accompanied by symptoms of purulent-resorptive fever.

Consequences. The process can be stopped during serous exudation. In abscesses, the eyelids and the eyelids stick together. In severe cases, there is a risk of developing panophthalmitis.

Treatment. The principle of treatment involves the use of etiopathogenetic therapy in the order appropriate to the stage of the disease. Peaceful conditions are created for the animal. An antibiotic, novocaine blockade, is used. The conjunctival sac is moistened with warm disinfectant solutions, which include antibiotic and sulfonamide liniments and ointments. Abscesses should be cut parallel to the edge of the squash. Eyelids are prevented from sticking to the eyes. It is forbidden to massage ointments in the process area, to inject hypertonic sodium chloride solution under the conjunctiva.

6. Superficial purulent conjunctivitis develops in trauma, decreased body resistance, infectious diseases, hypovitaminosis and other conditions. It can be artificially induced as a positive reaction in tuberculinization and malleinization.

Clinical signs. The affected conjunctiva is painful, with local fever; there is a state of fear of light. Superficial blood vessels become red. The conjunctiva is swollen, the surface is covered with purulent-mucous exudate. Necrosis, wounds and erosions occur in the mucous membrane. The treatment is ineffective and the conjunctiva grows towards the eyelid as the treatment is prolonged.

Consequences. It is better to treat in time, and if the treatment is delayed, it is dangerous, the process can spread to the cornea, and the squash can grow and merge with the eyelids.

Treatment. As with catarrhal conjunctivitis, antibiotics and sulfonamides are administered in high concentrations. In the early stages of the disease, the addition of hydrocortisone and antibiotics to novocaine and retrobulbar blockade work well. Ointments and liniments are applied with painkillers. When the squash and eyelids grow and stick to each other, they are cut off, the surface should be washed with silver nitrate (lyapis) to burn, and then apply ointments.

Deep purulent conjunctivitis. The disease is mainly in the form of phlegmon of the subconjunctival tissue. Independently, it develops in trauma, when the process passes through surface tissues, and in some infectious diseases.

Clinical signs. The disease affects both eyelids and is characterized by severe swelling, dryness, cracking, and bleeding from the surface of the conjunctiva. The conjunctiva turns dark red and is covered with pus. Later abscesses develop. The phlegmonous process is accompanied by symptoms of purulent-resorptive fever.

Consequences. The process can be stopped during serous exudation. In abscesses, the eyelids and the eyelids stick together. In severe cases, there is a risk of developing panophthalmitis.

Treatment. The principle of treatment involves the use of etiopathogenetic therapy in the order appropriate to the stage of the disease. Peaceful conditions are created for the animal. An antibiotic, novocaine blockade, is used. The conjunctival sheet is moistened with warm disinfectant solutions, which include antibiotic and sulfonamide liniments and ointments. Abscesses should be cut parallel to the edge of the squash. Eyelids are prevented from sticking to the eyes. It is forbidden to massage ointments in the process area, to inject hypertonic sodium chloride solution under the conjunctiva.

## 3.2. Training materials for practical exercises

# Topic 1: GETTING TO KNOW THE WORK OF THE SURGICAL CLINIC GET TO KNOW THE DOCUMENTS KEPT IN THE SURGICAL CLINIC

The purpose of the lesson. It is to familiarize the students with the working procedure of the surgical clinic, the equipment and facilities in the surgical rooms, the documents kept in the clinic, the procedure for accepting and treating animals, the rights and duties of the students on duty and curators, and at the same time performing the educational medical history.

Equipment, tools and animals. Educational and special rooms of the department, surgical equipment, instruments and equipment, documents of the surgical clinic and sick animals.

The style of the lesson. In the first hour of the lesson, the students get acquainted with the surgical clinic and its working procedure. Then, during the lesson, the teacher shows the reception of animals, i.e. the manger, the dressing room, the pre-operation room, the sterile autoclave rooms, the rooms where pus and non-pus operations are carried out, the room where the surgical instruments are kept, the inpatient department, the student duty room, and the rooms where practical training takes place are shown and the safety techniques for working with sick animals are explained.

When examining cattle, it is necessary to prevent the animal from biting or kicking during manual palpation. For this, the veterinarian should act carefully.

When approaching an animal, one should go in front of it or next to it in such a way that the animal should see the person approaching at this time. It is necessary to pay attention to the movement of the ears of horses: if the animal brings the tips of its ears closer to each other, it means that the animal has seen a person coming. If precautions are not taken, the animal can kick, bite or press the approaching person to the wall. In such conditions, the animal can be calmed down if it is treated with gentle sounds.

According to the rule, it is forbidden to check sick animals in the place where they are tied. If it is necessary to see the animal, then you should approach the animal with a familiar sound.

Before examining the dogs, the owner must tie their jaws with a bandage. If at this time saliva flows from the dog's mouth, wheezing sounds, signs of dragging its legs, lower jaw hangs down, the animal is suspected of having rabies.

Cats can bite, scratch, or seriously injure the examiner if they are improperly restrained. They are fixed using special bags.

Methods of fixation of sheep and goats are performed easily compared to other animals.

In general, animals should be well fixed before they are examined, for which the horse or cattle is properly restrained by an assistant or the owner of the animal. The examiner gently caressing the surface of the animal's head, neck, rump, chest, and abdomen, and then slowly inspects the desired part of the body. If the animal resists and does not stand still during the examination, then special methods are used and the animal is fixed.

The purpose of the lesson. It is to familiarize the students with the working procedure of the surgical clinic, the equipment and facilities in the surgical rooms, the documents kept in the clinic, the procedure for accepting and treating animals, the rights and duties of the students on duty and curators, and at the same time performing the educational medical history.

In the second hour of the lesson, the teacher introduces the students to the admission of sick animals for treatment in outpatient and inpatient conditions, as well as the documents of the surgical clinic. Students will get acquainted with the ambulatory and inpatient journals, curation and temperature sheets, medical history instructions, prescriptions and referrals, as well as sample filled educational medical history, which are filled out during the treatment of sick animals. In addition, the teacher will explain how to fill out, maintain and store the above-

mentioned documents. If these documents are placed in a well-visible place in the clinic, students will have the opportunity to study them independently at any time.

Great attention should be paid to curation and recording of medical history. Students (curators) who supervise the surgical clinic under the guidance of the teacher must constantly monitor sick animals. During the course of the disease, all changes are recorded on the curation sheet, after the necessary laboratory tests and treatment procedures are carried out, the educational history of the disease is presented to the teacher within the specified period. A correctly completed medical history has legal and educational value: firstly, it helps to analyze the work done; secondly, it makes it possible to check the superiority of the used treatment methods; thirdly, teaches the use of special literature, etc.

When filling out the history of the disease, it is necessary to write more extensively about the animal - the course of the disease. It is advisable to write the effect of the animal examination, examination, operative treatment and treatment methods in a short and clear way.

When filling out the academic medical history, attention is paid to the following questions:

1. Animal registration.
2. Anamnesis.
3. General examination of the sick animal.
4. Clinical examination of individual systems.
5. Examination of the pathological focus.
6. Laboratory examination.
7. Special inspection.
8. Primary diagnosis.
9. Differential (comparative) diagnosis.
10. Final diagnosis.
11. Prognosis (consequence).
12. Treatment.
13. Epicris (summary).

In addition, a medical diary and used literature are added to the medical history.

Curators should pay special attention to changes in physiological conditions when they examine the animal organism according to individual systems. When studying the etiology of the disease, the cause of the disease and the factors that can cause it are taken into account. When writing clinical signs, it is necessary to indicate the signs observed in the examined animal.

In the pathogenesis of the disease, the general condition of the animal and its changes are taken into account.

The diagnosis is mainly based on the anamnesis data, clinical signs, and the results of additional and special examinations, and also a differential diagnosis is made.

The outcome (prognosis) of the disease is determined depending on the general condition of the animal, the result of treatment, the effect of feeding and keeping the animal after discharge from the clinic.

For treatment, the best and appropriate methods are chosen.

In the history of the disease, epicrisis should be given special importance.

Epicrisis - (from the Greek epicrino - to solve, to confirm, to solve). Reasoning (opinion) about the origin of the disease, course, nature of treatment and final results.

When writing an epicrisis, the student curator must identify the disease and add it to the group of diseases according to a certain classification. It is necessary to make a correct diagnosis, use perfect and appropriate methods for treatment, and at the same time justify the best ways to prevent the disease.

The epicrisis should have the following parts:

1. Understanding of the disease.
2. Etiology of the disease.
3. Pathogenesis.

4. Anatomo-topography of the pathological focus and clinical symptoms at different stages of the disease.

5. Making a diagnosis and justifying it.

6. Differential (comparative) diagnosis.

7. Justification of treatment.

8. Prevention of complications and development of general preventive measures for this disease.

9. Summary.

1. Understanding of the disease. It describes the disease. For example: an abscess is a limited inflammatory process in which a cavity is formed in an organ or tissue and pus accumulates, its wall is formed by granulation tissue.

2. Etiology of the disease. Based on the literature and information on the course of the disease, the factors that can cause this disease are determined, and then, based on the anamnesis data, clinical and laboratory tests, the factors that caused the disease are determined. If the reason is clear, it is written in more detail, if it is not clear, the reasons that can cause it are written.

3. Disease pathogenesis. Based on literature data, since the symptoms of the disease appear, the course and development of the disease is recorded based on laboratory tests, that is, blood, urine, stool, synovial fluid, biopsy and radiography.

When a sick animal is received, it is shown what stage the disease is and how it affected the course of the disease and the productivity of the animal after the treatment. It should be noted that, based on etiological factors and pathogenesis data, it becomes possible to develop complex treatment methods for a sick animal.

4. Anatomo-topography of the pathological focus and clinical symptoms at different stages of the disease.

During the clinical examination of a sick animal, it is of great theoretical and practical importance to define and determine the anatomo-topography of the place where the pathological process is taking place. For this, the anatomo-topography of the place where the pathological process is taking place is studied in detail and written down in detail, which organs and tissues are damaged in it, and then it is thought out how to carry out further treatment. Then, the symptoms of the disease are written based on the literature data and the state of the pathological process. General and local changes characteristic of this disease are analyzed, in addition, clinical signs are clearly recorded based on laboratory tests, X-ray, fistulography, animal temperature, breathing, pulse and general conditions of the animal.

5. Diagnosis and its justification. In this section of the epicrisis, the student-curator justifies the correctness of the diagnosis or makes changes based on additional anamnesis data, clinical signs and other laboratory tests. At the same time, the differential diagnosis is concluded by comparing the laboratory tests, the topographical system of the pathological process, morphological and functional changes, and analyzing the clinical symptoms of the disease.

6. Differential (comparative) diagnosis. Clinical signs of diseases that are similar in character are written. At the beginning, the clinical signs characteristic of these diseases are written, then the distinguishing signs are written, based on these signs, the disease of the animal being treated is distinguished.

The consequence of the disease. It is determined depending on the diagnosis, clinical signs, course of the disease, laboratory tests and complications of the disease.

In justifying the consequences of the disease, it is appropriate to indicate how the morphological and functional changes in the animal will be restored in the future and whether the animal will meet the requirements of the economy after recovery.

7. Justification of treatment. Treatments are recorded in the same order as they are performed. Based on the nature of the course of the disease, the period and the methods of treatment presented in the literature, the student-curator chooses the methods of treatment with the help of pharmacological and biological drugs and writes his thoughts about why he chose one or another method of treatment. It is necessary to provide more information about the mechanism

of the general and local effect of the drugs and methods selected for treatment on the organism of sick animals. They should mainly act against microbes and the toxic substances they secrete, cleanse the body of dead tissues, increase immunobiological reactivity, increase the activity of the reticuloendothelial system and regenerative recovery processes, and at the same time improve the work of all organs.

If an operation is performed on a sick animal, the advantage of the used surgical methods is justified. An operation plan is drawn up, anesthesia and anesthesia, operative approach, and changes observed during the operation are recorded. Keeping, feeding and caring for a sick animal is explained in this section. Then a brief summary of the results of the applied treatments and the course of the disease is given. If the animal dies, the factors that caused it will be determined.

8. Prevention of complications and development of general preventive measures for this disease.

Based on the study of the sick animal and information from the literature, the student-curator develops measures to prevent possible complications and thinks about the benefits of these measures. If the measures developed to prevent complications are not perfect, then it should be shown what else can be done to prevent complications.

Disease prevention measures are developed on the basis of information from the literature, characteristics of keeping and using animals on the farm, as well as anamnesis data on the factors that caused the disease. In this, the first general preventive measures, i.e., deficiencies in the care, storage and use of the animal are eliminated, then private (prophylactic) measures are identified, the specific causes that caused the disease and measures to prevent it are shown.

On the basis of general and private (prophylactic) measures, specific recommendations are given on the prevention of diseases occurring in the farm.

9. Conclusion. At the end of the history of the disease, brief and clear information about the results of treatment methods is written. The costs of the treatment will be calculated and it will be determined whether the treatment of this disease is profitable or not.

After completion, the list of used literature will be expanded. Drawings, photographs and radiographs can be placed inside or at the end of the medical history.

Applications to medical history:

1. Temperature, pulse and respiratory rate.

2. Laboratory and special examination results:

a) blood, urine, gastric juice, stool, liquid, etc.

b) radiography, radiography, fistulography, allergic,
serological, bacteriological, histological and other examination methods.
In the case of the death of a sick animal, a report on the carcass is also attached

Topic 2: METHODS OF CLINICAL EXAMINATION OF SURGICALLY ILL ANIMALS

The purpose of the lesson. To teach students how to correctly conduct clinical examination of animals.

Equipment, tools and animals. Machine tools and special tables for immobilizing animals, ropes, wooden and metal screws, necessary diagnostic tools for general clinical examination, disinfectant liquids, bandages, gauze, water, soap, towels. Cows, horses, etc., artificially induced or infected with abscess, phlegmon, paralysis and other diseases.

The style of the lesson. It is organized to conduct the lesson in a surgical clinic, a veterinary treatment center, an educational farm, a meat processing plant, and farms specializing in animal husbandry. Clinical examination of various types of sick animals is carried out based on a certain plan; anamnesis, general examinations: examination, palpation, percussion, auscultation, measurement, laboratory-diagnostic, bacteriological, X-ray and other examination methods.

Anamnesis (anamnesis).

Questions and answers about a sick animal with an animal owner or a person who cares for an animal are kept in the collected data set as an anamnesis. Anamnesis consists of two parts:

1. History of the life of a sick animal - (Anamnesis vitae).

2. Anamnesis related to the history of the origin of the disease - (Anamnesis morbi).

Studying the anamnesis about the life of a sick animal makes it possible to determine the conditions under which the animal became ill. Answers to the following questions should be found in this part of the anamnesis:

a) how long the animal has been living in this farm (if it was purchased, when it was purchased);

b) the actual condition of the place where the animal is kept and where it is kept;

c) animal feeding conditions, i.e. quantity and quality of fodder;

g) animal productivity and utilization, etc.

Studying the anamnesis related to the history of the origin of the disease makes it possible to determine the information related to the origin of this disease. This includes questions such as:

a) when the disease was detected and under what conditions it appeared, that is, whether it appeared suddenly or gradually. It determines the course of the disease (acute or chronic) and at the same time which organs or tissues are damaged.

b) where and under what conditions the disease occurred.

The clinical signs of a sick animal include lameness, full or partial loss of vision, crooked neck, etc., and it is very important to know where and under what conditions the disease occurred in the absence of external signs of damage. In any specific situation, it is necessary to use surgical methods of examination. In some cases, it is important to know that the sick animal is not infected with infectious and non-infectious diseases or poisoned by toxic substances. Because the above diseases can cause various surgical diseases: rheumatic inflammation of the hoof, tendinitis, tendovaginitis, bursitis, arthritis, etc.

c) knowing how the sick animal was treated before it was brought to the hospital (clinic), what was used for treatment and who treated it is important for the development of future treatment methods.

Of course, the information collected for anamnesis is not always correct, this is often due to the fact that the person who brought the animal does not have a good understanding of the disease, and sometimes the disease is deliberately hidden. will be

Thus, the anamnesis includes information characterizing the state of the animal before examination.

It is very important to be able to compare the anamnesis with the information obtained during the clinical examination in order to think objectively about the anamnesis. It is necessary to check the accuracy of all the information obtained during the interview with the employee who takes care of the animal. For this, it is advisable to look at the anamnesis data from a critical point of view and to rely more on the results of clinical examination in the diagnosis of the disease. It should be noted that the information on the anamnesis must be complete and accurate. A perfectly collected anamnesis helps a lot in making a diagnosis of a sick animal and facilitates the effective organization of treatment and prevention measures.

The general examination consists of determining the animal's habitus, examining the animal's skin, lymph nodes, mucous membranes, and measuring its temperature. In addition, the breed, sex, age, condition of the animal, weight and its economic value should also be taken into account during general inspections.

Surgical diseases can manifest differently in different breeds of animals. In draft horses, it is more common in the lower leg (distal), mainly in the deep flexor tendons of the toes, and in draft horses, mainly in the superficial flexors and tendons of the lower leg (distal). injuries are more common. Chronic deforming arthritis occurs more often in the shoulder joint in running horses, in the knee joint in draft horses, and so on.

Methods of diagnostic examination in bovine animals should be carried out very carefully. When the signs of "thorn" are observed in stallions, it is necessary to pay attention to the presence or absence of hip and thigh scars, etc.

It has been confirmed that some diseases of animals depend on their breed and breed. Gray horses are more susceptible to melanosarcoma, and gray lambs are more prone to chronic tympany. In addition, it has been confirmed that gray horses are highly sensitive to inflammation of the lower joint and necrotic processes of the skin.

The age of the animals is of great importance in the diagnosis, prognosis and treatment of the disease. Carcinoma, cataract (covering of the eye with a white film), ossification of the soft palate occurs mostly in old animals. Young animals are affected by anesthesia faster than old animals, while young animals can tolerate surgical operations relatively well.

In addition, the body weight of the animal is important in determining the amount of drugs, narcotics, anesthetics, tranquilizers and other substances.

Large-weight animals (horned animals, horses) have a lower chance of recovery (prognosis) from a number of diseases than small-weight animals of the same species. During the clinical examination of the animal, it is always necessary to pay attention to its general condition, i.e. fatness and thinness, temperament (behavior), body structure, body position in space, constitution. In medium to high obese animals with a strong constitution, wound healing and other processes are improved. Old and low-yielding animals that require long-term treatment cannot cover the costs and are given over to meat.

View (inspectio). After the anamnesis data is collected, the general clinical examination of the animal, the examination method begins. The inspection is carried out during the day using natural or artificial light. This work is carried out in the following order: first the animal's head, neck, then chest, body part, belly, udder, blanket, prepuce, groin, legs are examined. Paired parts of the body are compared and examined, which is done when external clinical signs are less observed in the pathological plane. Common inspection methods are to examine the animal while it is moving and at rest. His condition (weakness, agitation), body condition, condition of skin and mucous membranes and other organ diseases (lameness, loss of vision) or local changes (dermatitis, eczema, o sma, blurring of the cornea, thickening) should be paid attention to.

On the basis of inspection, the size, shape, color and surface condition of the damaged organ or damaged tissue (dry, wet, smooth, rough, covered with blood, pus, black scab) lameness (its types) and others are determined.

If sick animals are carefully observed, it will be possible to find out the course and clinical picture of the disease, make a diagnosis and prescribe effective treatment methods.

Palpation (palpatio) - palpation with the hand. Using this method, the local temperature, pain response, the location of the pathological focus, its mobility and tension, the condition of the skin and subcutaneous tissue, arterial pulse, fluid splash, crackling and other clinical signs are determined. In this case, it is necessary to learn to distinguish the real pain in the pathological center from the physiological reflexes in bones and joints, otherwise it can be mistaken for a pain reaction. If there is a mistake, pairs of symmetrical organs are checked by comparison.

In the examination of hoof diseases, along with simple palpation, a special hoof clamp is also used, which helps to determine the degree and location of pain. During the inspection, one end of the hoof clip is placed on the wall of the hoof cornea, and the other end is brought closer to the heel of the hoof. If pathological processes are taking place in the tissues located in the cornea and in the pit, a pain reaction is observed under the influence of pressure. In this case, the animal pulls its leg or there is a contraction of the muscles located in the upper part of the leg (shoulder and hip).

In addition, special examination methods are used in horses: passive movement, spar test, elbow test and the method of examination using a wedge (pona).

Passive movement is a special clinical examination method used to diagnose diseases of the bone, joint, ligament and muscle-joint systems of the foot. This method is based on detection

of pain reaction in animals by bending, extending, extending, and approximating the legs, and at the same time rotating certain joints alternately.

The spar test method is used in the diagnosis of chronic deforming osteoarthritis and osteoarthrosis diseases, in which the growth of strong connective tissue and the destruction of bone tissue are mainly observed in the jumping joint. To identify this disease, it is necessary to bend the joint to the end. The sick leg should be bent in such a way that the animal's hoof should touch the lower part of the abdominal wall. It is kept in this position for 3 minutes, then the leg is released and the horse runs. If the lameness increases, it indicates that a pathological process is taking place in the jumping joint or vice versa.

If pathological processes are also taking place in the knee and hip joints, then the lameness increases, it is advisable to identify it.

Elbow test - used to diagnose wrist nerve palsy. For this purpose, the healthy front leg is raised forward, the weight of the animal's body falls on the diseased leg. Then the animal moves forward or backward. In the case of paralysis of the wrist nerve, first the elbow joint, then the lower joints are bent, and if the raised leg is not released, the animal may fall. This indicates a dysfunction in the writing muscles and tendons of the elbow, wrist and finger joints controlled by the wrist nerve and its branches.

Examination using Klin (pona). This method is used when there are difficulties in diagnosing diseases of the mucous membrane. The sick leg of the animal is placed on a wooden wedge 25 cm long and 15 cm wide. The front part of the hoof should be placed on the high part of the wedge, and the rear part should be placed on the low part. Then the healthy leg is raised. In this case, the hoof joint of the sick leg is strongly stretched, as a result of the weight falling more on the deep flexor tendons of the fingers, the wedge-shaped block starts to be strongly compressed. If pathological processes are taking place in the musculature, the animal feels pain and tries to pull the leg or put weight on both hind legs. If this leg is placed on the wedge in the opposite direction, the animal can rest on it for a long time without being disturbed.

Probe inspection. It is a method of diagnostic examination of wounds, natural cavities and fistula channels in animals. With the help of a probe, the orientation of the wound channel, the condition of its wall and bottom, and the presence or absence of a foreign body are determined. Fingers and probes made of metal or elastic equipment are used for probing. For this, a set of probes is needed: fistulas and cavities are checked using steel (tissue, bone) and ebonite probes.

It is necessary to strictly follow instructions and contraindications for testing. In some cases, a fistula, a wound filled with pus, esophagus, stomach, ureter and bladder, uterus, udder and nasal passages must be examined with the help of a probe. It is not possible to inject a probe into wounds of joints, groins, chest and abdominal region that are aseptic, as well as clean gunshot wounds.

Basic rules of probing: 1) The surgeon's hand, the probe and the place where the probe is used are disinfected. 2) It is necessary to be very careful when sending a probe to places near natural cavities, otherwise its wall will crack and create a secondary path, which will cause a wrong diagnosis and lead to the development of infection. .

Percussion (percussio) is an examination of the animal's body using a plessimeter. In some cases, it serves as a good additional method when complex diagnostic examination methods are used for sick animals

Auscultation (auscultatio) - (hearing). Listening to sounds that appear during pathological processes in some parts of the body. In surgery, auscultation is more often used in clean random bone fractures, joint diseases, tendon sheath diseases (fibrinous synovitis, tendovaginitis, bursitis). In addition, it is widely used in the diagnostic examination of diseases of the nasal cavity (in tumors), larynx (stenosis), larynx tumors, navel, abdominal wall (in cysts) and external auditory canals (fluid splash).

Measuring. Using this method, pathological processes, i.e. injuries, tumors, swellings, changes in hoof defects and deformations, corneal clouding, and their size are measured. In addition, this method makes it possible to determine the outcome of the pathological process,

that is, depending on the results of the examination, it is discussed whether the pathological process is improving or worsening. A simple tape, probe, circle and bandage are used for measurement. Cellophane and a pencil are used to measure injuries. In this case, cellophane is placed on the wound and the wound boundaries are drawn with a pencil, then the contours of the previous and the next drawn wound are compared to each other to determine whether the wound is getting smaller or larger and the effect of treatment procedures.

Smell. It is of great importance in examining the oral cavity (dental caries) or bones (actinomycosis, hoof arrow cancer, etc.). If the teeth are decayed due to caries, the enamel material is affected, brown or dark spots appear, and the animal's mouth smells.

Laboratory tests. It is used to confirm the diagnosis and get a complete picture of the general condition of the sick animal.

For examination, pus from a purulent focus to identify microbes, tumors for differential diagnosis, skin scraping to distinguish parasitic diseases, swab from a wound to determine the organism's reactivity, immunobiological status and regenerative-restorative processes, from a joint blood is taken to determine the fluid and protective function of the body.

Diagnostic surgery. This method is used to identify pathological processes located in the pit. For this, the following operations are performed:

1. A sample (trial) is punctured to compare the diseases of abscess, hematoma, lymphoextravasation, ascites, pleurisy, pericarditis with each other;

2. Trepanation is performed when there are tumors in the nasal and forehead cavities;

3. In the case of necrosis in the deep flexor tendon of the finger, purulent bursitis in the tendon, and purulent arthritis in the hoof joint, the hoof is cut along the arrow;

4. When a tumor and onchocerciasis are diagnosed, a biopsy is taken.

Diagnostic analgesia. This method is mainly used for diseases of the feet of horses and large horned animals, and for diseases of the genital organs of bulls.

The location of the pathological process is determined by the location of the pathological process through intraarticular (into the joint), intrasynovial (into the synovial membrane), intrabursal (into the bursa) anesthesia. Analgesic novocaine liquid is injected into the joint cavity and tendon sheath.

The location of the pathological process is determined by the disappearance or reduction of lameness after the injection of novocaine.

vHot bath method. Differential (comparative) - this method is helpful for diagnosis. It is used in the examination of bone, ligament and tendon diseases in the distal (lower) part of the leg. When using a hot bath of 40 °C in tendon and ligament diseases, lameness temporarily stops or decreases, and in case of bone fractures and osteoarthrosis, lameness increases on the contrary.

Rectal examination. It is used in the diagnosis of diseases of the pelvic organs. Using this method, fractures of the pelvis, tail and lumbar vertebrae, hematomas, abdominal aortic thrombosis, abscesses and tumors are detected.

Before the examination, the skin of the animal around the tail and anus (rear exit hole) is washed with soap and a disinfectant solution in hot water. Then the nails are cut short, the hands are thoroughly washed and disinfected. Vaseline and oil are applied to the hands, or special rubber gloves or cellophane sleeves are worn. Animals are examined in spacious warm buildings.

X-ray examination. Bone diseases with less obvious clinical symptoms (fracture, periostitis, osteitis, osteomyelitis, necrosis of bone and cartilage tissue, arthritis, osteoarthritis, osteoarthrosis, ankylosis, joint protrusions), as well as soft tissue ossification of tissues and foreign bodies are detected using X-ray method.

Bacteriological examination. This test method is used to determine the pathogenicity and virulence of microbes in pathological processes. For examination, wound pus from inflammatory processes and pieces of damaged tissues are taken and examined.

Topic 3: USE OF MASSAGE AND LIGHT LIGHTS IN THE TREATMENT OF SEMI-ACUTE AND CHRONIC Aseptic INFLAMMATIONS.

The purpose of the lesson. To acquaint students with the types of massages used in the treatment of semi-acute and chronic aseptic inflammations and the mechanism of their local and general effect on the body, methods of applying electric current and rays

Equipment, tools and animals.

Brush, talc, vibrating device, Minin lamp, Solux lamp, IKUF-1, UVCh, UTN-1, LG-75, BOP-4, "Shifo" laser device, etc. for semi-acute and chronic inflammation infected animals.

The style of the lesson. After the teacher explains to the students the types of massage and the technique of its application, the students divide into 3-4 small groups and learn to apply massage types to sick animals under the guidance of the teacher.

Massage (derived from the Greek word "massein" means rubbing) means special mechanical methods used for the prevention and treatment of various diseases.

In the practice of veterinary surgery, massage is used for multiple lats, atrophy, muscle paresis and paralysis, myositis, muscle rheumatism, slow growth of broken bones, aseptic synovitis, bursitis and tendovaginitis and other diseases.

Under the influence of massage, blood and lymph circulation increases, metabolism in tissues accelerates, muscle tone increases, elasticity of ligaments increases, and trophism is restored in the place of massage. When applying massage in farm animals, the location of the fur relative to the lymph flow, the thickness and mobility of the skin, and the location of the anatomical organs at different depths are taken into account.

Taking into account the above, massage types are used.

When using a massage, it is necessary to conduct it consistently, to maintain the hygiene of the hands of the masseur, and to take into account the condition of the skin in the area being massaged. Before the massage, with a light palpation, pain, swelling, purulent area and dry place of inflammatory fluid are determined. Before performing a local massage, the surroundings of the area to be massaged are massaged and then transferred to the main area. As a result, the blood circulation in the surrounding tissues is improved, and lymph and accumulated fluids are better drained out. Massage should be done with clean and dry hands. The massage area is washed with soapy water and wiped with a clean towel. The muscles in the massage area should be in a physiological state of rest or completely relaxed, and the legs should be semi-bent. Sometimes talc can be applied to the hands, but not to the skin. The massage should be performed according to the direction of the lymphatic vessels and regional lymph nodes, the average massage should be performed for 10-15 minutes.

Types of massage.

1. Stroking and peeing. During the massage, the healthy tissues around the pathological focus are started, then the pathological focus is stroked and the massage is finished again in the healthy tissues. When massaging flat areas of the body, one area is first gently pressed with the palm of the hand, and then the pressure is increased. When stroking a wide area at once, the specified area is massaged completely at once. It is important to start and end the massage. At the beginning, in the middle and at the end of the massage, attention is paid to how to hold the slave in relation to lymph, veins and lymph nodes, how to press with force.

There are following types of stroking method:

a) palm method - with the help of this method, flat areas of the animal's body are massaged, i.e. the thigh, neck and groin surfaces.

b) cross method - in this method, the fingers are passed to each other, and the circular organs are massaged in the areas of the ankles, elbows, wrists, between the palms.

v) umbroid method - this method mainly massages the flexor tendons of the fingers and the triceps muscle. In this case, the masseur should have his index and middle fingers on one side of the groin, and his thumb on the other side. Regardless of how the massage begins, it begins slowly and steadily, and the pressure is gradually increased.

When stroking, blood circulation in the skin improves, the function of oil and sweat glands increases, and pain decreases. In addition, it has a positive effect on the absorption of inflammatory tumors and infiltrates.

2. Rubbing method. With the help of several fingers, the skin and deep tissues are massaged with circular movements. Massage can be done in different directions, even against the flow of lymph. When using this method, the scars and hardened tissues in the pathological focus are softened. Therefore, this method is used in the treatment of serofibrosis, fibrinous bursitis, synovitis, tendovaginitis and non-purulent inflammatory infiltrates. Alternating the above type of massage with the stroking method accelerates the absorption of softened and excess products.

3. Crush softening. In this case, tissues are wrinkled, raised, lowered, crushed and softened. The main purpose of using this method is to accelerate blood circulation in the muscles, to clean them from accumulated intermediate products, to strengthen the contraction of muscle fibers, to increase the mobility of tendons and scars, and to ensure the removal of unnecessary tissues accumulated in the pathological focus. This method is mainly used in cases of muscle atrophy, paralysis, fatigue, tendons and muscle scarring.

The following methods of crushing are used:

a) friction method. In this case, the distal part of the foot is rubbed between both hands. During the massage, the hands move against each other, that is, when the right hand goes forward, the left hand is pulled back.

b) sliding method. In this method, the tendon or tissue is taken between the thumb and the rest of the fingers and moved forward with slight pressure. This method is similar to squeezing the water out of a rubber tube.

c) clamping method. In this case, the muscles and tendons are squeezed with one hand, and with the other hand, the lower part is squeezed and released. If it is not possible to lift the muscles and tendons, press hard with the help of fingers and make circular movements.

4. Hitting. In this method, the pathological focus and its surroundings are beaten for a certain time with the fingertips, palm, fist or special tools.

The following methods of beating are used:

a) running method. In this, both hands are placed upright in the direction of the elbow and palm and fingers around the pathological focus and are hit alternately. So that the pain is not strong, when raising the hands, the fingers are opened, and when touching the skin, they are brought closer to each other.

b) slap method. In this method, the palm and fingers are hit briefly.

c) punch method. In this case, the fingers are slightly pressed into the palm and the palm is weakly struck. This method improves metabolism, increases nerve tone and muscle contraction. This method is not used in areas with many blood vessels.

g) method of knocking. A forty-gram percussion or wooden hammer is used for this. This method is mainly used to accelerate the growth of bone tissue in places where there is little muscle, that is, in broken bones.

5. Vibration (Vibration). Vibrating movements are carried out by using special tools to affect tissues with small rhythmic movements.

Massage is recommended differently for different pathological processes. For example, it is recommended three days after the onset of the disease in cases of latitis, after 4-5 days in cases of tendovaginitis and joint distortions, and after 10-12 days in cases of joint dislocation.

It is advisable to use the massage 1-2 times a day for 10-15 minutes. It is recommended to use the massage for 10 days in the acute form of the disease, and for at least 1 month in the chronic course.

Treatment with electricity and light.

Mini lamp. This lamp is made of multi-layered glass and has a heating power of 30-50 W. There are coal threads. Minin lamp converts electric current, 95% heat and 5% light energy. The lamp is mainly used in the treatment of acute inflammatory processes, infiltrates, burns, boils, myositis and neuralgia. In this case, the animal is heated for 30 minutes by holding the

lamp at a distance of 5-10 cm from its body. For treatment, it is recommended to use it twice a day.

Sollux lamp. This lamp consists of a 300-500 or 1000 W tungsten filament filled with nitrogen, it has a parabolic reflector and a rheostat. 0.5-0.75 m using a lamp. It is heated from a distance, 1-2 times a day for 20-45 minutes. The course of treatment is 7-10 days. If necessary, a red filter is applied to cause hyperemia in the deep organs, pain is left with a blue filter.

Topic 4: USE OF BURNING METHODS (THERMOCAUTERIZATION) IN THE TREATMENT OF CHRONIC Aseptic INFLAMMATIONS.

The purpose of the lesson. It consists in introducing students to the types of burning (thermocauterization), their use and the mechanism of therapeutic effect.

Equipment, tools and animals. Scissors, soap, towels, bandages, hot cloth, dot and tape thermocautery, 10% red mercury ointment, Vishnevsky balsam ointment and animals undergoing chronic inflammatory processes.

The style of the lesson. In the first hour of the lesson, the teacher explains about cremation methods, their application and the mechanism of their effect on the animal organism, in the second hour of the lesson, students are divided into 3-4 small groups and use these methods to kill the animal. they learn

Burning is a method of surgical intervention, which is used in veterinary surgical practice to prevent the growth of horn tumors of tendons, tendon sheaths, ligaments, bone shells in chronic diseases and calves, where other treatment methods have not yielded positive results. Burning is also used in the treatment of low-quality tumors and fungal granulations, poisoned wounds, when it is impossible to use other methods of stopping bleeding.

The use of burn methods in chronic diseases is based on the transition of inflammation to an acute form, and then nutrition to this source and absorption of pathological tissues is improved.

In bone diseases, deformed arthrosis, thermocauterization helps in the development of ankylosis in the joints, as a result, pain sensitivity decreases when the animal moves, and in some animals, the ability to work is restored.

Types of burning. It is divided into superficial, deep and penetrating burns.

In superficial burns, the heat affects the middle layers of the heated skin. This method is used in chronic inflammation of the groin, groin sheaths, fibrous periostitis and chronic subcutaneous bursitis.

In a deep burn, the red tip of the thermocautery penetrates to the base of the skin. This method is used to treat chronic proliferative inflammation of the hip sockets and ossifying periostitis.

The sharp, needle-like tip of the penetrating cautery-thermocautery passes through the skin and penetrates deep into pathological tissues. It is recommended to use this method in tendon contractures, exostoses, periostitis, deformable arthrosis of the jumping joint.

Penetrating cauterization is performed quickly (the needle is quickly removed from the tissue after the injection) and slow (the needle is held in the tissue for several seconds).

Depending on the form of burning, it is pointy, stripy and needle-like.

In point burning - the heated iron tip is touched to the skin surface for 0.5 seconds, 8-10 times on one surface. Then the points are placed at a distance of 1-1.5 cm from each other, in the form of a checkerboard.

In the case of tape burns, the tapes should be parallel to each other, and the distance between them should not be less than 1.5-2 cm and should not intersect, otherwise wide scars will be formed. From this point of view, tape burns are not used in the bending part of the joints.

Needle-like (penetrating) burns are carried out in a checkerboard pattern at a distance of 1-1.5 cm from each other. The heated needle is inserted once into the tissues to the specified depth and held for 3-5 seconds.

Burns in the tissues cause burns of three degrees, depending on the strength of the high temperature and the duration of exposure. They differ from each other depending on the color of the burned tissue, the nature of the liquid formed in the burned place.

In first-degree burns, small pits and spots are observed on the skin. The color of the burned tissue is light brown, and separate drops of serous liquid are released. In the following days, the inflammation subsides, exudation stops, and the damaged epidermis is completely restored.

In second-degree burns, the points on the skin are deep, the tissues are yellowish-brown in color, and the fluid secretion is very strong. Third-degree burn tissues are infiltrated, the epidermis is softened, all layers of the skin are damaged and expanded, and the tissues are straw-colored. The separation of serous exudate is strongly manifested, liquid drops come out of the pits, merge with each other, dry and form hollows.

Tools used for burning. The simplest ones are iron burners with various shaped tips and a wooden handle attached to a long handle. These burners are heated to the desired temperature in a shoemaker's workshop or using other heating sources.

Topic 5: Local use of novocaine blockades in systemic diseases.

The purpose of the lesson. Explain to students the methods of treatment with novocaine and the mechanism of its effect on the animal organism.

Equipment, tools and animals. Anatomo-topographical tables, diagrams, pictures of the somatic nervous system, parasympathetic and sympathetic nervous systems, short and circular novocaine blockade, blockade of the posterior sympathetic node of the neck, blockade of the vago-sympathetic trunk of the neck and scheme of stellate node blockade; fixation machine (machine), Cooper's scissors, syringes 10-20 ml, needles of different lengths (7-15 cm); sterile cotton gauze tampons, 5% iodine solution, 0.25 and 0.5% novocaine solution, 0.5% nashatir alcohol, alcohol-ether; horse, cow and dog. (sick and healthy).

The style of the lesson. It is planned to conduct the lesson in the clinic of the department, in veterinary treatment institutions or in the conditions of livestock farms.

In the lesson, the teacher gives brief information about the pathogenetic effect of novocaine on the body, the main indication of treatment with novocaine and methods of its use. From the tables and diagrams, it is explained which nerves are blocked in different blockade methods and the situation of injection of novocaine solution in tric animals. Then, depending on the number of animals in the lesson, students are divided into 3-4 small groups. Students fix the animals, prepare the operating platform and instruments for novocaine administration, and then perform novocaine sieges. The teacher supervises the work of students and helps them when necessary. It is appropriate if there is a sick animal in the course of an acute inflammatory process.

After the treatment of animals with novocaine, a conclusion will be made at the end of the lesson, and the questions asked by the students will be answered.

Novocaine treatment is one of the methods of pathogenetic therapy. Pathogenetic therapy refers to the normalization of impaired functions of the body through the neuro and endocrine system with the help of complex methods and means of action, adaptation reaction, protection mechanism and regenerative, restoration processes are directed in the right direction.

The mechanism of action of novocaine blockade is very complex and has not been fully studied. According to some scientists, under the influence of novocaine, medium and strong excitations of nerve centers and autonomic nervous system decrease. The process of excitation and inhibition of the brain is coordinated. The activity of peripheral nerves and internal secretion glands, adaptation of the body, blood circulation improves. Immunogenesis, phagocytosis, the activity of the connective tissue physiological system and compensatory processes are activated. Decay at the source of inflammation subsides, regenerative-recovery processes increase, vital functions of the body return to their previous normal state. 0.25% and 0.5% solutions of novocaine have an antiparabiotic effect. Chemotherapeutic effect of novocaine, novocaine is

hydrolyzed into diethylaminoetonol and paraaminobenzoic acid (PABK) as a result of tissue and blood serum enzymes. PABK reduces the permeability of blood vessels and the inflammatory reaction together with its antihistamine effect. Diethylaminoethanol dilates the vessels less and improves blood circulation in the pathological source. A 2-3% solution of novocaine deepens the parabiosis and calls for deep anesthesia.

In treatment with novocaine, the following methods are used:

1. Short novocaine siege.

The wool of the operation area is shaved, then rubbed with 0.5% alcohol or alcohol-ether mixture and treated with iodine solution. A 0.5% novocaine solution warmed to body temperature is injected into the subcutaneous tissue of the border of healthy tissue around the inflamed source, between the muscles, and then to the base of the inflamed source using a thin needle (length 7-9 cm). will be sent until l. If necessary, novocaine solution can be re-injected after 2 days.

2. Circular (circular) siege with novocaine. This method is mainly used on the legs, above the source of injury. For this purpose, after the operation area is prepared, the needle is inserted from 2-3 points under the skin, muscle or under the fascia until it reaches the bone, and 150-250 ml of 0.25% warm novocaine solution is injected into large animals and 30-50 ml into small animals.

The sent novocaine solution should be absorbed into the nerve-vascular trunks of the tissues.

3. Vagosympathetic blockade of the spine.

a) blockade of the back (caudal) sympathetic node of the neck.

Horses have A.I. The Fedotov method is used. The transverse process of the seventh cervical vertebra and the anterior upper edge of the 1st rib are determined by palpation.

c) Stellate nerve ganglion entrapment.

To encircle the stellate knot in large animals, the animal's foreleg is extended backward and the anterior tubercle of the first rib is palpated. The needle is inserted from the back of the first rib, slightly below the buttock and until it reaches the body of the first thoracic vertebra. Then, the conifer is gradually directed downward parallel to the surface of the vertebral body, and 150 ml of 0.5% novocaine solution is injected. Vago-sympathetic blockade of the neck has a good effect on diseases such as bronchitis, bronchopneumonia, croupous pneumonia and other diseases.

The purpose of the lesson. To explain to students the methods of novocaine sieges and the introduction of novocaine into blood vessels.

Equipment, tools and animals. Anatomo-topographic tables, schemes, somatic pictures, parasympathetic and sympathetic nervous systems; Bel novocaine blockade according to I. Ya. Tikhonin, V.V. Epipleural novocaine blockade according to Mosin, novocaine blockade of the nerve vessel to the organs located inside the chest according to M.Sh. Shakurov, prerenal novocaine blockade in cattle according to M.M. Senkin, etc.; fixation machine (machine), Cooper's scissors, "Record" and Jane syringes, needles of different lengths (7-15 cm); sterile cotton gauze swabs, iodine solution, 0.25-0.5% novocaine solution, 0.5% alcohol, alcohol-ether, penicillin, streptomycin; horse, cow, dog (healthy and sick).

The style of the lesson. It is advisable to conduct the lesson in the clinic of the surgical department, in veterinary treatment institutions or on the farm.

In the lesson, the teacher gives brief information about the main indications of treatment with novocaine and methods of its use. From tables and diagrams, the teacher shows which nerves are blocked and different methods of blocking, and describes the situation of injecting novocaine in a living object. Students are divided into 3-4 small groups depending on the number of animals.

Students will fixate the animal, prepare the surgical instruments and operating platform needed for novocaine injection, and then perform novocaine blockade techniques. The teacher supervises the work of the students, gives them help and instructions when necessary.

It is appropriate to have an animal with acute inflammation in the lesson.

Students will carefully examine such animals, then treat them with novocaine, and in the next lesson they will be able to get acquainted with the results of the treatment. If the department has films or slides on the technique of novocaine blockade and the benefits of treatment, it is appropriate to show them to students.

Novocaine tablets are used in the treatment of various diseases of farm animals.

Abdominal nerves and border sympathetic trunk nerves V.V. Epipleural novocaine blockade according to the Mosin method

This method is used in the treatment and prevention of inflammatory processes in the abdomen and pelvis, as well as in anesthetizing the internal organs when necessary.

Large horned animals and horses are fixed in an upright position, and after the operation site is prepared, the needle is inserted into the front of the last rib at 30-35o along the horizontal line, in other animals, from the back of the last rib and the long muscle of the back. it is pricked. A needle 12-15 cm long is inserted until it touches the spine, then it is bent at 5-10 degrees and directed downwards, the tip of the needle falls on the pleural membrane. After making sure that the needle has not entered the blood vessels, a syringe filled with novocaine solution is connected to the needle. After injecting a small amount of novocaine solution, the syringe is removed from the needle and it is checked that the needle is in the correct position. If the solution drips from the needle hole and the needle moves in time with the aortic pulse and breathing, the needle is inserted correctly.

If the needle enters the pleural space, air will come out of the needle, not liquid. In this case, the needle is pulled higher and then the solution is injected. In the same case, 0.5% novocaine solution is injected into both sides in an amount equal to 0.5 ml per 1 kg of animal weight. Dogs, sheep, goats and pigs are injected with 2 ml of novocaine solution per 1 kg of weight.

It goes to the organs located inside the chest

blockade of nerve vessels and branches of sympathetic nerves (according to M.Sh. Shakurov)

A clean 0.5% solution of novocaine is used for entrapment, in which 10-20 ml of novocaine solution is injected into each side of calves and mares, 60-80 ml of large horned animals and horses, depending on the live weight of the animal. This siege is highly effective in diseases of the respiratory organs, which are mainly found in young and older animals.

Siege technique. This siege is carried out by fixing in the lying position in large horned animals. In this case, the front leg is raised up and pulled towards the head, that is, towards the end. The needle is inserted between the 4th rib around the back ventral corner of the scapula and the front edge of the 5th rib.

A needle with a thickness of 1.25-1.5 mm and a length of 8-10 cm is inserted perpendicularly into the skin and from the long head of the triceps muscle of the shoulder until it reaches the body of the thoracic spine. if no air is drawn in, the needle is inserted correctly. Depending on the size of the animals, the needle is inserted into calves, sheep and large dogs to a depth of 5-8 cm. In order to correctly apply the novocaine blockade, after the injection, 1-2 ml of novocaine is injected into the needle, if the needle is inserted correctly, that is, it is located in the upper pleural cavity, then after removing the syringe from the needle, novocaine the solution comes back or in some cases the needle moves in accordance with the breathing movement. After making sure that the needle is inserted correctly, the required amount of novocaine solution is injected. A similar siege is made to the other side of the animal.

In horses, this siege is carried out in a standing position with the front leg raised. The back (lumbar) angle of the scapula is found by palpation. A needle with a length of 10-15 cm and a thickness of 1.5 mm is inserted between the front edge of the seventh rib (between the sixth rib) and the back corner of the scapula, and is moved until it reaches the body of the thoracic spine and the required amount of novocaine solution is injected.

Paranephric (lumbar) novocaine blockade. Siege technique in horses (according to Tikhonin). In horses, novocaine solution is injected into the adipose tissue around the kidney, because there are a large number of nerve nodes and nerves of the autonomic nervous system connected there. This blockade is used in acute aseptic and purulent processes, post-absorption complications, non-healing wounds, atrophic wounds, fistulas, abdominal and pelvic muscle spasms. The needle is directed to the kidney tissue at a depth of 8-9 cm, from the distance between the last rib and the iliac crest of the 1st lumbar vertebra, 8-10 cm from the midline of the spine. The puncture point is the corner of the back of the last rib and the outer corner of the longus muscle. If the needle is inserted correctly, the needle will not bleed and the solution will be injected with light pressure. 0.25% novocaine solution is injected equally in both directions in the amount of 1 ml per 1 kg of live weight. If necessary, the procedure is repeated after 5-7 days.

In cattle (Senkin method) it is better to pass from the right side.

Topic 6: HEMOTHERAPY AND LACTOTHERAPY.

The purpose of the lesson: to teach students to use stimulating therapy in the treatment of surgical diseases: autohemotherapy, lactotherapy, serotherapy, antireticular cytotoxic serum (ASZ) according to A.A. Bogomols.

Equipment, equipment, animals. Skim milk, antireticular cytotoxic serum (vial), 0.9% saline solution, 4% sodium lemon solution, 1% novocaine, iodine solutions, surgical instruments, syringes, ligation and suturing equipment, animals (3-4 heads).

The style of the lesson. The lesson is organized in the conditions of the laboratory and the clinic of the department. The teacher explains the environment of stimulating treatment methods at the beginning of the lesson, assigns tasks to the students and monitors their implementation during the lesson.

Autohemotherapy is a type of stimulatory treatment, multifaceted effect on the body increases metabolism and immunobiological reactivity of the body. In horses and cattle, blood is taken from the jugular vein. For this, the operating field is prepared, a 5% solution of sodium lemon is added to a sterilized flask in a ratio of 1:10 (to prevent blood clotting) and blood is taken. The obtained blood is injected subcutaneously or between the muscles (in the desired part of the body) in the amount of the first injection of 25 ml, the second - 50 ml, the third - 75 ml. If 2% novocaine is added to the blood in an equal amount with a physiological solution, phagocytosis increases, RES tissue development, healthy granulation tissue growth accelerates, scar formation and epidermization process improves.

In addition to autologous blood, freshly obtained or preserved homo and heterogenous blood at 2-40S can be administered within 2 days. 0.03-0.05 ml/kg body weight can be injected subcutaneously after 3-4 days. To prevent anaphylactic shock, a 1% chloramine solution is added to heterogeneous blood in a 3:1 ratio, or the blood is hemolyzed in distilled water.

Lactotherapy - injection of skimmed milk under the skin. Defatted and boiled milk is cooled to body temperature and injected under the skin 3 times with an interval of 48 hours (break) in increasing amounts of 25, 50, 75 ml for large, 5, 10 and 15 ml for small animals.

12.1. Rp.: Novocain 1 % - 30.0
D.S. For local anesthesia
#
12.2. Rp.: Sol. sodium chloride 0.9% - 100.0
D.S. For mixing into ground textures
#
12.3. Rp.: Sol. sodium chloride 2% - 100.0
D.S. For tissue conservation

Topic 7: Surgical infection and treatment of injured animals.

The purpose of the lesson. To acquaint students with surgical infection, sepsis, their clinical symptoms, diagnosis and treatment methods.

Equipment, equipment, animals. Hot water, soap, towel, towel, disinfectants for hand and operation area disinfection, scissors, pokies or razor, alcohol, cotton, cotton swab, iodine solution, 1:1000 furacilin, 1:5000 rivonol, antibiotics, sulfonamides, tampon, gauze, syringe, 0.5% novocaine, sick animals.

The style of the lesson. For 10-15 minutes, the teacher will explain surgical infection, sepsis, its etiology, clinical signs, diagnosis and treatment. Then, under the guidance of the teacher, the students examine the sick animal. In this, they check the animal's breathing, body temperature, pulse, listen to the heart and lungs, examine the animal's mucous membranes, lymph nodes, local infection, get acquainted with its clinical signs, make a diagnosis and find treatment methods. they show. Then two students inspect the septic tank and apply chemical and mechanical antiseptic to it.

Infection - (infectio) - germs that cause infection or disease.

For the first time, surgical infection was defined by B.M.Olivkov based on the changes it causes in the body.

Surgical infection refers to microbes that cause disease by actively or passively settling in the body.

It was described by M.V. Plaxotin as a surgical infection.

It is a local and general disease that occurs as a result of the entry of microbes, viruses, fungi into the body, and the processes that give good results with the use of antibiotics and sulfonamides in its treatment are called surgical infection.

Surgical infection begins locally and has mainly benign purulent character. It develops after injuries and injuries, it is easily treated with surgical methods.

The development of surgical infection depends on the organism's perception of impressions, the pathogenicity and virulence of microbes, and the location of the pathological center.

A surgical infection enters the body and goes through the following stages in its development.

1. Contamination with microbes. There are 2 types of microbial contamination.

a) primary contamination - contamination in wounds, fistulas, and wounds occurs at the expense of microbes around them and microbes in the offending bodies.

b) recontamination - in this case, when the disease is on the verge of recovery, it is again infected with microbes.

2. Microflora (microflora). Microflora refers to a group of microbes adapted to wounds, injuries, fistulas and other pathological processes. These microbes mainly live in dead tissue, secrete enzymes and liquefy dead tissue.

3. Infection (infection). Infection is contamination with microbes and pathogens of the microflora, and it is a constant composition of microbes that adapt to the conditions of the wound, release enzymes and poisons that develop quickly and easily damage healthy tissues and bring functional changes to the body.

4. Infection (infection). Infection is a complex pathological process, which is caused by the violation of the symbiotic life of macro and microorganism, or in short, it is a complex pathological process, which is the reaction of the macroorganism to the functional and morphological disorders caused by the infection.

Depending on the composition of microbes that cause infectious processes, they are divided into the following:

1. Aerobic purulent infection (with oxygen). If there are aerobic microbes in the wounds, they form pus and ensure its exit from the body. These include abscess, phlegmon, furuncle (chicken) and others.

2. Anaerobic infection (without oxygen). Anaerobic microbes mainly increase decay processes, cause necrosis in body tissues. (Gas gangrene, gas phlegmon, etc.).

3. Special surgical infection. Actinomycosis, botrymicosis, actinobacillosis, mange, tuberculosis, brucellosis and ringworm diseases are included.

General surgical infection manifests itself in the form of sepsis (poisoning with microbes and toxins in the blood). Its origin is based on local infectious process and purulent-resorptive fever.

The word resorption means the absorption of microbes, microbial toxins, and toxic substances produced by tissue decay and the loss of proteins through copious amounts of suppuration. It is necessary to distinguish purulent-resorptive fever from closed-resorptive fever, in which only toxic substances formed from tissue decomposition are absorbed and characterized by an increase in general temperature, disruption of neuroreflective, endocrine and trophic functions.

General infection without metastasis (septicemia).

The most severe form of sepsis, or toxic form, is often acute and lightning-like. This testifies to the stronger poisoning ability of their toxins and substances formed from the decomposition of tissues than the microbes themselves. They show that the protective activity of the central nervous system and the body is defeated at the onset of the disease, and this anaerobic acute purulent process leads to the death of the animal.

Clinical signs. The sick animal suffers a lot, lies more, does not drink water and loses appetite, loses weight quickly, has a high temperature, a constant temperature of 0.5-0.80C with a daily fluctuation.

In horses, with high temperature, severe shivering and sweating, it becomes like putting water on the animal. Before death, the temperature drops or rises quickly, the pulse is thready, he breathes often, his legs start to get cold.

The color of mucous membranes turns to the color of baked brick. From time to time, the animal shows agitation and irregular movement, an aggressive state.

The animal vomits, the excretion of urine decreases sharply, has severe diarrhea, because of which it loses a lot of fluid. The excrement is liquid with a pungent smell, and within 2-3 days, the animal turns into a bone.

In horses, shivering, the temperature is close to normal in the morning, and increases in the evening, a sudden sharp change indicates the formation of a new pathological focus.

In cattle, the temperature changes up to 10C, and in the case of a dangerous passage, 10C drops sharply, the pulsation becomes unrecognizable, and it reaches the point of death.

Treatment of common purulent infection.

Effective methods have not yet been found, but the advent of sulfonamides and antibiotics has disproved the theory that they cannot be cured.

The treatment of general infection must be complex, it must be aimed at killing infectious microbes, neutralizing and removing toxins from the body, and restoring impaired functional changes in the body.

It is necessary to start treatment as early as possible, which includes local and general methods of treatment.

1. The body should focus on accumulating protective forces, providing nutrition and neutralizing acidosis. For this, easily digestible feed or 0.5% soda solution is added to it. Feeding with silage is prohibited. 1 liter of 4% bicarbonate solution is injected intravenously to large animals, 50 ml to sheep, pigs, 10-40 ml to dogs.

2. Increasing the body's reactivity, increasing the activity of its physiological system and providing it with protein. At the onset of sepsis, blood is added, which is mixed with 10% calcium chloride or 10% sodium salicylate in a ratio of 1:10. Blood is slowly dripped into a vein 1 l for large animals, 50-100 ml for small animals. It is important to administer 33% alcohol to a sick animal, it should be prepared in an isotonic solution of table salt and administered to large animals in 500 ml.

3. In order to meet the fluid needs of the body, intravenous fluids, plasma and plasma substitute fluids are administered, 15-16 l for large animals (weighing 400 kg).

4. Protective treatment methods to remove the parabiotic state and ensure normal blood circulation in the tissues: novocaine sieges, especially according to Mosin, cranial, stellate and other siege methods are carried out.

5. In order to suppress the infection in the body, an animal with sepsis is first injected with a high dose of antibiotics intravenously, and the effectiveness of microbes is studied before the injection. From antibiotics, gentomycin is mixed with 10 ml of 0.25% novocaine to large animals. In order to improve the treatment, 10% norsulfazol antibiotic is sent from sulfonamide drugs.

One of the widely used antitoxic and antimicrobial agents in the treatment of sepsis is camphor serum, which improves the work of the cardiovascular system.

Kadikov's camphor serum 2 times a day, 200-300 ml for large animals and 20-30 ml for small animals.

6. 20% glucose 1000-2000 ml for large animals, 50-100 ml for small animals, daily for the first days, then two sent 1 time per day.

7. To neutralize and remove toxins from the body, 40% hexamethylenetetramine (urotropin) 15-20 g for large animals, 0.3-2 g for small animals is injected intravenously.

8. Symptomatic treatment.

9. Local treatment.

## Topic 15: TREATMENT OF INJURED ANIMALS

The purpose of the lesson. It is to teach students to classify injuries, to determine their periods and stages, to apply the correct treatment procedures, to apply a bandage, to write and evaluate the condition of the injury correctly.

Equipment equipment and animals. Abdominal scalpels, razor, surgical tweezers Kocher and anatomical tweezers, surgical needles, needle holder, scissors, 10-20 gram syringe and needles, wound expanders, napkin, cotton, gauze, 0.5% novocaine solution, 0.5% rubbing alcohol, 1% chloramine, iodized alcohol, 5% iodine solution, antibiotics, white streptocide powder, pure silk thread, glue for injured horses and dogs.

The style of the lesson. The teacher starts the lesson by explaining the classification of accidental injuries. Students repeat the clinical signs of injury and diagnose the injured animal.

The teacher explains in detail the surgical treatment of the wound, suturing, the biology of the wound, and the methods of treatment of various types of wounds. In the 2nd hour of the lesson, students are divided into 4-5 small groups and, under the supervision of the teacher, independently learn the methods of surgical treatment and treatment of wounds by applying them to sick animals.

Biology of Injury. Depending on the degree of damage to the tissues in the body of farm animals, contamination with microbes and other reasons, the wound heals mainly in 3 different types (Scheme 1).

1. Ending with primary traction
2. ending with secondary contraction
3. Growing up under black scab

Healing with primary traction is observed only when sutured by primary surgical treatment of operative or purely accidental wounds.

Granulation is formed in the wound with secondary traction, such a wound is observed when more or less pus is formed.

Scabies is observed mainly in wounds of rodents and birds, but in some cases it is also observed in shallow wounds of large horned animals, pigs, horses and dogs.

The period and stages of the injury process:

N.P. Pirogov is divided into 3 stages depending on the clinical signs of the injury process:

1. Swelling
2. Wound cleaning (4-14 days)

3. Formation of granulation

According to the cytological and pathological changes in the wound, N.F. Kamayev divides the injury process into the following periods:

1. The first period (up to 12 hours) - the first signs of inflammation and contamination with microflora.

2. Degenerative - inflammatory period

3. Regenerative period, in which 3 stages are distinguished:

a) cleaning of the wound from necrotic tissues

b) formation of granulation tissue

c) improvement of the condition of the wound and regeneration of the epidermis

Depending on the signs of bio-physico-chemical processes in the wound, I.T. Rufanov is divided into two:

1. Hydration or wound cleansing

2. Dehydration or regenerative-recovery state

The processes taking place in the wound depend on the presence or absence of dead tissue in the wound, the degree of contamination with pus and microbes (scheme 2).

If there is little dead tissue in the wound and there are no microbes, that is, a clean surgical wound, then a period of weak hydration is observed. In this period, a wound swelling, then an inflammatory swelling is formed, enzymatic cleansing is manifested in the wound, then the second period, the period of weak dehydration, begins and ends with regenerative-restoration.

Accidental, punctured, and microbially contaminated wounds contain a lot of dead tissue, such wounds begin with a period of intense hydration, wound swelling, and then inflammatory swelling. At this time, the body mobilizes its defense forces around the wound and infiltration of cells begins, then purulent-demarcation inflammation develops, the tissue dies and enzymatically dissolves, and the dead tissue is cleared from the body. Then a period of severe dehydration begins, granulation begins to grow in the wound, and it is characterized by epithelization and scar formation in the skin.

In various types of animals, the wound biology has its own characteristics, depending on their nutrition and phylogenetic origin, protective-adaptive reaction against injury. Therefore, the separation of dead tissues and impurities in the wound is divided into 3 different types in different species of animals:

1. Purulent fermentation

2. Dead body with pus

3. Dead (sequestration)

During these periods, it is necessary to combine the treatment with pathogenetic therapy. Then, mechanical, chemical, physical and biological antiseptics should be used, and if necessary, blood substitutes or blood should be injected into the vein. In case of purulent-resorptive fever, it is necessary to carry out additional complex antiseptic therapy.

Mechanical antiseptic. The sooner the treatment of an injured animal is started, the better the outcome. Treatment of the wound begins with first aid, in which the area around the wound is treated with a 5% iodine solution, and a clean gauze is placed inside the wound. Then the fur around the wound is cut, cleaned, the skin is wiped with a swab dipped in 0.5% alcohol and iodine solution is applied. Local 0.5% novocaine-antibiotic solution is injected around the wound. Then, with the help of tweezers, the dirt inside the wound is cleaned and washed with antiseptic drugs. After that, the wound will be treated surgically.

Surgical treatment of new injuries.

For the first time, this method was proposed by Charukovsky, and later by Friedrich. According to them, during the first 6 hours, microbes settle on the surface of the wound, do not enter between tissues and lymph nodes, theoretically, it is possible to suture a cleaned wound. If

we cut dead tissues from healthy tissues in the first 6-12 hours of such wounds, the wound will heal with primary traction.

Timely treatment of the injury:

1. Primary surgical treatment

a) within 6-12 hours of the morning

b) delayed 24-36 hours

c) after delayed suppuration

2. Secondary surgical treatment - performed 24-36 hours after primary surgical treatment and later. During this period a) cut and expand; b) partially; c) cut off completely.

Incisional expansion is performed when the opening of the wound is narrow, small, deep, with a lot of dead and crushed tissue, and when there are pockets and foreign substances on the wall. When the wound is cut wide, air exchange improves, drainage is created, and fluids flow out well. When using this method, full local anesthesia is used. After cutting, it is washed with a hot solution of medium salts (4-5% NaCI with furacilin in a ratio of 1:5000) at 40oC. Then drainage is done with antiseptic solutions and it is tied with protective bandages.

Partial excision. It shortens the passage of the 1st stage of the wound and prevents infection. To identify dead tissue, if a 0.5-1% solution of bromthymol blue in alcohol is applied to the wound, the dead tissue will be stained, and healthy tissue will have a liquid color. After anesthetization, the wound is opened with loops, dead tissue is cut out and chemical antiseptic is applied, then drainage is done with the addition of antiseptic or enzymes to Vishnevsky's ointment or hypertonic solution. At the end of the operation, 3/2 of the wound is sutured and a protective bandage is applied. If the edges of the wound are far from each other and it is impossible to bring them closer, then it is not stitched.

Complete excision. Transfer of new accidental and gunshot wounds to an aseptic operative wound. After anesthetization, both sides of the wound are carefully cut from the border of dead and healthy tissues to the bottom of the wound, 5 mm from the edge of the wound. The blood is stopped and a complex bacteriostatic powder, boric acid 6.0, iodoform 2.0, streptocid 1.0, penicillin, streptomycin 100,000 TB is sprinkled and sutured. The wound is completely sutured within 6-12 hours, if it takes 9-12 hours or more, 4/3 of it is sutured, and drainage is placed in the wound with Vishnevsky or sinthomycin liniment.

Physical antiseptic. The essence of this method is that hygroscopic dressings expel the liquid inside the wound, and hygroscopic powders (activated charcoal, gypsum, etc.) and hypertonic solutions absorb liquids by osmosis and diffusion.

Chemical antiseptic. The basis of chemical antiseptics is the use of antiseptic and bacteriostatic drugs to disinfect the skin of the hands, the operation area and the surrounding area of the wound, as well as to suppress the activity of microbes in the wound. It is recommended to use chemical antiseptic mainly in the 1st period of the wound, and in the 2nd period it is used only when pathological granulation and necrosis develop.

Fermentotherapy. This method of treatment is mainly used in the first period of injury. In this case, gastric fluid is mixed with 0.5% novocaine and drainage is poured. Enzymes dissolve dead tissue and can even replace surgical procedures.

During these periods, it is necessary to combine the treatment with pathogenetic therapy. Then, mechanical, chemical, physical and biological antiseptics should be used, and if necessary, blood substitutes or blood should be injected into the vein. In case of purulent-resorptive fever, it is necessary to carry out additional complex antiseptic therapy.

Mechanical antiseptic. The sooner the treatment of an injured animal is started, the better the outcome. Treatment of the wound begins with first aid, in which the area around the wound is treated with a 5% iodine solution, and a clean gauze is placed inside the wound. Then the fur around the wound is cut, cleaned, the skin is wiped with a swab dipped in 0.5% alcohol and iodine solution is applied. Local 0.5% novocaine-antibiotic solution is injected around the wound. Then, with the help of tweezers, the dirt inside the wound is cleaned and washed with antiseptic drugs. After that, the wound will be treated surgically.

Surgical treatment of new injuries.

For the first time, this method was proposed by Charukovsky, and later by Friedrich. According to them, during the first 6 hours, microbes settle on the surface of the wound, do not enter between tissues and lymph nodes, theoretically, it is possible to suture a cleaned wound. If we cut dead tissues from healthy tissues in the first 6-12 hours of such wounds, the wound will heal with primary traction.

Timely treatment of the injury:

1. Primary surgical treatment

a) within 6-12 hours of the morning

b) delayed 24-36 hours

c) after delayed suppuration

2. Secondary surgical treatment - performed 24-36 hours after primary surgical treatment and later. During this period a) cut and expand; b) partially; c) cut off completely.

Incisional expansion is performed when the opening of the wound is narrow, small, deep, with a lot of dead and crushed tissue, and when there are pockets and foreign substances on the wall. When the wound is cut wide, air exchange improves, drainage is created, and fluids flow out well. When using this method, full local anesthesia is used. After cutting, it is washed with a hot solution of medium salts (4-5% NaCI with furacilin in a ratio of 1:5000) at 40oC. Then drainage is done with antiseptic solutions and it is tied with protective bandages.

Partial excision. It shortens the passage of the 1st stage of the wound and prevents infection. To identify dead tissue, if a 0.5-1% solution of bromthymol blue in alcohol is applied to the wound, the dead tissue will be stained, and healthy tissue will have a liquid color. After anesthetization, the wound is opened with loops, dead tissue is cut out and chemical antiseptic is applied, then drainage is done with the addition of antiseptic or enzymes to Vishnevsky's ointment or hypertonic solution. At the end of the operation, 3/2 of the wound is sutured and a protective bandage is applied. If the edges of the wound are far from each other and it is impossible to bring them closer, then it is not stitched.

Complete excision. Transfer of new accidental and gunshot wounds to an aseptic operative wound. After anesthesia, both sides of the wound are carefully cut from the border of dead and healthy tissues to the bottom of the wound, 5 mm from the edge of the wound. The blood is stopped and a complex bacteriostatic powder, boric acid 6.0, iodoform 2.0, streptocid 1.0, penicillin, streptomycin 100,000 TB is sprinkled and sutured. The wound is completely sutured within 6-12 hours, if it takes 9-12 hours or more, 4/3 of it is sutured, and drainage is placed in the wound with Vishnevsky or synthomycin liniment.

Physical antiseptic. The essence of this method is that hygroscopic dressings expel the liquid inside the wound, and hygroscopic powders (activated charcoal, gypsum, etc.) and hypertonic solutions absorb liquids by osmosis and diffusion.

Chemical antiseptic. The basis of chemical antiseptics is the use of antiseptic and bacteriostatic drugs to disinfect the skin of the hands, the operation area and the surrounding area of the wound, as well as to suppress the activity of microbes in the wound. It is recommended to use chemical antiseptic mainly in the 1st period of the wound, and in the 2nd period it is used only when pathological granulation and necrosis develop.

Fermentotherapy. This method of treatment is mainly used in the first period of injury. In this case, gastric fluid is mixed with 0.5% novocaine and drainage is poured. Enzymes dissolve dead tissue and can even replace surgical procedures.

## Topic 8: BONE DISEASES AND FRACTURES.

The purpose of the lesson. Teaching students how to make differential diagnosis (comparative diagnosis) of various bone fractures, bone diseases, diagnosis and their treatment methods.

Equipment, tools and animals. Pictures and charts of various bone fractures, preparations for periostitis, osteomyelitis and exostosis, radiographs of bone fractures, yellow cotton, bix and sterile tampons, napkins, bandages, plaster bandages, splints, iodine solution, 1% novocaine, 1:1000 rivanol, iodine alcohol, antibiotics, syringes, needles, tweezers, scissors, scalpels, hemostatic forceps, suture materials, and sick animals.

The style of the lesson. The lesson is held in the clinic of the department, and the teacher examines the students' readiness for the lesson by asking them. Then he explains to the students the nature of bone fractures, periostitis, their causes, types of fractures with tables, x-rays and other available preparations.

Periostitis. (inflammation of the periosteum).

Depending on etiological factors, clinical symptoms, pathologoantomic changes and spread of inflammation, periostitis in sheep is observed:

a) depending on etiological factors - traumatic inflammation and toxic

b) depending on pathological anatomic changes - serous, serous-fibrinous, purulent, fibrinous and ossifying.

c) depending on the clinical course - acute and chronic.

g) depending on the level of distribution - limited, diffuse and unlimited.

Serous and purulent periostitis are acute, while fibrosis and ossifying periostitis are chronic.

Serous periostitis (Periostitis serosa) occurs more often in unprotected bones (palm, heel, fall, etc.).

The main causes of its origin are closed mechanical injuries of the bone shell (impact, fracture, bone injuries). Acute periostitis can develop independently, or it can occur during the initial period of chronic fibrosis, ossifying periostitis.

As a result of the impact on the bone shell, the blood vessels burst, due to which blood enters the surrounding tissues. In the first hour of injury, inflammation begins, serous fluid accumulates, hyperemia, redness, cell infiltration begins. Later, the fluid is absorbed and normalized. In severe injuries, as a result of the release of large molecular protein and fibrinogen, serous-fibrinous fluid accumulates, which is absorbed if treated in time. In some cases, acute periostitis becomes chronic and can become fibrotic or ossifying periostitis.

Clinical signs. Palpation reveals the presence of a limited, hot, painful curdled swelling, and lameness is observed in the animal's legs.

Treatment. The animal is tranquilized, the affected area is treated with alcohol iodine, a cold and compressive bandage is applied on the first day, and then agents are used that allow fluids to be absorbed.

Purulent periostitis (Periostitis purulenta). It is characterized by purulent inflammation and forms an abscess under the bone crust, resulting in a fistula.

Purulent periostitis is caused by abscesses and phlegmons around the bone from injuries that go to the bone, and from open bone fractures, infiltration of microbes through blood and lymph in the inflamed area, purulent ostitis and osteomyelitis.

The disease can be mild or very severe. When it is mild, purulent inflammation occurs under the bone shell, cell infiltration is strong, swelling occurs, a lot of fluid is released, and an abscess appears under the bone shell. In small abscesses, the pus is absorbed and the defect is covered with granulation, bone tissue can be involved in the process and turn into ossifying inflammation.

Clinical symptoms. The disease is local and general severe. The tissues become tense, severe pain is felt, deep pus forms, and after the pus comes out, the animal's condition improves, and the bone surface becomes rough. The animal limps severely when walking.

Treatment. At the beginning of the disease, a short novocaine antibiotic blockade is carried out to limit the infection. An alcohol drying bandage is applied. Antibiotics are injected into the artery. With the formation of pus, it is opened and washed with a solution of moderate

salts or sulfonamides. After the operation, the dead tissue is removed with a curette. Anti-sepsis treatment methods are used in severe cases of the animal.

Fibrous periostitis (Periostitis fibrosa). The disease is characterized by the growth of fibrous connective tissue and develops mainly in the distal part of the legs (in the bones of the ankle, round and palm).

Ossifying periostitis is characterized by bone growth, the bone mainly grows from the bone shell. Bone inflammation starts from the bone shell and inside the bone.

Ossifying periostitis is caused by mechanical impacts, lat erosion, bone fractures, bone cracks, bone ligament ruptures, and abscesses and phlegmons in the surrounding tissues.

Ossifying periostitis is caused by inflammation of the shell of the bone and osteoplastic inflammation of the bone and is characterized by fibrosis first, then turning into a bone and then into bone.

Depending on the degree of ossification, hyperostosis is an extensive bone growth in which it grows on top of the bone, and may also resemble exostoses and osteophytes.

Clinical signs. A rough or smooth bone with a hard border is felt by palpation. Functional disorders depend on the level of ossification.

Treatment. The animal is released from work, local paraffin, ozokerite application is used. Acute irritant and caustic drugs are applied, alcohol solution of iodine or sulema is injected into exostoses, potassium dichrome ointment is applied to cattle once every 2 days, and deep burning methods are used. In some cases, a periostomy (removal of the periosteum with exastosis) is performed.

Bone necrosis (necrosis ossis) - death of bones. It is caused by purulent inflammations in different layers of bone tissue (purulent periostitis, osteitis, osteomyelitis), physical factors: frostbite, burns.

Depending on the development of the disease: complete necrosis and partial necrosis may occur, it may be superficial or deep.

As a result of a violation of deep blood circulation in the bone, that is, a thrombosis of blood vessels or a violation of the bone shell and intraosteal vessels, the metabolism in the bone is disturbed. The degree of bone necrosis depends on the size of the blood vessel. Depending on the degree of inflammation: it can be cortical, central and total.

Treatment. Necrotic bone is cut and removed.

Caries is characterized by the formation of a delimited small granular decay and ulceration on the bone.

It can appear as a result of acute and chronic purulent inflammation around the bone and in some cases as a result of complications of infectious diseases (tuberculosis, actinomycosis). In horses, bursitis, necrosis of the suprascapular tendon can cause the disease. Caries necrosis is a special type, which is purulent inflammation of soft tissues around the bone, especially in infectious diseases (tuberculosis, actinomycosis). It becomes inflamed for a long time, goes to the bone and damages the whole bone, and in some cases it also goes to the neighboring bones. That is why caries is called bone ulcer or bone erosion.

Treatment. Drainage channels are opened, dead tissue is removed, and a path is opened for pus to drain. Carious teeth are extracted.

Bone fractures.

Cuyak fracture is a partial or complete violation of the unity of bones. It is accompanied by damage to soft tissues as a result of various factors. These factors include bumps, falls, slips, sharp or sudden muscle contractions, and gunshot wounds. In addition, rickets, osteomalacia, osteodystrophy, hypovitaminosis, local diseases of bones, necrosis, caries, osteosarcoma, etc. are among the factors that cause bone fractures. In bone fractures, muscles and capsules are torn, and blood and nerve vessels are severed.

The origins of bone fractures are divided into two: congenital and acquired.

Congenital, i.e., antenatal, is caused by strong impacts on the abdomen from the outside or as a result of strong rhythmic contractions of the uterus. Contributing factors are osteomalacia, rickets, and others.

Acquired bone fractures can be during childbirth and postnatally: traumatic, pathological, spontaneous and physiological (senile osteoparesis, rickets, excessive lactation and improper nutrition).

Depending on the nature of bone fractures, they are open and closed, and open bone fractures are more dangerous. Fractures of several bones at the same time are called multiple fractures.

Fractures are divided into flat, tubular and round bone fractures depending on their location. Fractures in tubular bones are divided into epiphyseal, diaphyseal and metaphyseal. Bones are complete and incomplete depending on the degree of fracture.

Students study the clinical signs of fracture based on examination of the animal (observation, palpation, auscultation, walking). They master the methods of fracture fixation, splinting and plastering, treatment of open fractures and osteomyelitis.

## Topic 9: TREATMENT OF LOWER AND LOWER DISEASES.

The purpose of the lesson. Teaching students to diagnose serous tendovaginitis and bursitis and to differentiate their various forms and to treat them.

Equipment, tools and animals. A machine for fixing large animals, a rope, a table for fixing small animals, pictures showing the anatomo-topography of the flexor tendon sheaths of the fingers, pictures showing the clinical signs of acute serous tendovaginitis in the flexor tendons of the fingers, Cooper's scissors, Jane's syringe , 20-gram syringe, needles, needle, 3% solution of novocaine, 0.5% alcohol, 5% solution of iodine in alcohol, gauze, ice pack, clean test tube and sick horses and dogs.

The style of the lesson. The lesson is held in a surgical clinic or a veterinary treatment facility. Students in the group are divided into 3 subgroups, each of these subgroups is allocated one diseased animal for clinical and diagnostic examinations. For two hours, all small groups should alternately replace all sick animals and conduct clinical examination.

If it is necessary to treat sick animals with surgical or other methods, students will carry out these procedures under the guidance of the teacher.

Anatomo-morphological structure of the thigh and thigh sheath.

Ligaments consist of tough fibrous connective tissue. Collagen fibers are oriented parallel to each other and form bundles. They stick to each other due to collagenous mucous substances.

Between the primary bundles and the soft connective tissue there are lymphatic vessels, nerve endings and a small number of vascular capillaries. The secondary bundle is surrounded by soft connective tissue. The tertiary bundle is formed from the secondary bundle, which is surrounded by a soft connective layer. In thick tendons, the fourth set is formed from the third set.

The synovial sheath of the tendon surrounds the tendon part of the leg muscles and ensures the smooth functioning of the muscles. There are two types of shares:

1. The fibrous sheath of tendons surrounds muscle tendons and covers its outer surface with a membrane, forming a sheath.

2. The mucous bag of the hip sheath is a modified form of the mucous bag and has a rather complex structure. This muscle surrounds the entire area of the tendon and forms a long bag, inside which the tendon moves freely. Such bags are found in joints. For example, it is placed on the wrist and heel joints.

The mucous bag of the tendon sheath is divided into two sheets: a) the inner sheet directly wraps the tendon; b) forms the outer wall of the outer sheath. In some places, the mucous sheath merges with the joint and is called a synovial sheath, such sheaths surround the muscle of the wrist joint of cattle.

Mucous bag - (bursa) is a bag of connective tissue under the muscles that move a lot and rub during movement. Inside the bag is synovial fluid, which reduces muscle friction. Bags vary in size and function. Knowing the topographic location and structure of the bags is of great importance in surgical practice.

There are several types of bags depending on their location: subcutaneous, thigh and subcutaneous bags.

Depending on the structure, bags are simple-one-bag and complex-multi-bag.

Sprains and ruptures of ligaments

Stretching and tearing of tendons is more common in the distal part of flexor tendons of the fingers in animals. In horses, the rupture of flexor tendons is 44.8%, and in general, 3.7% of extensor tendons.

Factors that cause tendon rupture and stretching include mechanical effects, sliding, slipping, pinching of the legs, jumping over obstacles, as well as acute and chronic inflammations, degenerative changes in tendon tissues, tendovaginitis, arthritis, hypovitaminosis, rickets, osteomalacia, lack of protein, improper cleaning of hooves and hoofing.

Clinical symptoms. When stretched, a limited serous inflammation develops, a painful hot swelling appears in the groin, the animal often changes its legs when it is at rest. When walking, the animal limps a little, if it walks on hard ground, the limping becomes stronger.

When a joint is partially severed, the injured area swells due to aseptic inflammation, sudden pain and lameness appear, local temperature increases, and in some cases, the general temperature of the body may also increase.

It is difficult to determine the place of a partial rupture of the joint, when palpating, it is possible to determine the accumulation of fibrin in the place of the rupture.

When the leg is completely severed, it loses its function completely, suddenly there is a strong lameness, and the foot position changes. A swelling (hematoma) appears at the cut tendon.

## Topic 10: DISEASES OF THE HEAD.

The purpose of the lesson. Familiarity with clinical symptoms, diagnosis, treatment and preventive measures of diseases occurring in the head region.

Equipment, tools and animals. Diseased animal slides, skull, lower jaws with various damage with actinomycosis and tumor. For facial nerve paralysis and ear hematoma: 20.0-1 syringes, 3 syringes, 10% solution of sodium citrate - 20 ml, 3% novocaine - 60 ml, various animals with head diseases.

The style of the lesson. Due to the impossibility of getting acquainted with all the diseases related to this lesson, it is appropriate to consider several diseases that are similar to each other.

### Hematoma of the auricle.

30 minutes before the start of the lesson, the pig's tail is slightly cut, 40 ml of blood is taken, and 4 ml of 10% sodium citrate solution is added to it to prevent blood clotting. Then, 40 ml of prepared blood is sent to the inside of the auricle, between the skin and the eardrum.

When the animal is examined, the main attention is paid to the clinical signs of the disease (quickly formed swelling, absence of pain, normality of local temperature, hanging of the auricle, etc.).

Then, in order to diagnose hematoma, students differentiate hematoma from abscess, inflammation of the middle ear, and paralysis of the facial nerve from diseases with similar clinical symptoms.

Treatment. Depending on the course of the pathological process and clinical symptoms, students independently justify the treatment. In this case, the teacher explained that it is difficult and practically impossible to apply cold on the first day, that it is not advisable to suck clotted blood or cut a tumor (because blood flows out of a vein with a decrease in pressure), as well as

the accumulation of blood in the blood and lymph explains the impossibility of absorption due to the lack of blood vessels.

By the 5-6th day of treatment of hematoma above the ear, the tumor is properly cut and cleaned of blood clots, antiseptic drugs, more precisely, streptocid are sprinkled, then the wound is sutured, after 7 days, the wound threads are removed and the bandage is placed.

It is appropriate to use this treatment in dogs, but it is more difficult to use it in pigs when they are mostly kept in groups (cannibalism). Therefore, in pigs, the bandages are sewn to the top of the ear.

Palsy of the bet nerve

If there is no sick animal, then the disease is called artificially.

Students check the general temperature, breathing and heartbeat of a sick animal.

Factors that cause paralysis of the facial nerve in horses include: Acute and chronic in horses: mange, contagious pleuropneumonia, invasive diseases - trypanosomiasis, tumors in the brain, abscesses, hemorrhages, injuries (Fig. 1), as well as poisoning with poisonous plants and chemicals. will be If the above diseases are not observed in animals, local inspections are conducted.

If there is a unilateral paralysis of the facial nerve, then the lower lip hangs, the upper lip is pulled towards the healthy side, the nostril narrows on the paralyzed side (rhinostenosis), the ear hangs down and the upper eyelid closes (ptosis), and it is difficult to eat. (Figure 2)

When there is bilateral paralysis of the facial nerve, the lower and upper lip hang down, the nostrils are narrowed (rhinostenosis), the eyelids are half closed, the ears hang down, and it is difficult to take food. If the animal's bilateral nostrils are reduced, asphyxia is observed.

Depending on the clinical symptoms and the results of the clinical examination, the animal is mainly diagnosed and the factors causing the disease are studied (stroke, abscess, tumors, inflammation of the middle ear and parotid gland).

Treatment. Pathogenetic (novocaine blockade, tissue therapy), medication, physical treatment, and operative treatment methods are used for facial nerve paralysis. Usually, the above-mentioned treatment methods are used depending on the nature of the pathological process and its stages. If the nerve is severed, the wound is quickly surgically treated, the nerve is sutured to the surrounding tissue, and antibiotics are used to prevent infection.

In the period of acute and semi-acute inflammation of the peripheral nerves due to lat eating, stretching and other mechanical damage, it is appropriate to use a warm, heating compress, Minin lamp, paraffin and ozokerite therapy.

An isotonic solution of novocaine, veratrine, strychnine and sodium chloride is injected between the skin and muscle in order to reduce pain and stimulate regenerative processes.

## Topic 11: DISEASES OF THE CHEST

The purpose of the lesson. Examination of injuries in the chest area, identification of symptoms of injury complications (pneumothorax, hemothorax, rib fracture, shock, collapse), assistance in case of complicated and uncomplicated injuries, as well as differentiation of diseases of the abdominal area and to get acquainted with the ways of treatment when traumatic edema, bursitis, necrosis of scapular ligaments are observed, and measures to prevent the above diseases.

Equipment, tools and animals: pictures of pathological processes, a table of classification of diseases according to I. Ye. Povazhenko, 3 thermometers, 3 phonendoscopes, 3 plesimeters, 3 syringes of 10-20 grams, 20 injection needles, 3 needles, 3 surgical tweezers, 10 hemostatic forceps, 5 Cooper's scissors, reflecting glass, 5 scalpels, 3 metal plates, anti-shock agents and drugs for the treatment of collapse, iodoform, iodinol, ayatin or 5 percent alcohol solution of iodine, hydrogen peroxide, potassium permanganate solution, caffeine, lobeline, sulphocamphocaine, antibiotics, Vishnevsky, synthomycin ointments, collodion, gauze, bandage,

cotton, towel, sheet, sterile gauze, catgut, surgical silk threads of various numbers, animals with pathological processes in the chest and abdomen.

The style of the lesson. In this lesson, it is necessary to pay attention to the rules of first aid for an animal, its complications, and its severity. Penetrating wounds in the chest are provided with quick and two-stage care (before the doctor and with the help of the doctor). First aid is provided by farm workers (shepherd, operator, milker, etc.). For this, a veterinarian should teach them first aid when animals are injured. Students are divided into three groups and carry out the necessary tasks to provide first aid and treatment to a sick animal.

Task 1. Provide first aid when an animal has a wound that penetrates the chest.

First aid should be given to the animal as soon as possible. A 5 percent alcohol solution of iodine, iodosol, yodinol, ayatin is applied to the wound channel, gauze and a cotton bandage are placed, if it is not available, a clean sheet or towel is placed. First, the bandage is carefully inserted into the wound and tightly tied with a bandage or thread. After that, the animal is given peace and a doctor is called quickly.

Task 2. Development of a method of further care for a penetrating wound in the chest.

The person caring for the animal is asked about the circumstances of the injury and how the animal behaved before and after first aid. Without removing the bandage from the wound, the general condition of the animal is checked: body temperature, pulse, breathing are measured, mucous membranes are checked, the chest is auscultated and percussed. Through the results of the inspection, it is ensured that collapse and traumatic shock did not occur.

Clinical signs of traumatic shock may appear immediately after the injury or after a few hours, and in some cases even after a few days. It is characterized by a different transition. At the beginning of the disease (the first phase), the animal has a strong agitation, it tries to resist when it is fixed, it opens its eyes wider, its pupils are dilated, its breathing is accelerated, its pulse is fast, its eyes p sweats, frequent urination and defecation, muscle tremors, etc. In the animal, this state lasts for 3-5 minutes, then suddenly the animal falls into a state of injury (second phase).

In this case, there is a decrease in reflexes, muscle contraction, lack of response to pain, the animal is often lying down, less responsive to external influences, the conjunctiva and mucous membranes are pale, the pulse is weak: the body temperature is 1- decreases to 20, and the animal spontaneously urinates and defecates. If the animal is not treated in time, it will go into the paralytic stage of shock and cause the death of the animal.

In collapse, without strong agitation, the animal becomes generally weak, the pulse is weak, accelerated and thready, respiration is low, mucous membranes and conjunctiva are pale.

The general reaction of the animal is reduced, muscle tension is preserved.

With the help of the teacher, students begin to treat a sick animal.

After the animal is removed from the state of shock or collapse, or if shock and collapse are not observed in the animal, the animal is fixed and the bandage is removed from the wound. The wound is examined to determine whether it is a penetrating or superficial wound. The inspection is more detailed and faster. It is not possible to use metal probes in the examination of penetrating wounds in the chest.

## Topic 12: URINARY - DISEASES OF THE SEXUAL ORGANS.

The purpose of the lesson. Surgical diseases of the urinary and genital organs: balanoposthitis, acropostitis, phimosis, paraphimosis, paralysis, hematoma, tumors, lat eating, orchitis, epididymitis, clinical signs of inflammation of the urethra, testicles and gonads, differentiation and study of treatment methods.

Equipment, tools and animals: catheter, surgical instruments, surgical silk threads, syringes and injection needles, bix with sterile dressings, anesthetics and neuroleptics (500 ml of 10% chloral hydrate solution, rampun, aminazine 0.5 - 1 percent novocaine), antiseptics (potassium permanganate 1:1000, 3 percent hydrogen peroxide, Vishnevsky liniment, antibiotics

and sulfonamides), bulls, rams, horses and other animals infected with the above-mentioned diseases.

The style of the lesson. The lesson is held in the clinic, on the horse farm or on the cattle farm belonging to the department, with the isolation of sick animals in advance. Depending on the number of animals, students are divided into small groups of 3-4 people and receive separate assignments.

First, the animal is examined in general, then the pathological process is studied. The cause of the disease, clinical symptoms and similar diseases differ from each other.

Diseases of balanoposthitis, orchitis and epididymitis should be distinguished from infectious diseases with similar clinical symptoms, trichomonosis, vibriosis and brucellosis, which occur mainly in bulls and rams.

For examination and treatment of the genitals, the animal is injected with rompun or aminazine, or the genitals are anesthetized according to I.I. Magda in horses, I.I. Voronin in bulls and rams. When salt or stones remain in the urinary tract, a catheter is inserted, small animals are X-rayed, and if prostatitis is suspected, they are examined through the rectum. To diagnose hemotocele or hydrocele, the placenta is punctured and the fluid obtained is examined.

In diseases of the genital organs, the main focus should be on diagnosis, effective treatment and prevention during the beginning of the disease.

Students study the clinical signs of diseases of the urinary tract, urinary bladder, and stones in the urinary tract.

When there is a stone in the urinary bladder, in inflammation of the urinary tract, not only the quality of urine is impaired, but the animal has difficulty urinating or cannot urinate at all, the animal often repeats the position it takes when urinating, pain and colic are formed in the abdomen. .

In horses and dogs, lat eating of the genital organ and its sac is observed more often when mating with female animals. Bleeding, hematoma and swelling of the genital organ are observed.

Phlegmon of the foreskin is more common in animals with long and short foreskin and is mainly caused by a contaminated wound, wound and inflammation of the foreskin (acropostitis).

Inflammation of the foreskin causes pain, swelling, local temperature, the opening of the foreskin becomes smaller, and as a result, it becomes difficult for the penis to come out, and pain occurs when urinating.

The wool around the foreskin of bulls, rams and dogs gets stuck to the mucus formed by urine and inflammation, and ulcers appear on the mucous membranes. As a result of this, phimosis, that is, the inability of the penis to come out of the prepuce, or paraphimosis - the protruding penis cannot go back in due to the shrinking of the prepuce, in which the head and body of the penis swell. As a result of impaired blood circulation, the penis begins to swell, wounds and areas of necrosis begin to appear. As a result of paraphimosis, paralysis of the genital organ occurs, in which it hangs down on its own and does not rise up, the ability to feel is lost.

Tumors - fibropapilloma, fibroma, fibrosarcoma, melanosarcoma and carcinomas have been found to occur frequently in the genital organs of young bulls and horses. One of the effective methods of treating tumors is the operative method

Swelling, pain, local temperature during palpation, and in some cases a rise in general temperature are observed during inflammation of the testis and its appendages. With the help of palpation, it is possible to determine the softened place in one or more places of the testicles, and pus is removed during puncture.

The animal struggles to move, tries not to touch the inflamed testicles with its legs. Fluid accumulation, hematoma or tumors may develop in the diaper.

When there is a hematoma in the diaper, it increases in size, the skin becomes tense, and pain is felt when palpating it. Hematoma leads to the development of more purulent processes. In this case, orchitis, decay of the testicles and pus appear.

As the tumors grow, the testicles and testicles gradually enlarge and a painless hard swelling is formed. Dangerous tumors metastasize and cause the death of the animal.

Topic 13: Examination of foot diseases and operation on cattle toes.

.

The purpose of the lesson. To teach students the methods of sequential examination of the manifestations of pathological processes in diseases of the feet of animals.

Equipment, tools and animals: clamps for checking animal hoofs, hoof knives, wooden triangular pona for checking the hooves, tarpaulin bucket, syringes 10-20 g, injection needles, 50-100, 0.5 percent iodine solution, 0.5-3 percent novocaine solution - 300.0, denatured alcohol, hydrogen peroxide, cotton, bandages, tampons. Sick animals (horses, cattle, dogs, etc. with acute and chronic pathological processes).

The style of the lesson. Diagnosis of foot diseases requires consistent examination of anatomy, topography, static-dynamics, and good knowledge of diagnostic methods. Students complete the examination and diagnosis methods and write down the examination results in notebooks.

Before examining the legs, a complete anamnesis is taken: the time of the onset of the disease, the conditions of its occurrence, the observed symptoms of the disease, what changes occur in the animal before and after the onset of the symptoms of the disease; at the beginning of the disease, during the disease and at the end, at what level was the lameness; the treatment and its result should be answered, the animal's body temperature, pulse, breathing and condition of mucous membranes should be determined. After that, foot diseases are diagnosed using various methods.

Inspection is divided into 2 groups: general and private inspections:

a) physical - visual observation, palpation, percussion, auscultation;

b) functional methods - slow and active testing.

1. By observing (eye observation) the general condition of the animal, the location of the pathological process and its character, changes in footing, its size, shape, presence of deformation (change in shape), figure o Changes, cracks, injuries are determined and a preliminary diagnosis is made.

Depending on the location and nature of the foot diseases, the sick animal takes different conditions. He presses his foot forward, backward, outward or inward, sometimes on the tip of the foot (zasep), on the side wall, or on the back of the hoof. In this case, the position of holding the head also changes, in one-sided lameness of the front leg, when it is placed on the ground, the head is raised, and if there is a disease in the hind legs, the head is lowered.

If the abduction is in the thoracic legs, it is determined that there is inflammation in the back of the scapula and deltoid muscles, the outer iliac tendon of the wrist, wrist and finger joint, the outer wall of the hind leg, etc.

In the case of adduction, it is pathological in the subscapular and large round muscle, the scapula-shoulder joint, the inner wall of the hoof or the pelvis (fracture), the pelvic-hip joint, the mucous bag of the middle gluteal muscle. it is determined that there is a process.

If the foot is often raised, it is known that there are arthrosis, osteoarthritis and rheumatism in the hoof block on the skin of the hoof. Putting the front leg back is the result of inflammation of the back of the hoof, the biceps muscle of the shoulder, the front part of the hoof or hoof bone, flexor tendons and sheaths of the fingers.

2. Using palpation: sensitivity of tissues, changes in the skin - moisture, sweating, shedding of the skin, changes in tone, temperature, elasticity, skin thickness, presence of foreign matter, mobility, fluctuation , creaking, it is determined that it has grown together with the surrounding tissues. (Fig. 11,12,13)

3. Hard and soft tissue diseases are diagnosed with the help of percussion (horns, bone fractures, osteophytes, hoof bone fractures, subcutaneous eczema, bone fractures). Percussion is determined by comparing symmetrically located (diseased and healthy) sections.

4. Auscultation (hearing) - helps to hear the sounds coming from injured areas (hemoarthrosis, fibrinous arthritis, synovitis, bone fractures, gas phlegmons). He puts the stethoscope on the injured area and slowly moves the joints.

In special examinations (group 2) - it is appropriate to start the examination of the legs from its lower side.

Inspection of hoofs and hooves.

They are first cleaned and washed. Then, with the help of observation, palpation, percussion, auscultation and special tests, the arrow, the soft part of the hoof, the wall of the hoof, the circumference, tendons and bone of the hoof, the correct fit of the horseshoe, the nails, the shape of the hoof placed on the ground, deformation, presence of foreign matter, liquid leakage, injury are determined. Pain reaction and the location of the pathological process are determined with the help of examining hoof nails. With the clamps, it is necessary to squeeze slowly at first, and then increase the pressure.

## Topic 14: CLEANING AND TRIMING HOOFS.

The purpose of the lesson. To teach students how to cast animal legs correctly, determine hoof shapes, deformed hooves and hooves, teach methods of immobilizing animals in orthopedic treatment of hooves, introduce tools and equipment used in cleaning and trimming hooves. In addition, the training consists of introducing the equipment of the shoeing workshop and horseshoes, nails and tools used in shoeing.

Equipment, tools - equipment and animals: animal immobilization machine, rope, orthopedic devices, healthy and deformed hooves of animals, surgical instruments, bandages, horseshoes and nails, hoof knives, clippers, clippers, horseshoe hammer , ombur, hoof egovi and others. A table showing the topographical structure of the hoof, 5% iodine, 2% blue brilliant and animals (horse, cow).

The style of the lesson. The lesson is held in a surgical clinic, an educational farm, and a horse farm. At the beginning of the lesson, the teacher surveys the students on this topic for 10-15 minutes, checks their theoretical knowledge, and additionally explains the topic to them. Then students clinically examine healthy and deformed hooves and hooves.

A hoof is a skin product and is the last organ of a toe in animals. In the hoof, hoof ridge, hoof circle, hoof wall, hoof heel and hoof pad are distinguished. When the hoof is examined histologically, it consists of three main layers, the epidermis, the dermis, and the dermis.

The base of the hoof skin is light red in color and is best seen after the hoof horn capsule is removed. Epidermis forms the horn capsule of the hoof. After the horn capsule is removed, the base of the hoof skin is visible.

Hoof scratch.

0.5 cm in the part of the skin that passes to the hoof is a hairless area. Its back part joins the soft hoof. The upper part of the hoof is covered with a relatively thin, shiny substance. It promotes the growth of the outer shiny layer (glaze) of the hoof wall and reduces pressure on the woolly part of the skin.

Hoof circumference.

The hoof circle (gultoji) is located below the hoof ridge. The circumference of the hoof is well developed in horses, it is well visible after removing the capsule of the hoof horn, its thickness is 1-1.5 cm, and it is limited by a groove from the hoof tip. The hoof circle grows on the hoof bone at the expense of connective tissue and forms a pillow-like circle. The hoof ring ensures the growth of the horn layer of the hoof wall, acts as a shock absorber and protects the hoof joint from various injuries.

Hoof wall

The hoof wall is divided into front and two lateral and heel parts, the upper part of the horned hoof wall is near the hoof circumference, and the lower part is close to the heel. The outer surface of the hoof wall is shiny, and the main substratum consists of stratified horn layers.

The base of the skin of the hoof wall is attached to the hoof bone, and it is difficult to separate it even with a knife. It completely covers the top and side of the hoof bone. It has a lot of leafy plates, the upper surface of which is turned into a horn.

An ungulate has a twist at the back of its hooves, called corner folds at the heel of the hoof. These angular folds are absent in ungulates.

The wall of the hoof mainly protects the tissues located in the pit from various mechanical injuries. The hoof wall is a sheet-like layer on the basis of the skin, and the tissues located in the pit are firmly held by the hoof wall.

The palm of the hoof

The palm of the hoof consists of a tubular horn layer located at the bottom of the hoof, which is joined with the wall part of the hoof. They are united by the white line present in the cornea. In the horn part of the hoof heel, the body of the heel and the angles of the heel are different. (Figure 20)

The base of the skin of the palm of the hoof is firmly attached to the heel of the hoof bone. Its hooves are very long, and the outer surface forms a hoof palm. (Fig. 21)

In animals with a pair of hooves, it is difficult to distinguish the border between the palm of the hoof and the soft heel. In ungulates, the soft heel is body-shaped, and it is located between its sharp tip and the wall of the corner folds of the heel, therefore it is called a hoof arrow. (Figure 22)

Between the lateral part of the hoof arrow and the corner wall of the heel, a groove is formed on both sides of the arrow, and the horn-like block is damaged by foreign objects sticking into this groove.

## Topic 28: SHOOTING OF HORSES.

The purpose of the lesson. It consists of introducing students to the equipment of the shoeing workshop and the horseshoes, nails and tools used in shoeing.

Equipment, tools - equipment and animals: animal immobilization machine, rope, orthopedic devices, healthy and deformed hooves of animals, surgical instruments, bandages, horseshoes and nails, hoof knives, clippers, clippers, horseshoe hammer , ombur, hoof egovi and others. A table showing the topographical structure of the hoof, 5% iodine, 2% blue brilliant and animals (horse, cow).

After learning about deformed hoof shapes, students will get acquainted with the equipment used in hoof cleaning and shoeing, as well as the equipment of the blacksmith shop.

Hoof knife, ego and hoof storage are used to clean and trim the hooves and hooves of farm animals.

When the hoofs are trimmed, the overgrown part of the hoof horn is trimmed, and the hoof is given the correct shape so that the animals can place their feet correctly. Hoof trimming is also used to prepare the hoof. Improper hoove trimming will cause them to be shod incorrectly.

Hoof trimming in horses is performed in the following sequence, as in other animals: first, the horn layer of the hoof is cut, then the horn wall of the edge of the hoof and the pointer are cut.

First, the stratum corneum is cut with a hoof knife, during which the dead stratum corneum is removed. The horn layer is dry, when it is cut with a knife, it crumbles into layers, it turns gray. On top of it, there will be a "living horn layer" that is soft, flexible, does not crumble and can be cut quickly. This layer cannot be cut.

The horn wall of the edge of the hoof is cut with a hoof blade, leveled with a hoof knife and ego, which should be leveled in such a way that the hoof arrow, hoof wall, and the hoof should be on the same level.

After the hooves are straightened and trimmed, a horseshoe is placed on it. Equipment for shoeing and a shoemaker's workshop must be available. (Fig. 25, 26)

The blacksmith shop is far from other structures, and at the same time, it is built from construction equipment that is resistant to high temperature heat. The workshop is spacious inside, 4 m high, and the workshop consists of several rooms - a room with a furnace, a manger, a room for storing coal, a room for storing iron, a room for changing clothes, a washing room, and a motor for air exchange is installed. will consist of rooms. An asphalted walking track and a special place for tying horses will be built in the yard of the workshop.

In the room where the furnace is located, there is a blacksmith's furnace, a workbench, a clamp, a punching device, tools for making horseshoes, tools for cleaning the furnace, a device for placing finished horseshoes, a bucket of water, a box for coal and the first should be a help box. The size of the room should correspond to 12m2 for one blacksmith.

The floor in the furnace room is made of dry earth and is not covered with other equipment. Horses are mostly accepted in Manej. The size of this room is 12-15 m2 per horse, and its width should not be less than 6-7 m. Uneven asphalt is laid inside the room.

In order to shoe animals, you should have a mallet, a hoof knife, a barn, a key, a nail, and a horseshoe to turn the shoes. 13 (0;00;1;2;2,5;3;3,5;4;4,5;5;6;7;8) numerical standard shapes of horseshoes and 6 (4,5,6 ,7,8,9) will be digital standard forms. (Fig. 27,28)

When shoeing horses, horseshoes and nails are mostly made in the blacksmith's workshop. Hoofs are cut, cleaned and leveled before shoeing. After the hoof is ready to be worn, it is measured. According to the obtained dimensions, a new horseshoe is made in a blacksmith's workshop, or a ready-made horseshoe made in a standard factory is taken. Measurements in horseshoes are made using a ruler (pedometer) (Fig. 29) or a stick. The hoof is measured in 3 directions, the first being longitudinal, where the distance from the hoof hook to the corner of the heel is measured. The width of the hoof is measured from two places, the first is the widest place, the distance between the two side edges of the hoof, and the second is the distance between the corners of the heel. Based on these dimensions, the horseshoe is separated and the hoof is fitted. Measuring a shoe for a clean hoof is called fitting a shoe (Fig. 30).

This is considered the most basic process, in which the hoof is not adapted to the hoof, but to the hoof. If the shoe fits the hoof:

1. The horseshoe closes the hoof wall along its outer border;

2. The nail track and nail holes match along the white line;

3. The horseshoe protrudes 0.5-1 mm from the hook and side of the hoof, and 3-5 mm from the heel.

Adaptation of horseshoe to hoof is done in two ways: cold and hot.

Cold method. In this method, standard horseshoes are expanded, narrowed without heating

## Topic 15: TREATMENT OF CONJUNCTIVO-KERATITES OF THE EYE

The purpose of the lesson. It is to teach the students the anatomy, physiology of the eye of animals and the clinical signs of the disease observed in case of damage.

Apparatus, equipment and animals: horse, cattle, cow, dog skulls, eye model, drawings, pictures, diagrams, charts of eye anatomy, preserved and butchered animal eyes, scalpel, scissors, tweezers, 2 and 5 ml syringes with a needle, probes, histological preparations of the cornea, a microscope, etc.

The style of the lesson. The lesson is held in the laboratory of the department, first of all attention is paid to the complexity of the structure of the eye and the fact that it is one of the main analyzers. First of all, students enrich and strengthen their knowledge of eye anatomy using the necessary visual aids.

Under the guidance of the teacher, each small group studies what pathological changes occur in the eye material in various eye diseases.

Conjunctiva. The inner edge of the inner skin fold of the eyelid passes into the connective tissue of the conjunctiva and forms the conjunctiva of the eyelid and eyelid. The place that

passes from the eyelid to the conjunctiva of the eyelid is called the conjunctival dome, and the remaining slit is called the conjunctival sac. On the inner surface of the eye there is a small lacrimal gland, which is surrounded by a lake of small pits. The lacrimal gland is quite large in cattle and horses, and reddish in pigs, and there is also a sweat gland. The depth of the conjunctival sac varies in different animals. There are glands and lymphatic follicles in the conjunctiva. Inflammation of the conjunctiva is caused by mechanical, physical, chemical and biological factors.

- mechanical injuries - the effect of foreign bodies, the return of eyelashes; lids turning in and out, not closing, etc.

When parasites get into the conjunctival sac, they are not only iodine bodies, but also have a chemical effect.

- chemical factors - accumulation of large amounts of ammonia gas in cattle sheds, violation of air exchange, dusting when adding and dropping chemical fertilizers, improper storage of medicinal substances (alcohol solutions, sharp ointments, alkali) '

- physical factors - high temperature, ultraviolet and X-rays. In early spring, sunlight contains a lot of ultraviolet rays.

- biological factors - appearance of fungi and microbes when feeding with poor quality feed. Activation of existing microbes in the conjunctival sac when the resistance of the organism decreases or when the amount of lysozyme decreases in the tear. Mature and larval forms of Telasia.

Conjunctivitis can also be symptomatic. For example: distemper, influenza, catarrhal fever of cattle, chicken pox diphtheria. Conjunctivitis also occurs as a result of diseases of the protective organs of the eye (skin, eyeball, tear gland, cornea) and vice versa.

Classification of conjunctivitis: depending on the causes and nature of the exudate: aseptic or catarrhal, fibrinous, purulent and specific (in tuberculosis). Acute and chronic in course; superficial and deep depending on the depth of the process (parenchymatous or rather phlegmonous); Follicular conjunctivitis occurs when the follicles of the third eyelid are damaged in dogs.

The etiology of acute catarrhal conjunctivitis is given above. This disease is common in all farm animals. In this disease, the epithelial layer and basement membrane of the conjunctiva are inflamed. In the acute form, they are infiltrated with exudate and cellular elements, and in the chronic form, connective tissue grows there.

Clinical signs. In acute inflammation, blepharospasm is closing of the eyelids, that is, fear of light; from the inner corner of the eye, tears with a cloudy-mucous character are observed. The conjunctiva is reddened and swollen, painful, and the local temperature increases.

Chronic inflammation develops when the animal loses weight, ages (eyes droop), the amount of vitamin A decreases, and the activity of lysozyme decreases. It is much easier than in the acute form - the signs of fear of light disappear, the flow of tears is constant, but in small quantities, dark, mucous; conjunctiva is dry, not reddened, bluish in color, and veins protrude to the surface. If the disease continues for a long time, the eyelashes and eyelids will go back inside.

The consequence. Sharp shape is good. Chronic requires long-term treatment.

Treatment. As in catarrhal conjunctivitis, antibiotics and sulfanilamide drugs are administered in high concentration more often and for a long time. At the beginning of the disease, adding hydrocortisone and antibiotics to novocaine and retrobulbar blockade gives a good result. Ointments and liniments are applied with pain relievers. When the eyelid and the eyelid grow and stick to each other, they are cut and separated, to burn their surfaces, it is necessary to wash them with silver nitrate (lyapis) and then apply ointments.

Deep purulent conjunctivitis. The disease occurs mainly in the form of phlegmon of the subconjunctival tissue. It develops independently in case of injury, when the process passes through the tissues located on the surface, and in some infectious diseases.

Clinical signs. The disease affects both eyelids and is characterized by severe conjunctival swelling, dryness, cracking, and blood dripping from the surface. The conjunctiva becomes dark-reddish in color and is covered with pus. Later, abscesses develop. Phlegmonous process is accompanied by symptoms of purulent-resorptive fever.

The consequence. The process can be stopped at the stage of serous exudation. In the case of an abscess, the eyelid and the eye stick together. In severe cases, there is a risk of developing panophthalmitis.

Treatment. The principle of treatment envisages the use of etiopathogenetic therapy according to the stage of the disease. A peaceful environment is created for the animal. Antibiotic - novocaine blockade is used. The conjunctival sac is moistened with warm disinfectant solutions, antibiotic and sulfanilamide liniments and ointments are introduced into it. Abscesses should be opened parallel to the edge of the lid. Eye contact is prevented. It is forbidden to massage ointments in the area of the procedure, to inject hypertonic solution of sodium chloride under the conjunctiva.

7. Keratitis is the most common corneal disease. Even if there are no blood vessels in the cornea, an inflammatory process develops there. Inflammation is associated with inflammatory hyperemia of conjunctival, episcleral and pericorneal vessels and corneal vascularization.

Classification. Types of keratitis are aseptic, purulent and specific depending on the nature of inflammation; depending on the cause, allergic, neurodystrophic, special, traumatic; acute and chronic depending on the course; depending on the location, it can be superficial, deep or stromal and uveal.

Etiology. Keratitis can be primary under the influence of various mechanical, physical, chemical and biological factors, secondary in infectious diseases (canine and cattle plague, invasions). The anatomical location of the cornea causes an inflammatory process to occur on the part of the conjunctiva and the colored membrane.

General symptomatology of keratitis. Symptoms characteristic of all acute transient keratitis: first tear, and then discharge of purulent-mucous fluid, blepharospasm, pain, superficial or deep vascularization of the cornea, its surface is white-yellowish in various thicknesses. covering with a curtain, erosion; formation of wounds.

Superficial catarrhal keratitis is the mildest form of inflammation of the cornea, characterized by damage to the corneal epithelium and Boumenov's layer.

Clinical signs. Due to the displacement of the damaged epithelium, the outer surface of the cornea becomes cloudy. When the process is severe, several wide or numerous erosions develop. In addition, the above-mentioned signs are observed.

The result is good, and in some cases, the absorption of blurred areas lasts for a long time.

Treatment. First of all, the cause is lost. Local potassium iodide ointment or its 5-10% drops are used; V.P. According to Filatov, tissue therapy is performed around the cornea or retrobulbar novocaine blockade, antimicrobial drugs should be used to prevent suppuration.

8. Superficial purulent keratitis is formed as an independent disease after conjunctivitis, infection, and canine distemper.

Clinical signs. The main symptoms are characteristic of superficial catarrhal keratitis: hyperemia of conjunctival vessels, superficial vascularization of the cornea, fear of light, discharge of purulent-mucous exudate. Only the dullness is yellowish.

The consequence. Careful. A scar may remain in the inflamed area, and vision may be partially or completely impaired.

Treatment. Antimicrobial agents are used in various forms, novocaine and corticosteroid therapy are used at the beginning of the disease, and tissue therapy and potassium iodide ointment are used at the end.

### 3.3. Educational materials for laboratory training

Topic 1: TREATMENT OF ACUTE INFLAMMATION WITH COLD AND HOT TREATMENTS.

The purpose of the lesson. Considering inflammatory processes as one of the bases of general reactions of the body in surgical diseases. It consists of introducing students to the identification of clinical signs of inflammation and the use of cold methods and hot treatments (hydrothermotherapy) and other heating methods in the acute form of aseptic inflammation.

Equipment, tools and animals. Test tubes, glassware, paints for making smears; microscope, mixers and counting chamber for clinical blood examination, towels, charts showing the stages of inflammation, thermometers for measuring water temperature, ice, snow, water of different temperatures, bandages, clay, tarpaulin bucket and bag, 2 gauze bandages, one narrow and short, the other wider and longer, gauze, waterproof paper or tissue, cotton, gauze bandage, 70-96% alcohol (100-150 ml), degreased cotton and o sick animals undergoing acute aseptic inflammatory processes, horses, dogs, etc.

The style of the lesson. The training is held in a surgical clinic. The teacher provides information about inflammation and its types, and emphasizes the role of the nervous system in the occurrence, development and progression of inflammation.

It should be noted that inflammation is the basis of the pathogenesis of most diseases and is of great importance in determining the stages and periods of inflammation.

This process is mainly a reaction of cells and tissues against external and internal environmental factors, and is characterized by the general reactivity of the organism under the control of nerves and hormones.

In response to the impact of traumatic factors (biological, chemical, physical, etc.), inflammatory mediators (histamine, serotonin, vasoactive polypeptides - kinin, bradykinin, kalidin, etc.) are released from tissues, which affect smooth muscles, vascular permeability , affects nerve tissue and others.

At the initial stage of the first period of inflammation, under the influence of histamine and serotonin released due to the degranulation of tissue basophils, the walls of capillary blood vessels expand and their permeability increases. In the second period, the appearance of vasoactive prolipids is observed, which is associated with the participation of proteolytic enzymes. After the release of histamine, vasoactive peptides (bradykinin, kalidin, etc.) are formed, and proteases can affect the components of the blood vessel wall. Leukocyte proteases can destroy the vascular membrane. Canine dilates smooth muscle vessels and increases capillary permeability. As a result, swelling develops and severe pain occurs. Thus, in the initial period of inflammation, protein-specific substances are removed. These substances increase the permeability of the capillary wall and cause pain.

In the following years, it was found that the biologically active compound prostaglandins are of great importance. Among prostoglandins, such active substances have been identified, the increase or decrease of which stimulates smooth muscles or reduces their function. It affects the blood vessels and the nervous system, etc. They increase blood flow and increase pressure in small veins. Stimulates platelets and at the same time affects blood and membranes.

After the above information is explained to the students, they write the anamnesis information about the sick animal. They examine a sick animal with an inflammatory process and study the clinical signs of inflammation. General clinical examination methods are mainly performed on a sick animal in the first hour of the lesson. In this, the main clinical signs of inflammation are determined, namely, redness, swelling, local temperature, pain and dysfunction. If necessary, temperature, urine, blood and other indicators in the medical history are checked.

In all purulent inflammatory diseases, blood is taken and sent to the laboratory for examination, and in the laboratory the students examine the blood themselves. In the second hour of the lesson, students are divided into 4-5 groups for independent work and learn how inflammatory processes occur in different animals. In this, clinical signs are compared and

studied, diagnosis is made and differential diagnosis is made. In addition, chronic inflammation, acute superficial inflammation differs from deep, aseptic inflammation from purulent inflammation. At the same time, methods of using cold treatments in acute aseptic inflammations are studied.

Types of inflammation.

Inflammations can be depending on the formation of fluid: serous, fibrinous, purulent and putrid. In clinical practice, there are also mixed types of inflammation, examples of which are serous-fibrinous, purulent-putrid, and others.

Aseptic inflammations.

This type of inflammation always begins with redness, local temperature increase, swelling, pain, and dysfunction, and is characterized by the formation of serous, serous-fibrinous, and fibrinous exudate.

Serous inflammation.

Serous inflammation is observed in closed injuries, burns, after the use of various substances and contamination with less virulent microbes. It is characterized by the formation of colorless or cloudy serous fluid. Serous fluid consists of 3-5% protein, mainly albumin, vasogenic cells and cells separated from damaged tissues. If a large amount of fibrin is stored in the serous fluid, serous-fibrinous inflammation is observed. In some cases, serous inflammation can turn into purulent inflammation.

Fibrinous inflammation.

In joint diseases, fibrinous inflammation is clearly manifested in anatomical elements made up of tendon sheath, bursa and other synovial mucous and serous layers (pleura, inner layer of the abdomen, etc.). Clinical symptoms are similar to acute inflammation, except that there is creaking due to accumulation of fibrin in the area of swelling.

Purulent inflammation.

Purulent inflammation is mainly evident in animals with furuncle, abscess and phlegmon. Furuncle is an acute purulent inflammation of the wool core, sebaceous gland and surrounding tissues. When an animal infected with a furuncle is examined, swelling, local temperature, a hard consistency with a clear boundary like a walnut size in the pathological center, and severe pain during palpation are observed.

In the acute form, swelling is formed on the skin around the boil. A yellow-white spot appears on the upper part of the boil, and the upper layer of the epidermis thins. When the boil is opened, a creamy white-yellow pus comes out. When the pus gradually clears, a purulent necrotic tube-core can be seen in the middle of the swelling. Similar inflammations can be formed in the form of abscess and phlegmon. In this case, purulent and necrotic processes develop in the inflamed area and damage surrounding tissues.

Water treatment (hydrotherapy) means the application of water at different temperatures externally for the purpose of treatment.

It is used in the treatment of surgical diseases in the form of water, ice, snow and steam. Water below 50C is called ice water, cold water at 150C and below, cool water at 230C, indifferent water at 280-330C, hot water at 330-400C, and boiling water at above 420C. When a part of the body is cooled, blood vessels narrow and blood supply decreases, as a result of which blood flow stops, the development of inflammatory processes decreases, and the formation of inflammatory tumors slows down or stops completely. In addition, cooling reduces the conductivity and excitability of nerve tissue, resulting in reduced pain. Thus, cold treatments have a blood-stopping and anti-inflammatory effect. Cold procedures are used for intra-tissue bleeding and post-operative bleeding, acute aseptic inflammatory processes, osteophyte and soft tissue abrasions, joint, tendon and tendon sheath abrasions, as well as used in acute rheumatic inflammations of the hoofs and soft heel lat eats of horses.

Cold treatments cannot be applied to inflammatory processes that produce pus. In veterinary surgery, dry cold methods, Leiter tubes, cooling compresses, foot baths, and mud treatments are used as cold treatments.

1. Dry cold method. For this, ice or snow is placed in a rubber bag, a towel or gauze is wrapped over it to reduce the cold, and the treatment is applied for 2-8 hours with occasional breaks.

2. Leiter flute. This method is used to cool a larger area of the animal's body. A rubber or aluminum tube is wound in a spiral, and its spiral part is attached to the body of the animal. One end of the spiral is placed on the water pipe, and the other end is placed on the ground. After opening, the water passes through the tube and begins to cool the inflamed part of the body.

3. Cooling compress. A folded towel or gauze is soaked in cold water and placed on the inflamed area and tied tightly. The towel is changed depending on the heat, the higher the local temperature of the inflamed area, the faster the towel heats up. That's why it has to be replaced often.

4. Foot baths. This method is mainly used to cool the hooves and finger joints. For this, cold water is put in a tarpaulin bucket or bag, and the animal's foot is stuck in it, depending on the temperature of the water (5-10 minutes), the water is changed.

5. Clay treatment. At the same time, clay has a hygroscopic property of accumulating a lot of heat and spending it slowly. Cold clay absorbs heat from tissues more than a cold compress and does not heat up quickly. Thickly applied clay tightens the tissues, as a result, the blood vessels in the tissues are less filled with blood and tension. Soil is mixed with cold water to form mud, and 1 spoon of wood vinegar is added to 1 liter of water to increase cooling. The resulting mud is taken from the inflamed area and applied with a thickness of 1-2 cm.

Hot treatments include Prisnisev wrapping, heating compresses, alcohol heating compresses, hot compresses, hot baths and steaming methods.

1. Wrapping according to Prisnisev.

For this, two bandages made of konor should be taken, one of them should be narrow and short, and the second one should be wider and longer than the first one. A narrow and short bandage is soaked in cold water and lightly squeezed, then wrapped twice around the leg. A dry, wide and long bandage is wrapped over the wrapped bandage dipped in cold water. The outer layers of a dry bandage wrapped over a wet bandage should not be wet, because the dry layer prevents water from evaporating and this causes the compress to age slowly. The compress is changed every 3-4 hours. .

2. Heating compress.

A heating compress is a method used mainly against inflammation, in which pain decreases and absorption of infiltrates in the inflammation center is observed.

This compress mainly consists of 4 layers: the first, wet layer, directly touches the surface of the animal's body; the second, wet and air-tight layer; the third, heat storage layer; the fourth is the outer layer, which keeps the compress firmly. For the first floor, clean, soft water-absorbing and moisture-retaining fabric is taken. Basically, more towels, gray or 4-5 layers of gauze are used for this. The fabric of the first floor should be larger than the pathological focus.

For the second moist and air-tight layer, a paper towel or oil-soaked paper is used. The second layer should be 2-3 cm higher than the first layer on all sides. For example: the first layer is 8x8 cm, the second layer is 10x10 cm. Yellow cotton is taken for the third heat preservation layer, and it should be larger than the 2nd layer. For the fourth strengthening layer, gauze bandage is used, this layer serves to keep the upper three layers firmly in place.

The inflamed area is washed in warm soapy water and dried with a towel. Then 3 layers of compresses are prepared, in which the first heat-preserving yellow cotton is placed on the table, a wet and air-tight cloth is placed on it, then the gauze is dipped in cold water (12-15 oC) and compressed a little, and placed on the cloth will cry.

The compress prepared in this way is placed on the pathological focus, the wet gauze should stick to the pathological focus. The three layers are tied with a gauze bandage over yellow cotton to keep them strong.

After applying the compress, a local temperature reaction occurs on the hot skin in the pathological center, in which the surface vessels narrow for a short time and then expand. Between the skin and wet fabric, a layer of hot steam is formed and begins to heat up the pathological center.

The duration and extent of the local temperature reaction depends on the temperature of the water, the colder the water, the stronger the reaction. The compress is changed every 4-5 hours, during the change the pathological focus should be thoroughly dried with a dry towel.

It is recommended to take equal amounts of Burov liquid and water to prevent skin coagulation (maceration). If skin coagulation (maceration) is strong, the compress is stopped and a cotton bandage is applied to the skin with 5% potassium permanganate or zinc ointment.

Topic 2- USE OF PARAFFIN AND OZEKERIT IN THE TREATMENT OF SEMI-ACUTE AND CHRONIC Aseptic INFLAMMATIONS.

The purpose of the lesson. Introducing students to the methods of using paraffin and ozkerite used in the treatment of surgical diseases.

Equipment, tools and animals. Chemical thermometer for measuring the temperature of paraffin and ozokerite. napkin, sick animals undergoing semi-acute and chronic inflammatory processes.

The style of the lesson. After the teacher explains to the students the methods of applying paraffin and ozokerite to sick animals and their mechanism of action, students are divided into 3-4 small groups, under the guidance of the teacher, apply paraffin and ozokerite to sick animals. they learn

Paraffin therapy is used in semi-acute and chronic processes in closed injuries of bones and joints, slow-healing wounds, wounds caused by metabolic disorders, neuralgia - neuritis, tendovaginitis.

For the treatment of pathological processes, yellow and white paraffin are used, their melting point is 44-65 °C. White paraffin with a melting point of 52-55 °C is used for therapeutic purposes, because it tickles the skin and is a good compress. (compression) feature.

The therapeutic value of paraffin is based on its property of high heat accumulation and slow release of heat. The heat-giving property is 10 times less than that of water. Therefore, paraffin heated to 70-90oC does not cause burns on the skin.

When treating with paraffin, an enamel or aluminum blanket, a spoon, a 150oC chemical thermometer, a brush, cellophane, a piece of gauze, a bandage, an electric heater, and a water bath are used.

To use paraffin, paraffin is placed in a container, a chemical thermometer is placed inside the container, then the container is placed in a water bath and water is boiled, the paraffin is heated to 90-100oC, and the paraffin is used after cooling to the required temperature. Initially, paraffin heated to 65oC should be used, because the animal gets used to the heat quickly, then its heat can be increased to 85oC. To increase the healing properties of paraffin, 5% iodine or iodine is added before its use. Heating paraffin in a water bath prevents it from overheating and burning.

If a drop of water falls on the paraffin, it is heated to 120oC or until the water evaporates, otherwise it can cause skin burns. Paraffin sterilized at 110-120oC for 20-30 minutes is used to treat the wound. Used paraffin can be reused only if it is sterilized for 30 minutes at 120-150oC and passed through a gauze, and new paraffin is added to it in the amount of 10-15%.

The wool of the place where paraffin is used for treatment is scraped with scissors, then thoroughly washed and definitely dried. It is advisable to use a hair dryer for drying.

Before treating open wounds with paraffin, the liquid in them is absorbed using gauze.

In most cases, paraffin treatment is carried out in the form of paraffin application, paraffin - gauze application and paraffin bath methods.

1. Paraffin application.

65oC paraffin is thinly applied to the skin of the pathological lesion, after a while the paraffin hardens to form a thin crust, and then a second layer is applied over it. paraffin is applied, a cloth is placed over it, and then a warm cloth is wrapped and tied with a bandage.

This method is mostly used in the treatment of small animals. The disadvantage of this method is that the tissues located in the pit are not heated.

2. Paraffin - gauze application.

First, 5-8 gauze napkins of the required shape and size are cut, and they are dipped in heated paraffin in an enamel pan. 2-3 layers of paraffin are applied to the skin of the pathological lesion with a brush, then the napkins soaked in paraffin are taken to the tissue with tweezers, lightly squeezed and placed on the pathological lesion smeared with paraffin in layers.

A bandage is covered over it, a warm cloth is wrapped over the bandage, and it is tied with a bandage. In this case, paraffin application can be left for 45 minutes or 1 day.

This method is used in the treatment of a large area of the body (legs, thighs, and buttocks), where paraffin can heat the tissues, but they are not affected by compressive compression. In all methods of treatment with paraffin, the limit of its application should cover not only the damaged area, but also the surrounding healthy tissues to a certain extent.

## Topic 3: USE OF ACUTE CAUGHTING OINTMENTS AND LINIMENTS IN THE TREATMENT OF CHRONIC Aseptic INFLAMMATIONS.

The purpose of the lesson. To acquaint students with the technique of using acute tickling ointments and liniments used in the treatment of chronic aseptic inflammations and the mechanism of their effect on the body.

Equipment, tools and animals. Scissors, soap, towel, gauze bandage, shoe brush, rubber glove, razor, warm cloth, 1, 10-20% alcohol solution of iodine, xeroform ointment, volatile liniment, red mercury ointment, yellow mercury ointment, gray mercury ointment , animals undergoing semi-acute and chronic inflammatory processes.

The style of the lesson. At the beginning of the lesson, the teacher explains the effects of tickling ointments and liniments on the animal body and the methods of their use, then the students are divided into 3-4 small groups and apply these methods to sick animals under the guidance of the teacher. they learn by doing.

The healing properties of pungent tickling ointments and liniments are that when they are applied to the skin and then massaged, the medicinal substances are absorbed into the skin and tickle the nerve receptors. As a result, the blood vessels expand and the inflammatory process changes from chronic to acute.

Acute tickling ointments and liniments are mainly used in chronic tendovaginitis, myositis, arthritis, ossifying and fibrous periostitis and bursitis.

Before applying sharp tickling ointments and liniments, the wool of the inflamed area is cut with scissors, then shaved with a razor. The place where the wool was taken is washed with warm water and soap and dried. Then it is wiped with ether or camphor to improve the absorption of ointments and liniments.

A small amount of sharp tickling ointment is applied to the inflamed area and rubbed thoroughly by wearing rubber gloves, if the pathological focus is large, it is rubbed with a shoe brush. If the applied ointment or liniment is absorbed, the ointment or liniment is applied and rubbed again, this process should last 10-15 minutes, then a warm cloth is wrapped in the place where the ointment was applied and tied with a bandage.

Ointments and liniments are effective in the treatment of chronic inflammatory processes, if they are used together with thermocautery.

To do this, the chronically inflamed area is covered with a pointed or band-shaped thermocautery, red mercury ointment is applied to horses, two-chrome ointment is applied to cattle, it is rubbed well and tied with a hot bandage.

Red mercury ointment is not applied to the flexor part of the joint, if the skin breaks, it will be difficult to heal.

In addition, in the treatment of chronic aseptic inflammations, pyrogenal and turpentine mixed with peach oil in equal amounts and injected under the skin gives good results. At the same time, white mercury ointment, gray mercury ointment, yellow mercury ointment, red mercury ointment, two-chrome ointment, xeroform ointment, volatile liniment, 10-20% iodine alcohol solutions and others are widely used.

1. White mercury ointment. This ointment is mainly considered as an average tickling agent, and its 1-5% ointment is used to increase inflammation.

14.Rp.: Unguentum Hydrargyri albi 5% -25.0

D.S. It is applied to the inflamed area of the skin.

2. Gray mercury ointment. The ointment contains up to 30% mercury, this ointment is mostly used for skin parasitic diseases. It can also be used in the treatment of inflammatory processes.

15.Rp.: Ung. Hydrargyri cinerei 30 % - 10.0

D.S. It is applied to the inflamed area of the skin.

3. Yellow mercury ointment. This ointment is mostly used in the treatment of eye diseases such as blepharitis, keratitis, and conjunctivitis. Applying to the skin is also recommended in the treatment of inflammation.

16.Rp.: Ung. Hydrargiri oxydati flavi 2% - 5.0

D.s. It is applied to the inflamed area of the skin.

4. Red mercury ointment. It is considered an ointment that has a strong effect on chronic inflammations and has strong tickling properties. That is why this ointment is mostly used in horses. Ointment is used in 5 and 10% forms.

17.Rp.: Ung. Hydrargyri bijodati rubri – 10% - 15.0

D.S. It is applied to the inflamed area of the skin.

5. Two-chrome ointment. It is mainly used for chronic inflammation in cows.

18.Rp.: Ung. Potassium bichromic 10%-40.0

D.S. It is applied to the inflamed area of the skin.

6. Xeroform ointment. This ointment is used for eye and skin diseases. 3% ointment is used for eye diseases, 10% ointment is used for skin diseases. 10% xeroform ointment is also used in the treatment of more chronic inflammations.

## 4 - Topic: TISSUE THERAPY.

The purpose of the lesson: to teach students the use of stimulating therapy in the treatment of surgical diseases: tissue therapy according to V.N. Filatov and N.I. Krauze, and the use of antireticular cytotoxic serum (ASZ) according to A.A. Bogomols.

Equipment, equipment, animals. Prepared tissue preparations (aloe extract, FIBS, etc.) skim milk, antireticular cytotoxic serum (in vial), 0.9% physiological solution, 4% sodium lemon solution, 1% novocaine, iodine solutions, 2 % chlorocid solution, surgical instruments, syringes, ligature and sewing equipment, animals (3-4 heads).

The style of the lesson. The lesson is organized in the conditions of the laboratory and the clinic of the department. The teacher explains the environment of stimulating treatment methods at the beginning of the lesson, assigns tasks to the students and monitors their implementation during the lesson.

Preparations made from animal and plant tissues have the ability to biostimulate the body. For the first time in 1930, MP Tushnov developed and offered organoleptic paraparts-lysates. Lysates contain high molecular proteins, peptones, polypeptides, amino acids, histamine, choline, phosphatides and other hormones. N.I. Krauze suggested treating the wound process with the method of transplanting (implantation) after preservation of skin and other tissues in 2% chloracid.

In tissue therapy, the trophic function of the nervous system, adrenal gland, and pancreas are improved. Adrenocorticotropic, corticosteroid hormones increase, gastrointestinal secretory and motor, reticuloendothelial (RES) functions increase, regenerative processes, breathing, heart activity, blood index, wound fluid environment (rN) normalize, pain symptoms decrease, agglutinin titer, complement-binding substances increase in blood serum. Enzyme activity is restored, general condition and appetite increase. For the purpose of treatment, the preserved animal tissues: spleen, liver, kidney gland, blood, liver, abdominal wall, pupil, vitreous body, eyeball and sperm are taken.

The technique of preparation of tissue preparations. Parenchymatous organs (liver, spleen, kidney, testicles, etc.) and embryonic tissues of various animals are taken in a clean state, placed in sterilized glass containers, stored in a refrigerator at a temperature of 2-40 for 5 days. Preserved tissues are washed with boiled water, weighed, ground (in a meat grinder) and placed in a homogenizer, gradually adding physiological solution (2-3 ml per 1 g of tissue). The prepared tissue fluid is kept at room temperature for 2 hours, then in a water bath at 60-800C for half an hour. Then it is passed through 2-3 layers of gauze, put into ampoules or glass vials, closed and sterilized in an autoclave at 1200C for 1 hour. To check the purity and activity of the prepared tissue fluid, use 0.05-0.07 ml/kg of body weight for cattle (20-25 ml for one injection), 0.1-0.2 ml/kg for pigs and dogs. per weight, 0.5-1 ml is injected subcutaneously once.

1. Filatov V.P. preparation of extract from animal tissues according to the method.

Tissues preserved at a temperature of 2-4 oC are crushed in a homogenizer, and physiological solution is gradually added in a ratio of 1:10. After keeping the prepared tissue fluid for 2 hours at room temperature, half an hour in a water bath at 60-800C, it is boiled for 2-3 minutes, first it is passed through degreased cotton and then filter paper. After the liquid is placed in ampoules, it is sterilized in an autoclave at 1200C for 1 hour.

2. Filatov V.P. preparation of extract from plant leaves according to After preservation of plant leaves in dark rooms at 6-80C for 12-14 days, they are washed with water, then crushed in a homogenizer and physiological solution is added in a ratio of 1:4. The prepared solution is incubated at room temperature for 2 hours, then evaporated in a water bath at 60-800C for 1 hour. The solution is boiled for 2-3 minutes and passed through filter paper. After placing the finished liquid in ampoules, it is kept in an autoclave at 1200C for 1 hour. The extract is injected under the skin in the dose mentioned above. The injection can be repeated after 3-5 days. The extract can also be applied moistened with tampons to treat wounds.

3. Krause N.I. preparation of tissue preparations. Pieces of tissue are placed in wide-necked glass containers filled with freshly prepared 2% chloracid solution. The solution is changed daily for the first 2 days, then once every 2 days. After 5-6 days, the tissue will be ready for implantation. 5-10 minutes before implantation (tissue transplantation), the tissue is placed in a physiological solution and wrapped in a 4-layer gauze, and the excess liquid is squeezed out.

Implantation technique.

An 8x8 cm surgical site is prepared from the side or other part of the animal's neck, and a 1% novocaine solution is injected under the skin to anesthetize. Using a scalpel, the skin is cut 2-3 cm long, and a pocket is formed under the skin 5-6 cm deep using Kocher tweezers. Bleeding is stopped, 1-2 pieces of tissue are placed in the pocket, and then the skin is sutured or an adhesive bandage is applied.

Autohemotherapy is a type of stimulatory treatment, multifaceted effect on the body increases metabolism and immunobiological reactivity of the body. In horses and cattle, blood is taken from the jugular vein. For this, the operating field is prepared, a 5% solution of sodium lemon is added to a sterilized flask in a ratio of 1:10 (to prevent blood clotting) and blood is taken. The obtained blood is injected subcutaneously or between the muscles (in the desired part of the body) in the amount of the first injection of 25 ml, the second - 50 ml, the third - 75 ml. If 2% novocaine is added to the blood in an equal amount with a physiological solution, phagocytosis increases, RES tissue development, healthy granulation tissue growth accelerates, scar formation and epidermization process improves.

In addition to autologous blood, freshly obtained or preserved homo and heterogenous blood at 2-40S can be administered within 2 days. 0.03-0.05 ml/kg body weight can be injected subcutaneously after 3-4 days. To prevent anaphylactic shock, a 1% chloramine solution is added to heterogeneous blood in a 3:1 ratio, or the blood is hemolyzed in distilled water.

Lactotherapy - injection of skimmed milk under the skin. Defatted and boiled milk is cooled to body temperature and injected under the skin 3 times with an interval of 48 hours (break) in increasing amounts of 25, 50, 75 ml for large, 5, 10 and 15 ml for small animals.

12.1. Rp.: Novocain 1 % - 30.0
D.S. For local anesthesia
#
12.2. Rp.: Sol. sodium chloride 0.9% - 100.0
D.S. For mixing into ground textures
#
12.3. Rp.: Sol. sodium chloride 2% - 100.0
D.S. For tissue conservation

## 5-lab class.
## Thermal and chemical damage

**The purpose of the lesson.** To teach students to differentiate different levels of burns (comparative diagnosis), to determine the necessary treatment methods and its implementation.

***Equipment*** **, tools, animals.** Scheme of classification of burns, pictures and photos of burnt animals slides. Thermometers, scalpels, tweezers, scissors, needle holders, needles, syringes, fasteners, glue, tape measure, cellophane, 5% iodine solution, 1% novocaine, 0.5% narcotic alcohol, 1: 1000 rivanol, 5% diamond blue, 5% potassium permanganate, 96 $^{0}$alcohol, streptoside powder, antibiotics, Vishnevsky ointment, serums used in the prevention of burns: polyglucin, rheopolyglucin, etc., sick animals horse, cattle and dog.

**Course style.** It is recommended to conduct the course in an animal kept in inpatient or outpatient treatment.

At the beginning of the lesson, the teacher asks the students about the topic covered. He then begins a new topic, explaining the causes of burns, the degree of clinical signs, and treatment measures. Students collect anamnestic data of sick animals and fully study the pathological process. They then determine the degree of burns by comparing clinical signs, area, degree of tissue damage, and differences in burns.

In horses and cattle, the characteristic features of secondary burns are not completely found. In dogs, bubbles are clearly visible.

By comparing the clinical signs of thermal and chemical burns, the general effect of burn injury on the animal's body is determined, and its consequences are determined depending on the degree and area of the burn. The animal's temperature, pulse, and respiration are measured.

Based on clinical examination, the diagnosis and outcome of the disease are determined and treatment is prescribed. If necessary, necrotic (dead) tissue is removed (necrectomy) and skin transplantation (skin grafting) is performed.

Injury to the skin and deep-seated tissues under the influence of high temperatures and chemicals is called burns.

Burns are divided into:

1. Thermal
2. Chemical
3. Thermo-chemical
4. Under the influence of light

Thermal burns are characterized by dry necrosis of tissues . Chemical burns ( kollikvasion ) or dry ( wet tissue koagulyasion ) is characterized by nekrozlanishi . Burns with local influence on the overall changes that the body burns patients .

Thermal burns weight , factors affecting the duration and the size of the damaged area and at the same time due to damage to tissues . How much damage to the area , local and general changes can be so powerful .

***Thermal burns and its treatment .*** Sports shed more light burns , the less emphasis noq the influence of liquids and vapors . Depending on the depth of the burn , Kreibix divides it into 5 levels and BM Olivkov into 4 levels . As a result of the clinical and morphological studies can be divided into 5 degrees , it is possible to determine the severity of disease and the treatment of the animal .

*First* degree burns , pain , injury to the upper layers of the epidermis and is characterized by skin tumor to be evident . The effect of the fire , which burned hair into a mass ko'mirsimon , 1-2 mm thick hair under the skin will be saved .

*Second* degree burn pain observed in the skin , the epidermis, floors and so'rg'ichsimon layer of the bowel . The influence of steam, water and other liquids chuchi and burns , the skin in dogs of different sized bubbles before colorless or yellow , then loyqasimon , bubbles in the serous fluid accumulates . Horse and cattle , animals bubble occasionally occurs . If the bubbles burst , ulcers will be in place , if it is contaminated with germs and cause serious complications .

*In third* - degree burns, all layers of the epidermis and the suction layer become dry necrosis . In the burn caused by the flame , the wool , the epidermis completely turns to charcoal , the mammary layer and some parts of the epithelium of the wool bulb are necrotic . After the burns , skin kauchuksimon konsistensiyaga , subcutaneous tumor kletchatkasida .

*Fourth* degree burns coal burned into the skin , wool nekrozlanadi , subcutaneous , Fassi , even above the muscles nekrozlanadi . Gradually, the skin and deep tissues of the tumor is formed .

*In the fifth* - degree burn, all the soft tissue , even the bone , turns to charcoal . This degree burns mostly because the region is observed in soft tissue attached to the bones of the head region . Precious , limited the treatment of burns .

Local acute inflammation develops as a result of burns . The first and second degree burns serous and sero-fibrinous inflammation develops .

In tertiary burns, purulent demarcation inflammation develops and granulation under the dead tissue grows very slowly (up to 100 days ). First degree burns even if the burn area of 10% or more powerful than the body intoksikasiya .

***Burned area measurement technique .***

Burnt areas , the polyethylene film has been driven by alcohol and burn him on the field . ( BNPostnikov ) solution pioktanin stick with burns, drowned in the area to the boundary line , and then pleyonka millimeter paper is determined to put the area .

If a large area is burned, it is measured using a ruler . Then compare it to the area of the body , determined by the width of the burn area ( average : 6%, compared to implants in the upper part of the neck , Withers neck , shoulder 17% of cereal, choose the underground , 'crackers and 20% of the abdomen, the back of the front legs 15%, and 22% of cereal- feet around the sex organs -4%).

***Treatment of thermal burns .***

The third and fourth-degree burns with more than 10% of the area of the body of the animal is damaged , it is not economically feasible to treat the remaining cases, treatment should be comp rehensive .

*Local treatment* . First of all analgesic drugs : novocaine blockade , under the skin in large animals aminazin 0.5-1 mg / kg body weight , dimedrol 0.3-0.8 mg / kg; Small animals aminazin 2.5 mg and dimedrol 0,02-0,03 mg .

Local cold method is also used for soda, cold water mixed with boric acid , tannins , it is put together . Burn the place to mitigate the 0.5% mintol panel ointments , petroleum jelly and zinc-jelly mixture is applied . Place on a regular basis should be moistened with alcohol .

The more bubbles , the needle in the liquid , and the bubbles are absorbed into the 1-1.5 ml of 5% 5% novocaine efidrin added 0.25% and kanamycin . Lighting blisters on spirt- ether , iodine-fuel driven for a long time they are washed with a 5% solution of potassium permanganate ( 10% instead of tannins in water solution , 2% solution of methyl alcohol , 3% of SMEs recognized Calls llash possible ). After the removal of necrotic tissue powders , kseroform , dermatoses , streptosid , penisillin , Vishnevsky oint ment , sintomisinli fish oil emulsion , and others may be used .

***General treatment.*** In order to prevent burn-in shock forming blood vessels subcutaneous , intravenous morphine, 10% sodium bromide , or 0.5% novocaine to caffeine .

In order to replenish blood plasma, to prevent intoxication, polygyukin and reopoliglyukin are administered intravenously in large animals 3000-4000 ml, in small animals 300-400 ml; sent daily or every other day.

To eliminate acidosis, 4% sodium bicarbonate (1000-2000 ml) is injected intravenously into large animals twice a day.

In order to prevent sensitization, intravenous administration of 30% sodium thiosulfate 50 ml in large animals and 3-5 ml in small animals gives good results.

***Chemical burns.***

Occurs as a result of acids, alkalis, quicklime, heavy metal salts falling on the animal's skin, mucous membranes. The stronger the concentration of the chemical and the longer the exposure time, the deeper and heavier the burn will be. Acids cause coagulation in proteins and cause dry necrosis of tissues. Alkalis dehydrate the cells, dissolve proteins, and cause collicution necrosis.

Treatment should be aimed at removing chemicals or reducing their concentration. It is necessary to first wash with cold water, then neutralize the chemicals. 2-3% of the acids pushed alcohol , 5-10% of baking soda , milk , spraying chalk or gray . Alkaline and weak to repay lime solution , 2% acetic acid , lemon or boric acid neutralizing .

***Thermochemical burns .***

Termokimyoviy burn high temperature also has the ability of these compounds, together with a strong poison . F the structure of osfor and phosphorus preservative burning of the skin as well the body exudes a strong call intoksikasiya . Make sure you have a thick skin , painful bark , long cause ulcers .

Fire in the treatment of water or 5% copper sulfate , chloride of lime or 1: 2 ratio with a solution of water will be deleted .

In the absence of the above , it is necessary to wipe with ordinary fine sand . Then the animal is taken to clean the skin , hair , skin removed and the residual toxic substances or treated with a solution of copper sulfate and lime treated as thermal burns .

## 23-practical class : JOINT DISEASES

**The purpose of the lesson.** To teach students to identify joint diseases and make differential diagnosis (comparative diagnosis) and methods of their treatment.

**Equipment, tools and animals.** Pictures depicting various joint diseases, pathoanatomical museum drugs (ankylosis, ossifying periarthritis, deformed arthritis, etc.), Cooper scissors, syringes (20 grams) and needles, bandages, cotton swabs, 3% chlorinated acetic k slots, 3% solution, 0.5% pushed alcohol, 5% solution of iodine in alcohol, ice, cold water, fixenal instruments, experimental sick cattle animal, horses and sheep .

**Course style.** At the beginning of the lesson the anatomo-morphological structure of the joints of farm animals and diseases of the joints are explained. The course is conducted in a surgical clinic or veterinary treatment facility. Students in the group are divided into small groups according to the number of sick animals. Each small group, in turn, clinical trial, and diagnosis of sick animals and diseases of the joints of each differe c vaccine, and diagnostic testing. Special attention is paid to the work carried out at the department in the treatment of joint diseases.

Surgical arthropuncture and treatment procedures are performed by students under the guidance of a teacher.

At the joint, two or more bones are said to be mutually mobile joints that fit together.

The joints are divided into the following depending on the fusion of the bones.

1. Simple - 2 (finger bone, shoulder, elbow and tos- pelvic Bo ' spouse ) .
2. Complex - consists of several bones (knee, wrist joint, etc.).

Depending on the movement of the joints are divided into the following types.

1. One axis.
2. Two-axis.
3. Multi-axis.

The main elements of the joint: epiphyseal and metaphyseal ends of bones, joint joints, joint fibrous capsule, ligaments, synovial layer, synovial fluid, nerve, blood and lymphatic vessels, periarticular soft tissue.

The joint capsule is a direct extension of the bone marrow and consists of two layers:

1. Outer fibrous layer
2. Synovial layer

The joints of the anterior and posterior leg bones perform the following movements: flexion, extension, transmission, assembly, twisting, and rotation.

***Classification of joint diseases:***

According to Shakalov KI:

1. Bo'g'imningyo accompanied by acute and chronic traumatic shock aseptic diseases : injuries, GE martroz, for a long time, bound in the menu, sinovitlar (serous, fibrinous serroz , fibrinous) para and periarticular fibrosis, periarthritis, contractures.
2. Open (traumatic) injuries of the joint .
3. Purulent joint diseases : synovitis, capsular phlegmon, arthritis, osteoarthritis, paraarticular f legmona, putrefactive arthritis and panarthritis .
4. Special acute and chronic become contagious and infectious-allergic joints Gallo l seek to: brucellosis, rheumatism, paratifoz.
5. Chronic exudate s i z joints Gallo l seek to: deformasiyalonuvchi arthritis (osteoarthritis), suyaklashuvchi periartrit, arthrosis and ankiloz .
6. Toxic-allergic joint diseases introduced by the department.

***Examination and treatment of animals with arthritis.***

H Animal registration, anamnesis collection, and general examination (temperature, pulse, respiration) are followed by examination of the joints at rest and during movement.

***Acute serous synovitis of the calf joint.***

Horses do not fully lean on their next leg, holding it in a semi-bent position and leaning lightly on the tip of the hoof. Palpation of the joint area reveals the presence of a limited, hot, and painful fluctuating tumor. A lighter or heavier base is observed when moving.

Dogs do not lean on the patient's leg at all, and when the joint is examined by passive movement, a sharp protective reaction is observed.

This disease is differentiated from chronic serous and purulent synovitis, purulent arthritis, joint empyema, capsular and paraarticular phlegmon. To do this, an arthropuncture is performed in the joint, the necessary operating area is prepared, and 5 ml of fluid is taken into 2 clean test tubes using a syringe and needle. At the same time, fluid (color, consistency, elongation, viscosity) is examined by taking fluid from a healthy joint for comparison. The synovial fluid from the diseased joint is more fluid in consistency, turbid, less elongated, and less viscous. Add 5% trichloroacetic acid (1 ml) to the points and mix lightly. In a fluid from a healthy joint, a floating fluid clot is formed in the solution, and in a fluid from a diseased joint, the fluid clot settles under the test tube. The diagnosis is made on the basis of the obtained data.

***Treatment.*** Peace, blockade with the addition of hydrocortisone to novocaine, compression bandage, cold, after 2-3 days a warming compress, paraffin application, followed by massage, absorbing ointments, tight bandages are applied to the joint.

***Purulent synovitis .*** Purulent inflammation of the synovial membrane. Lat is caused by eating, bruising and other mechanical injuries. In addition, this process sepsis, postpartum infections, nasal , Paratii, omfaloflebitda development.

Inflammatory tumors develop in the synovial layers with microbial infiltration. Obvious hyperemia, swelling of the synovial nipples, hyperplasia are observed. Tumors also occur in the fibrous layer of the capsule and in the paraarticular tissue. The synovial membrane has a yellowish, velvety appearance. Collateral edema develops in the paraarticular tissues. Subsequently, large numbers of leukocytes, lymphocytes, and erythrocytes are observed in the joint capsule. A large amount of purulent exudate accumulates in the joint cavity. The amount of hyaluronic acid and mucin is sharply reduced. The environment is acidic PN 5.2-

6. The anatomical disorder of the uncle is not observed. Toxins are absorbed and purulent-resorptive fever develops.

Joint pain, local temperature rises, bulges tighten, blurred yellow exudate flows in the wounds, lameness increases when the animal moves. The leg is in a semi-bent position. Fluid accumulates in the joint capsule, resulting in enlargement of the joint , resulting in the development of empyema.

At the beginning of the disease, the diagnosis is determined by examination of the point. As for the solution of 5% or 10% with three 2-3, 3-5 ml of acetic acid, and the chlorine is added to the drop point. If the joint is diseased, the inserted puncture coagulates, breaks into small pieces, and sinks to the bottom of the vessel.

***Treatment.*** It aims to prevent the development of infection and limit the process. Novocaine blockade method , antiseptic therapy, the main blood vessels novocaine to antibiotics. Into the joints diksazon, metadiksazon, with hydrocortisone 300-500 thousand units penisillin mixed with novocaine. Alcohol-ichthyol bond is applied dry, hot. The joint is washed every day for 2-3 days.

***Purulent arthritis .*** Purulent inflammation of all the elements that make up the joint. Purulent arthritis can be primary or secondary. Purulent inflammation develops in the capsule and uncle after the microbe is injured as a result of the penetrating injury and the microbe falls . Some areas of the turbidity lose their shape and become bumpy. The pus passes into the bone and enters the cavities. Wounds and sequesters appear on the joint surfaces of the bones . Bone necrosis and osteomyelitis develop. The process of disintegration is more severe at the junction of the capsule, when the upper shell of the bone is damaged, "exostosis" occurs.

Purulent arthritis, which is accompanied by damage to all the tissues around the joint, is called panarthritis. Purulent arthritis characterized by growth of bone tissue is called purulent osteoarthritis.

***Clinical signs.*** The disease is very severe. The temperature rises , especially in horses 1 , 5-2 ◦C , joint pain, the animal is severely weakened. The joint surfaces will be smooth. Yellow-blue pus flows from the stream. Arthrogen can lead to sepsis.

***Treatment.*** Novocaine blockade, the main artery to the antibiotics, antiseptic therapy, artrotomiya, Vishnevsky ointments and sintomisin emulsion with the drains placed in severe cases the legs of the distal part of the finger amputasiyasi and ekzartikulyasiyasi is located.

***Osteoarthritis.*** It is a chronic disease of the joints without inflammation. Degenerative-dystrophic changes and joint deformities are observed in the bone and joint. It often develops in the jumping joint in horses . There is no single idea of its origin, its occurrence in cattle has recently been reversed. K is often caused by disorders of vitamin-mineral metabolism, rickets, osteomalacia, and others.

The onset of osteoarthritis is characterized by the gradual erosion of the joint . Uncle will be gray-yellow or brownish-yellow. Once the bone marrow is eroded, the bone surfaces rub against each other and remain smooth. Later, osteosclerosis begins in the bone. The joint crack narrows. Changes in periarticular tissues are less pronounced.

***Clinical signs.*** There are no obvious changes in the first stage. X-rays show sharp pointed bone tumors at the edges of the joint, spotty osteoparesis.

In the second stage, joint function is impaired. Lameness, alternating pressing of the legs, narrowing of the joint fracture, proliferation of tumors are observed.

In the third stage, there are obvious clinical, radiological and pathomorphological changes, the shape of the joint is distorted, and the pain is not noticeable .

***Treatment.*** No specific treatment method has been developed. Metabolism is restored. Vitamins A, D , calcium phosphate, fish oil are mixed into the feed. Paraffin and ozokerite applications, UBN are used.

***Ankylosis .*** Immobilization (hardening) of the joint area or as a result of the development of inflammation in itself.

Ankylosis is mainly a secondary manifestation of joint disease. In practice, fibrous, connective and skeletal ankylosis is observed. Depending on the location of the tissue, it can be external, capsular, and intra-articular. It can be real and fake. In true ankylosis, the joint fracture heals.

***Treatment .*** By bending and writing the joint, it is possible to separate the sticky areas and restore the elasticity of the tissue. Treatment of osteoporosis is useless. In alcohol, novocaine is a permeable blockade.

***Hemarthrosis* is a** hemorrhage in the joint that results from injury, dystrophy, joint dislocation, closed fracture of the joint.

***Clinical signs.*** The patient leans lightly on the tip of the hoof while the leg is bent. As the joint size expands, the joint capsule becomes tense. On palpation, the animal feels intense pain, fibrinous crepitation is heard. There is a basal ganglia when the animal moves, a mixture of blood and synovial fluid when arthropuncture.

***Treatment .*** Aseptic gemartroz , broken bones 1 st and 2 days of cold and twitch interchanges, 3 m damaged from suffocation in the upper part of the massage treatments, hot little less clear, Novocaine blockade. If hemarthrosis is caused by a bone fracture, a plaster cast, novocaine antibiotic blockade is performed to prevent the development of infection.

At the end of the lesson, the teacher points out the shortcomings identified by the students and gives a task to prepare for the topic to be covered in the next lesson.

## **Exercise 27 :** DISEASES OF THE WITHERS AND CHEST

**The purpose of the lesson** . Examination of injuries in the chest area, identification of symptoms of trauma complications (pneumothorax, hemothorax, rib fractures , shock, collapse), assistance in complicated and uncomplicated injuries, as well as differentiation of diseases of the thoracic region and to get acquainted with the ways of treatment, prevention of the above diseases in case of traumatic edema, bursitis, necrosis of the shoulder joints.

**Equipment, tools and animals** : pictures of pathological processes, table of disease classification according to I.Ye. Povajenko, 3 thermometers, 3 phonendoscopes, 3 plethysmometers, 3 10-20 gram syringes, 20 injection needles, 3 needles, 3 surgical tweezers, 10 hemostatic forceps, 5 Cooper scissors, reflector glass, 5 scalpels, 3 metal plates, anti-shock agents and anti-collapse medications, iodoform, iodinol, ayatin or 5 alcoholic solution of iodine, hydrogen peroxide, potassium permanganate solution, caffeine, lobeline, sulfocamphocaine, antibiotics, Vishnevsky, syntomycin ointments, colloid, gauze, bandage, cotton, towels, sheets, sterile gauze, catgut, surgical silk of various numbers, 'Animals with pathological processes in the crack and rain area.

**Course style** . This lesson should focus on the course of the injury, its complications, and the rules of first aid for the animal. Incoming wounds in the chest are treated quickly and in two stages (pre-hospital and with the help of a doctor). First aid is provided by farm workers (shepherd, operator, milker, etc.). To do this, the veterinarian must teach them first aid when animals are injured. Students are divided into three groups, take the necessary tasks and carry out first aid and treatment of a sick animal.

Assignment 1 . First aid when there is an injury to the animal’s chest.

The animal should be given first aid as soon as possible. An alcoholic solution of 5% iodine , y odosol , iodinol, ayatin is applied to the wound canal, gauze and a cotton bandage are placed, and if it is not, a clean sheet or towel is placed. The pre-bandage is well inserted into the wound and tied tightly with a bandage or thread. The animal is then given peace of mind and an ambulance is called immediately.

Assignment 2 . Development of a method of postoperative care for an incoming j injury formed in the chest .

The animal Sitter people, how to make sure that the conditions of injuries and first aid ko'rsatguncha and he was asked about how they behave after the animal. Without removing the ligament from the wound, the general condition of the animal is checked: body temperature, pulse, respiration are measured, mucous membranes are examined, the chest is auscultated and percussed. The results of the examination ensure that no collapse or traumatic shock has occurred.

The clinical symptoms of traumatic shock injury h formed at once or after a few hours, and in some cases can be seen a few days later. It is characterized by different transitions. At the beginning of the disease (first phase) there is a strong agitation in the animal, he tries to resist when fixed, opens his eyes wider, the pupil dilates, breathing is faster, the pulse is faster, p sweats, frequent urination and rapid separation, muscle tremors, etc. In an animal, this condition lasts for 3-5 minutes, then suddenly the animal falls into a state of victimhood (second phase).

There is a decrease in reflexes, muscle contraction, unresponsiveness to pain, frequent lying down of the animal, poor response to external influences, pale conjunctiva and mucous membranes, weak pulse: body temperature 1- Decreases to 2 °and spontaneous urine and feces separation occurs in the animal. H if timely treatment is carried out to the veranda, shock paralytic stage and animal mortality m will lead to the right .

Collapse powerful movement kuzatilmasdan the animal is weak, the pulse is weak, and breathing will be fast and threadlike, poverty, mucous membranes and blood , but nktivaning paleness.

The overall reaction of the animal is reduced, muscle tension is maintained.

With the help of the teacher, the students begin to treat the sick animal.

After removing the animal from a state of shock or collapse, or if no shock or collapse is observed in the animal, the animal is fixed and the bandage on the wound is removed. The injury is examined to determine if it is an penetrating or superficial injury. The inspection will be more detailed and faster. Metal probes should not be used to examine penetrating wounds in the chest.

The clinical signs of penetrating injuries in the chest depend on the size of the wound canal and its timely treatment. After the formation of the injury the following complications: pneumothorax, while the gemotoraks g instant failure, chest injury to the internal organs (lungs, heart, diaphragm, chest blood vessels, etc.).

Pnevmot o dance injured in the pleural cavity through the air inlet channel is characterized .Pnevmotoraksning three types: open, closed and valve.

The most dangerous for animal life is valvular pneumothorax, in which blood clots or damaged tissue form in the wound canal, air enters freely through the canal when the animal breathes, and valves close the canal when exhaled and do not expel air.

Open pneumothorax is more likely to result from injury to the chest wall and in some cases the large bronchi. It is characterized by the absorption of air into the chest when breathing in the free position, and the free exit through the wound canal when air is expelled. Ik k ala which is characteristic of low or high shrieky sound. The animal moves, the sound suddenly becomes louder. In open pneumothorax, when air is expelled, pleural fluid from the pleural cavity, blood is mixed with air.

As a rule, in animals of this or that type of pneumothorax pleurisy is observed after 2-3 days of strong agitation, asphyxia, tachycardia, cyanosis of the mucous membranes and conjunctiva.

At the onset of pleurisy goes into a serous-fibrinous, then purulent process, and the animal shows characteristic signs of intoxication (poisoning).

Closed pneumothorax injury during the chest cavity of air k Irishman followed by tissue injury as a result of the closure of the outlet air is characterized by the interruption. Typically, this type of pneumothorax is observed in small stab wounds. In this case, the wound canal is closed from the outside with dry scab or coagulated blood. In the animal, general changes, i.e., shallow breathing, are observed with a hard pulse.

Blood flow to the pleural cavity (hemothorax) is caused by damage to the intercostal arteries, the internal thoracic artery, the pulmonary artery, the aorta, and other blood vessels.

Symptoms: whitening of the mucous membranes, low pulse, irritability, respiratory damage, increased heart rate, impenetrable sound coming from the lower part of the chest wall during percussion. These symptoms only indicate large vascular injury.

To determine the diagnosis, a puncture is made in the chest (pleurocentesis) and the resulting fluid is poured into 2-3 ml of a solution and quickly poured 10-15 ml of distilled water, stirred and waited for 2-3 minutes. If there is pure blood in the fluid obtained, complete hemolysis is observed and the fluid becomes clear. If the liquid q compound formed as a result of the absence of pleurisy, the tube Condensed q % of fuzzy vamayda separated into small pieces.

Once the animal is finally diagnosed, treatment is started.

If the wound has not penetrated into the chest cavity, the following steps are taken:

1. The bleeding is stopped (a blood vessel is sutured or a tampon is placed) ;

2. The foreign body or small bone springs are removed;

3. The injured area is thoroughly disinfected (hydrogen peroxide, potassium permanganate, chloramine, etc.);

4. If the wound ends with primary traction (but the area is less contaminated with bacteria), the wound canal is dilated in accordance with the rules of asepsis and antiseptic;

5. The stitch is put on;

6. If the stems are drawn by the primary healing process, the wound cavity kapillyarli or drain pipe, and the j arohatga Anti optical use of drugs, sulfonamides;

7. If animals anemia, a German trials, the animal is sent to the blood vessels, blood or blood substitute drugs;

8. Next treatment of injuries jar Unquestionably , depending on the course.

If there is an injury that penetrates the chest cavity, the following treatment is performed:

1. The wound canal is tightly tied with a gauze napkin as soon as possible.

With this procedure should be carried out as follows: first the wound channel a li infiltrasion anesthesia around the place (if the wound is greater than the channel), and then wound into the channel pinset using clean gauze or a napkin the list. Tampons made of cotton and gauze are stuffed and tied to the resulting bag. This bandage tightly closes the wound canal and provides a good opportunity to clean around the wound.

Set channel ligament injury sheep , before it's 5 percent solution of alcohol iodine or yodisol, the signs are processed with qot i b iviqlari blood, removes foreign objects and blood stopped a di;

2. After the bandage is placed, the general condition of the animal is checked. Shock and to prevent the collapse of sulfuric o kamfokain and kamfora oil or Asratyanning sho k sent against the fluid;

3. The area around the wound is cleaned and washed, the hair around the wound is cleaned. Then the skin of 5% solution of iodine in alcohol or yodisol note , the signs of friction and injured around 2% solution og'riqsizlantiriladi.

4. A 3-layer suture is placed on the edges of the wound (the first - in the pleural area, the second - in the intercostal muscles, the third - in the skin). To do this, the tampons inside the inserted bag are gradually removed.

After the pleural portion is sutured, antibiotics and sulfanilamide are injected into the wound canal and an incision is made in the intercostal muscles.

5. Make sure that the wound canal is tightly closed. To do this, a thin layer of cotton to stop the blood pinset injury channel with the help of a li on the channel (if the wound tightly closed, cotton earthquakes occur 2-3 cm), or injury Canal zoqlikda kept in metal or glass buyumchasi. If there is evaporation, j indicates that the wound canal is not tightly closed;

6. After the wound canal is tightly closed, 3 rows of sutures are applied to the skin.

This leaves little space for fluid to drain out of the lower part of the wound;

7. torn and crushed wounds, the wound channel a line with the pleura and the muscles can not close, crushed tissue will be less cut and sprinkled with antibiotics, sulfonamides drugs. Then the edges of the j arohat are gently pulled li b, brought together and sewn with silk k and catgut;

8. The head of the pleura is punctured and air is drawn from the thoracic cavity using a JANE syringe Bobrov needle.

The point of piercing the needle is 12-15 ribs, 5-20 cm below the midline of the waist. 5-10 12-20 l animals, small animals, dogs 1-0,5 l l h r ib.

After inhalation of air to prevent cavitation (spike) in the pleura, using this needle is administered a solution of 30-38 $^{0}$ antibiotic novocaine and 40-60 mg of hydrocortisone, streptomycin emulsion, camphor oil. Their dose is 150-200 ml in large animals, 5-10 ml in small animals;

9. Anti-shock measures are applied;

10. In subsequent treatments, the animal is given rest and treatment with antibiotics, sulfonamides is continued.

Assignment 3 . Povajenko's classification of diseases of the Yagrin region is studied.

In this case, diseases of the pelvic region, their etiology, clinical signs, treatment and prevention measures are carried out in writing and checked by the teacher.

**Homework and questions**

1. What factors cause jaundice?
2. What diseases are most common in the pelvic and thoracic regions of horses and cattle?
3. Treatment and prevention of superficial necrosis and purulent bursitis.
4. Clinical signs, differential diagnosis, prognosis and treatment of deep bursa inflammation.
5. What complications occur when there are injuries that penetrate the chest cavity?
6. Clinical signs of lesions entering the chest cavity.
7. What complex therapies are used in pneumothorax and hemothorax?
8. How to prevent damage to the feed in the conditions of the farm?
9. How is phlegmon treated in large horned animals and horses?

**Topic: Cleaning, trimming and trimming hooves**

**The purpose of the lesson.** To acquaint students with the correct casting of animal legs, hoof shapes, deformed hooves and hooves, methods of immobilization of animals in orthopedic treatment of hooves, tools used in cleaning and cutting hooves. In addition, the training will include the equipment of the tying workshop and acquaintance with the horseshoes, nails and tools used in tying.

**Equipment, tools and animals** : animal immobilization machine, rope, orthopedic instruments, healthy and deformed hooves of animals, surgical instruments, binding materials, horseshoes and nails, hoof knives, shears, clamps, harness , pelvis, hoof ego and others. Table showing the anatomical and topographic structure of the hoof, 5% iodine, 2% blue diamonds and animals (horses, cows).

**Course style.** The course is held in a surgical clinic, on a training farm and in a horse stable. At the beginning of the lesson, the teacher conducts a survey of students on this topic for 10-15 minutes, checks their theoretical knowledge and additionally explains the topic to them. S o ' ngra students were healthy and deformasiyaga foot and tuyoqchalarni clinical examination.

See the animal's leg o ' Yishan , etc. also affect the shape of the foot and tuyoqchalarni. Not the feet o ' correct q o' meat has , as a result of dirt in some places equal weight to avoid foot and tuyoqchalarda various deformasiyalar. Hoof and tuyoqchalarda various

deformasiyalar, h the porch and look for some weakness and distal (lower) part of chronic illness • The development of the casus belli can be monitored.

Judging by the shape o ' change, actions and violations of animal ma h h suldorligining decline.

Judging by the deformasiyasida foot deformed Postal floor with an injury to the skin and destroy its trophic which, n a Vbatn new o ' sib Postal Floor T con lib not affect the quality o' correct o ' growth resulted b o ' ladi. Deformasiyaga were lame hoof capsule only change b o ' the skin of dust, but a morphological and functional b sauces zilishlar and hooves and metabolic processes.

See the horses before they Alashan feet q hoof urban li and p a k t o make sure that there is no logical process or q twist. The purpose of this e ch at the animal penny and while arakatlanganda e h .The track is checked.

**Check the foot q carving.**

Tipsters q T o be correct form for referring the case here t o ' correct Calls yi shi .

Calls to check the Yishun flat y o ' la k Calls y la d i and its front , rear and is regarded by side. Animal front legs t o ' correct Calls , hangover shoulder b o' that implies I see in front of drawing down the name of q are pulled throughout both feet g distance equal to about the split. Put the foot before I go on the side, shoulder to check for bone o n q down between the Arab line t o rtiladi. Put foot wrong, this line of T i m rsak vapor warns afternoon ferry to ameliorate the push to halve o ' o' between the institution and soft Base f RGA. To check will be placed on the back foot qu ym diarrhea d o teaching down to see the Arab subject line. To g'r see the back of this line being OYO stack o ' no' between the folds of medicine, hoof angle to the ground mid d ' autobiography. If this top q see the emphasis on the side of a RALS , he metacarpal bone d o ngligiga heel, soft touch of sadness the back of the z g of a fall to earth. The back-foot, pelvis deer o ' between the lines are pulled down, down t o g r i went to the inner side of the hoof capsule t survive te g ib.

Q o ' yilishlarida body weight, hooves and all the parts will be the same, so am hooves h o' passing t o maintain the correct form.

Previous t o ' to make correct foot here compared to 45-50 ◦angle e d ago, while the hind limbs 55-60 ◦ni.

As a result of various aseptic inflammations in the hooves of horses, various forms of deformation of their hooves are caused. (Figure 23.24)

In animals, a variety of deformed hoof shapes are found.

*The* hook part of the *long (sharp-pointed)* hoof is significantly elongated, the angle of the hook wall is less than 45 ◦relative to the palm part, in some cases the hoof is turned upwards.

*The flat* hoof is characterized by the fact that the heel part is flat with the *palm of the* hand. The hanger and side walls are spread out, the palmar horn layer is soft, unevenly thin, and erodes quickly.

*In an* impenetrable *angled* hoof, the soft heel is high and the hoof wall forms an angle of 60 ◦to 90 ◦with the ground . The main weight falls on the hook part of the hoof and the hoof circumference (gullet), which causes more aseptic and purulent pododermatitis in these areas.

*The vertical (vertical)* hoof is characterized by the vertical placement of the hanging wall and forms a right angle with the ground. The il g ich wall and the soft compensation wall are at the same height. Rvation animals cracked concrete floor trays come in this form of the hoof deformasiyalari q name.

See the *crooked* hooves external wall of the camber me qq dipped in an interior wall partitions focus on better ground bo'ladi.Bunday weight palms on the wall camber out of the palm side of the falls, this is a way to cause degradation and tuyoqchalar mid g ' weight falls on the skin.

Students deformasiyaga treat forms of the hoof met with then clean the hooves and q Alashan Calls carrying equipment and blacksmith shop ji h familiar with the offering.

Q rural q foot and tuyoqchalarini treatment of farm animals and q ir k hoof knife, eg for hunting and foot o mb settings.

See the hooves ke s hoof horn before the excess of the name o ' the name of sgan q q q ir feet karîm where t o' lame correct to put a t o ' correct form. See the lame hooves cutting through the Alashan am ready l h in Jakarta. The hooves not o ' correct them, not to cut o' thieves q Alan.

Other animals, cut the horses 'hooves n i k ide kq are performed in sequence: first lead powder horn q Picture s o' ngra the left edge of the wall of the horn and the arrow pointing cut.

The bullet left , the corneal layer of the hoof p Icho is cut off, the horn o l g a n q Picture cleared . See the horn floor q she births a knife , cut with the floor is going to fall apart -qavat , gray b o ' links. Over q , eg i luv ch an maydalanm a ydigan and cut off " tir i k horn floor . " This layer cannot be cut.

The bullet hit the left edge of the wall of the hoof horn o mb he cut with the hoof knife and saw, you need to align it with the flattening k i, the foot bullet chasi hoof wall and the qchiziq should be evenly.

Once the hooves are flattened and trimmed, a horseshoe is thrown at it. There should be a tool and a shoemaking workshop for shoveling. (Figure 25.26)

The blacksmith shop is far from other structures, but is built of high-temperature heat-resistant construction equipment. The workshop is spacious, 4 m high, and consists of several rooms - a furnace room, a manege, a coal storage room, an iron storage room, a changing room, a washroom, and an air exchange engine. rooms. In the yard of the workshop will be built a paved driveway and a special place for tying horses.

In the room where the furnace is located, there is a blacksmith's furnace, sangdon, workbench, clamp, drilling apparatus, tools for making horseshoes, tools for cleaning the furnace, a device for placing ready horseshoes, a bucket of water, a box for coal and the first should be a help box. The size of the room should correspond to 12m $^2$ per blacksmith .

The floor in the oven room is dry and cannot be covered with any other equipment. In the manege, horses are mainly taken and tied. This room is the size of a horse 12-15 m $^2$ of land area , its width should be no less than 6-7 m. Uneven asphalt is laid inside the room.

To tie the animals, there should be a hammer (hammer), egov, hoof knife, tongs, a wrench, a nail, a horseshoe to turn the horseshoe roofs. Q ALARM 13 (0; 00; 1 ; 2; 4; 3; 3.5; 2.5; 4.5; 5; 6; 7; 8) digital standard l s and q a back finished 6 (4,5,6,7,8,9) digital standard form l bee. (Figure 27.28)

When tying horses, horseshoes and nails are mostly made in a blacksmith shop. The hooves are cut, cleaned and leveled before tying. Once the hoof is ready to be tied, measurements are taken from it. According to the obtained measurements, a new horseshoe is made in a blacksmith's shop or a ready-made horseshoe made in a standard factory is obtained. Measurements on the horseshoes are made using a ruler (podometer) (Fig. 29) or a stick. The hoof is measured in 3 directions, along the length of the first curve, where the distance from the hoof hook to the heel angle is measured. The width of the hoof is measured from two places, the first being the widest point, the distance between the two side edges of the hoof, and the second the distance between the corners of the heel. Based on these dimensions, the horseshoe is separated and the hoof is tied. Measuring the heel on a cleaned hoof is called heel adjustment. (Figure 30)

This is the most basic process, in which the hoof is adapted to the hoof, not the hoof. If the horseshoe fits the hoof:

1. The horseshoe covers the hoof wall along the outer border;

2. Mix y o ' lakchasi and nail holes in the white line b o' will focus mA s ;

3. The horseshoe protrudes 0.5-1 mm from the hook and side of the hoof, 3-5 mm from the heel.

Adaptation of the hoof to the hoof is done in two different ways: cold and hot.

*Cold method* . In this method, standard horseshoes are expanded, narrowed and flattened without heating. The cold method is mainly used in pasture conditions where it is not possible to heat more horseshoes.

*Hot method* . After the hoof has been trimmed and cleaned, the hoof corresponding to the hoof is removed and heated until the hoof turns dark red, then the palm of the hoof is pressed for 2-3 seconds. After that, the surface of the heel pressed to the hoof is examined very carefully, if any part of the heel is not correct, it is quickly corrected. An experienced blacksmith thus heats it twice and straightens the hoof to the hoof.

Attaching the heel to the hoof consists of basically three processes. (Figure 30)

1. Nail the horseshoe nails.
2. Pull the heel to the hoof.
3. Return the mix ends.

First, two parallel nails are driven into the hook of the hoof in turn, and the hoof is lowered to the ground, if it moves slightly from the place of the horseshoe, it is straightened by hammering, and then the remaining nails are driven. The outlet of the nail tips to the hoof wall should be at 3/1 of the hoof wall or 2 cm above the lower edge of the hoof wall.

When attaching the hoof to the hoof, the stumbling nails should not protrude from a line in the hoof wall, if in one line the hoof will impair the strength of the horn layer.

After the nails are nailed, the nails are struck again with a hammer, and if pain is felt, the same nail is pulled out and nailed again. (Fig. 31) At the end of the saddle, the horse is tried to run, and then it is run if the horse does not stumble, indicating that the saddle has been performed correctly.

**Homework and questions**

1. What are the tools of the trade?
2. Rules for tying and trimming the hooves of horses, large horned animals, sheep and pigs.
3. How is an old horseshoe taken and why is it important to check it?
4. Take measurements from the hoof.
5. At what height should the horseshoe nail protrude from the hoof wall?
6. What is the difference between the front hoof and the right hoof and the left hoof?
7. How does improper harnessing affect the horse's hooves and its movement?
8. What are the requirements for proper bonding?
9. Expiration date.
10. How does an animal's foot form a sharp-pointed and impenetrable hoof?
11. What are the defects of the hoof in the deformation of the hoof?
12. How different is the adaptation of the heel to the hoof?

## Topic: EYE INSPECTION METHODS

**The purpose of the lesson** . To teach students to examine the light-transmitting, clear layers of the eye and the organs located at the base of the eye using special instruments and to diagnose diseases.

**Equipment, tools and animals** . Room illuminated with natural and artificial light, dark room, spherical and cylindrical glass or lens, simple and refractive ophthalmoscope, keratoscope, portable electric lamp, syringes of 5-10 ml, 0.5-3 % novocaine solution, 1: 5000 ratio furacillin, 1% atropine-10.0, eye pipette, pumpkin lifter and pumpkin expander. Tables, pictures, etc. depicting the bottom of the eye of various animals. Different types of animals.

**Lesson style** . At the beginning of the lesson, the teacher explains the topic-specific eye examination methods. Students are then divided into several small groups and independently learn specific eye examination techniques. They learn to use eye inspection techniques in animals in bright and dark rooms.

**Ophthalmoscope** - a circle in the form of a flat mirror or a curved reflective surface, with a hole in the middle. It is used to check the clear layers of the eye. The cornea, anterior

chamber, cornea, vitreous body, and fundus are examined. The distance between the eye of the examiner and the eye of the animal should be 30-50 cm. When the animal is examined, natural or artificial light should be directed from the back of the head. The light falling on the ophthalmoscope is directed to the pupil. The light passes through the eye and returns from the vascular membrane and the pigmented layer, where the pupil turns reddish. When viewed through an ophthalmoscope aperture, light returning from the bottom of the animal's eye falls into the ophthalmoscope and the pupil becomes clear.

If the pathways of light rays are blurred, i.e., degenerative changes in the light-transmitting layers of the eye, then black spots of various sizes appear in the illuminated pupil.

**Examination of the eye using a keratoscope**

Small, undetectable pathological changes in the cornea of the eye are examined using a keratoscope instrument. It is a circle with a hole in the center. Its surface is black with straight and flat white circles.

Using a natural or artificial light, the keratoscope is brought closer to the animal's eye and viewed through its orifice so that white and black circles appear on the cornea of the eye, with the eye of the animal being examined facing the dark side. If there is no hyech any pathological change in the cornea, the white and black circles appear straight and flat. When the luster in the cornea of the eye is disrupted (due to degenerative changes), these circles appear oval, elliptical, elongated, wavy, or ring-shaped. If there are foreign bodies or pigmented areas on the cornea, the border of the black circles appears curved, and if there is a scar or a dull white spot, the white circles are not visible at all.

When the surface of the cornea is smooth, the circles appear straight and even, while when the surface of the cornea is uneven (in inflammation, injury, wounds, etc.), the white circles on the keratoscope it looks sleek, crumbly, and even ring-shaped.

**Purkinje-Sansonov image**

The Purkinye-Sansonov image is used as an additional method to examine the cornea of the eye, but is mainly used to examine the cornea and the less vitreous body. This method is based on the return of light from mirror-curved surfaces. The surface of the cornea, the anterior and posterior surfaces of the cornea, is considered to reflect light.

To use this method, the animal is brought into a dark room and a lighted candle is held on one side of the eye, while the examiner examines the eye on the other side. In this case, three images appear into the eye: the first image is straight and not very large, it is bright and returns from the cornea, moving forward as if returning from a mirror; the second image is also correct, larger than the first, but whiter, it returns from the front of the eyeball, and the third - the reverse image is the whitest and smallest, the eye from the back of the pearl it looks as if it has returned from a curved window.

When light directed into the eye is added, the first and second images are added and directed in one direction, while the third image is separated from them and directed in the opposite direction.

The appearance of the three images inside the eye indicates the sharpness of the cornea, eye chambers, and eyeballs.

When the eyeball is blurred, the third image appears to be blurred or not visible at all, depending on the degree of blurring. When the vitreous body is blurred, the third image becomes clearer. The second and third images are not visible at all when the eyeball is partially or completely protruding and without it. This condition is also observed in the blurring of the fluid in the anterior chamber of the eye.

The Purkinje-Sansonov image is not only used for additional examination of various cataracts (blurring), but also to some extent helps to gain an understanding of eye accommodation (adaptation). For example, in the accommodation of the eye relative to nearby objects, the second and third images shrink. Basically, the second image shows that the animal's eye is significantly smaller when it is accommodated relative to distant objects.

**Examination using an ophthalmoscope instrument**

Ophthalmoscope examination methods are not only widely used to diagnose changes in the clear environment of the eye (cornea, eye chamber fluid, eyeball, vitreous body), but also the retina at the base of the eye. It is also used to examine changes in the optic nerve and vascular membrane. The fundus of the eye is part of the posterior wall of the eye, located in front of the pupil of the eye, and is convenient for examination. It can only be examined using an ophthalmoscope using natural and artificial light.

When artificial light is used, the base of the eye becomes slightly darker. The light should be directed one way. With the animal's eye being placed on the dark side, the examiner places the ophthalmoscope in the right eye and sends light into the eye using an ophthalmoscope, then approaches the eye and examines the bottom of the eye through the ophthalmoscope hole.

The light falls on a bent ophthalmoscope and returns to a point, which is called the focus. A curved ophthalmoscope illuminates better than a flat ophthalmoscope, which is why it is widely used in veterinary medicine.

There are two ways to examine the eye using an ophthalmoscope . Natural light from the bottom of the eye seems to be directed in a way it is a very good and clear . Before dropping of atropine eye and bent ophthalmoscope 15-20 diopteri focus . Put the animal 's eyes dark side , closer to animal testing ophtalmoscopically right eye , and the
eye , the eye lashes eyeball light directed from a distance and the fundus is examined .

The bottom of the right eye and the size of the case . His swelling , ophtalmoscopically bent on holding the rotating light beam floors . ( Figs. 36,37,38,39).

According to the laws of optics, the larger it is, the smaller the visible area. It is therefore possible to examine a portion of the fundus with the correct ophthalmoscope. On direct examination of the fundus of the eye, its visible part appears to be 8 times magnified. Therefore, not all parts of the fundus can be seen. When examining the fundus of the eye using the second method of examination, i.e. by examining it by forming an inverted image, a large part of the fundus can be seen at once, but the image does not appear clear and distinct.

**Homework and questions**

1. The structure of the ophthalmoscope.
2. Examination of the cornea.
3. Examine the eyeball and vitreous body.
4. Tearing and its diagnostic significance.
5. Purkinje-Sansonov image.
6. Examine the eye using a keratoscope.
7. Technique of washing the tear-nasal canal.
8. Diagnostic drugs and methods of their use.

**Body temperature, pulse, respiration of various animals**

**Body temperature measured from the rectum**

| Animal tour i | Tana temperature ( °Shisobida ) | Hayv o n type | A score of body temperature ( °C ) |
|---|---|---|---|
| Sigir | 39 (37.5-39.5) | Cat | 39 (38.5-39.5) |
| Put it down | 39.5 (38.5-40.0) | Rabbit | 39 (38.5-39.5) |
| Goat | 39.5 (38.5-40.0) | Guinea pig | 39 (38.0-39.5) |
| Pig | 39.5 (38.0-40.0) | Chicken | 41 (40.5-42.0) |
| Ot | 38 (37.5-38.5) | Kur k a | 40.5 (40.5-41.0) |
| Donkey | 38 (37-38.5) | Goose | 40.5 (40.0-41.0) |
| It | 38.5 (37.5-39.0) | Duck | 42.0 (41.0-43.0) |
| Tuya | 37.0-39.0 | | |

**Pulse of healthy animals**

| Animal type | Vein several times per minute rate | Animal type | The vessel several times per minute rate |
|---|---|---|---|
| Sigir | 50-80 | Steam | 36-48 |
| Calf | 70-100 | It ( adult ) | 70-80 |
| Well | 60-85 | Dog ( small ) | 80-120 |
| Lamb | 90-100 | Puppy ( child ) | 110-130 |
| Goat | 60-85 | Cat | 110-120 |
| Capricorn | 90-110 | Rabbit | 120-160 |
| Pig | 60-80 | Mouse | 175-225 |
| Pigs | 90-120 | Chicken | 120-150 |
| Ot | 24-44 | Pigeon | 150-200 |
| Toy | 50-70 | | |
| Tuya | 30-56 | | |

**N is the number of normal breaths**

| Animal type | Respiratory rate | Animal type | Respiratory rate |
|---|---|---|---|
| Sigir | 10-30 | It | 15-30 |
| Put it down | 12-30 | Cat | 20-30 |
| Pig | 10-20 | Rabbit | 50-60 |
| Goat | 14-20 | Chicken | 15-30 |
| Ot | 8-16 | Duck | 16-30 |
| Tuya | 10-20 | Pigeon | 50-70 |

**LITERATURE .**


1. Rustamov HK, et al. " Operative surgery ", Samarkand, 1997
2. Belov AD, and dr. «Ob shch aya veterinarnaya xirurgiya », Moscow , 1990
3. Shakalov KI, i dr. « Frequent veterinary surgery », Leningrad , 1986
4. Kalashnik Practicum IA PO weather also vipers i chastnoe veterinarnoy xirurgii , Moscow, 1988
5. Aripov UO , he .Mustafoev . " General Surgery " , Tashkent , 1994
6 . Narziyev DX " Animal Anatomy " , Tashkent , 1986


## 16-Practical class:DISEASES AND BONE FRACTURES

**The purpose of the lesson.** To teach students to make differential diagnoses (comparative diagnosis) of various bone fractures, bone diseases, diagnosis and treatment.

**Equipment, tools and animals.** Pictures and tables of various bone fractures, periostitis, osteomyelitis and exostotic drugs, radiographs of bone fractures, yellow cotton, bix and sterile swab, napkin, bandage, plaster bandage, tires, iodine solution, 1% novocaine, 1: 1000 rivanol, iodine alcohol, antibiotics, syringes, needles, tweezers, scissors, scalpels, hemostatic tweezers, sutures, and sick animals.

**Course style.** The lesson is held in the clinic of the department, where the teacher learns by asking students to prepare for the lesson. He then explains to the students the nature of bone fractures, periostitis, their causes, types of fractures with a chart, radiograph and other available drugs.

***Periostitis . ( Inflammation of the iris at the top of the bone ).***

The etiological factors , symptoms , patalogoantomik and is accompanied by changes in distribution of periostitlar observed the following :

a) depending on the etiological factors - traumatic inflammation and toxicity

b) depending on the pathological changes - serous , serous-fibrinous , purulent , fibrinous and skeletal .

c) depending on the clinical course - acute and chronic .

g) depending on the level of distribution - limited , diffuse and unrestricted .

Serous and purulent periostitlar severe fibrosis and suyaklashuvchi periostitlar chronic ea sier .

***Serous periostitis ( Periostitis drink)*** more vulnerable ones ( metatarsal bones , pay , and the others ).

The main reasons for the origin of the one -time effect on bone mechanical damage ( delay of construction , closed shell , bone lesions ). The independent development of acute periostitis or chronic fibrosis , suyaklashuvchi periostitlarning the origin the initial period .

As a result of the bone cortex admiration for the environment because of burst blood vessels , tissues and blood . In the first hour of injury , inflammation begins , serous fluid accumulates , hyperemia begins with red cell infiltration . The fluid is then absorbed and normalized . Severe disruptions, large molecular protein and fibrinogen resu lt of serous-fibrinous liquid is collected in a timely exudes treatable . In some cases, acute perisotit , and will take the form of chronic fibrosis or suyaklashuvchi can periostitga .

***Clinical signs.*** Palpation is limited , hot , painful yogurt is determined by the presence of the tumor and the animal 's legs limp .

***Treatment .*** The animal will be for peace and stability in the affected area first treated with iodine , alcohol, cold and oppression higher dre ssings are loaded , then the means allowing liquids absorbed .

***Purulent periostitis ( Periostitis purulenta )*** . Characterized by a purulent inflammation and bone formed under the bark abscess , fistula .

Purulent periostitlar bones , leading to injury, the bone around the abscess, and flegmonalardan and open fractures , inflamed where microbes break through the blood and lymph , abscesses, and osteomiyelitlardan .

The disease can be very light or very heavy . Under the light of the bone caused by purulent inflammation , the cells infiltrasiyasi strong tumor , the most liquid , and bone under the bark abscess . Abssesslarda exudes pus and deffekt covered wit h granulyasiya , the process of bone tissue can interfere suyaklashuvchi anti-inflammatory and inflammatory demarkasion out fermentolizga due to bankruptcy , or under the skin .

***Clinical signs.*** The disease is local and very hard . Hard tissue stress , the pain will be felt , deep pus , pus out , then make sure the animal to significantly improve the condition of the bone surface will be rough asked . The animal is hard- wired when walking .

***Treatment.*** At the onset of the disease , a short novocaine antibiotic blockade is performed to limit infection . Alcohol , which was completed ligament . Antibiotics are injected into the artery . The formation of purulent opens and the medium is washed with a solution of salts , or sulfonamides . Operating after the extinction of the dead tissue kyuret removed . The animal in case of severe sepsis treatment .

***Fibrosis periostitis ( Periostitis fibrosis )*** . The disease is characterized by the growth of fibrous connective tissue development , particularly in the distal part of the legs ( round down and the metatarsal bones ). There are a few impressions , a chronic inflammation of the tissues to return , and other factors that lead to the emergence of the disease .

The disease begins with redness, begins with leukocyte emigration and fluid secretion, fibrinogen accumulates, and a painful swelling appears in the bone marrow. Vascular permeability is greatly increased. The exudate saturates the bone marrow tissue, the bone marrow grows and begins to grow into fibrin, resulting in swelling and severe pain.

***Clinical signs.*** With deep palpation, a severely limited swelling is felt in the soft tissues under the skin, there is no local temperature. Function is impaired, especially if it is located around large blood vessels and nerves, joints and joints.

***Treatment.*** Care should be taken to avoid re-exposure and to ensure that the exudate is reabsorbed. Therefore, at the onset of the disease, hot treatments and acute irritating ointments are applied, iontophoresis with iodine preparations and spot burns using thermocauters.

***Ossifying periostitis*** is characterized by bone growth, the bone growing mainly from the bone marrow. Bone inflammation begins in the bone marrow and inside the bone.

Ossifying periostitis results from mechanical impacts, lacerations, bone fractures, bone fractures, bone ligament ruptures, and abscesses and phlegmons in surrounding tissues.

Ossifying periostitis results from inflammation of the bone marrow and ostoplastic inflammation of the bone and is characterized by fibrosis first, followed by fibrosis and then bone marrow transplantation.

Depending on the degree of bone turnover, hyperostosis is an extensive bone growth that grows on the bone, in addition - may be similar to exostosis and osteophytes.

***Clinical signs.*** Palpasiya hard limit of smooth or rough asked felt the bone . The degree of functional impairment suyaklashish .

**Treatment .** Removal of the animal , the local paraffin , ozocerite applications apply . Acute pathogen and is driven by a burning drugs , including ekzostozlar sent to the solution of alcohol iodine or sublimate , two cattle -for the potassium in the form of ointments applied once every 2 days, and a deep burning methods . In some cases, a periostomy ( removal of the periosteum with ecstasy) is performed .

***Bone necrosis (necrosis ossis)*** is the death of bones. It is caused by purulent inflammation in various layers of bone tissue (purulent periostitis, ostitis, osteomyelitis), from physical factors: cold sores, burns.

Depending on the development of the disease: complete necrosis and partial necrosis may occur, may be superficial or deep.

Deep circulatory disorders in the bone, i.e. vascular thrombosis or disruption of the bone marrow and introostol vessels, impair metabolism in the bone. The degree of bone necrosis depends on the size of the vessel. Depending on the degree of inflammation: can be cortical, central and total.

***Treatment.*** Necrotic bone is removed from the cut .

***Kariyes -*** the fine -grained , leading to the collapse of the wound and bone formation is characterized .

A result of acute and chronic purulent inflammation around the bone , and a yrim cases, complications of infectious diseases ( tuberculosis , actinomycosis may be a result) . Bursitis , trying to fight ne crosis disease in horses can cause. A special type of caries necrosis, purulent inflammation of the soft tissues around the bone, especially in infectious diseases (tuberculosis, actinomycosis). It becomes inflamed over a long period of time and spreads to the bone and damages the entire bone, in some cases even to adjacent bones. This is why caries is called a bone ulcer or bone erosion.

***Treatment.*** The drains are opened, the dead tissue is removed, and the way is opened for the pus to come out. Caries-affected teeth are extracted.

***Bone fractures.***

A bone fracture is a partial or complete fracture of a bone unit. This is accompanied by soft tissue damage as a result of various factors. These factors include bumps, falls, fatigue,

sudden or sudden muscle contractions, and bullet entries. In addition, rickets, osteomalacia, osteodystrophy, hypovitaminosis, local diseases of the bones such as necrosis, caries, osteosarcoma, etc., which are prone to fractures, cause bone loss in these factors, and they break even in weak impressions. Bone fractures and capsules torn muscles , nerves and blood vessels off .

The origin of bone fractures is divided into two: congenital and acquired.

Congenital, i.e., antinatal, occurs due to strong impressions given to the abdomen by the outside, or as a result of rhythmic contractions of the uterus. Factors that contribute to this, i.e. deficiencies during fetal development, include osteomalacia, rickets, and others.

Acquired bone fractures can be congenital and postnatal: traumatic, pathological, spontaneous, and physiological (senile osteoparesis, constipation, excessive breastfeeding, and malnutrition).

Depending on the nature of the bone fractures, open and closed, open bone fractures are more dangerous. Fractures of several bones at the same time are called multiple bone fractures.

Depending on the location of the fractures are divided into flat, tubular and round bone fractures. Fractures in tubular bones are divided into epiphyseal, diaphyseal, and metaphyseal. The bones become complete and incomplete depending on the degree of fracture.

Students study the clinical signs of fracture on the basis of animal examination (observation, palpation, auscultation, driving). They master the methods of fixation of fractures, placement of splints and plaster casts, treatment of open fractures and osteomyelitis. If a sick animal is present, students examine the animal, diagnose it, prescribe treatment, and implement it.

***Clinical signs of fractures.*** When the bones of the foot are broken, its function is impaired. Fractured bone ends, muscle contraction, and disruption of static apparatus can cause severe pain by tickling nerve receptors.

Deformation occurs as a result of displacement of areas of broken bone ends or strong blood flow to the tissues. Compared to a healthy foot, a broken foot is abnormally shaped and deformed at the fracture site.

A characteristic clinical sign of a completely broken bone is its mobility at the fracture site. To determine this, one hand is moved over the fracture site and the other hand is moved to the sides by holding the distal part. When moving the fracture site, bone crepitation is detected. When examining a broken leg, the animal feels intense pain and discomfort. Swelling occurs as a result of bleeding into the soft tissues, lymphatic and circulatory disorders.

***Diagnosis .*** Based on clinical signs and differential diagnosis data . Basically , crack diffe rensasiya , which will be less than the clinical signs , broken and squeaked observed . The final diagnosis is made by X-ray of the fracture site.

***Consequences .*** The age and type of animal, bone and tissue damage, time of fracture, type and shape of fracture are taken into account.

***Treatment .*** When a bone is broken, the main goal is to straighten the broken bones in place and thus prevent deformation without giving functional stress until a bone scar is formed. To do this, students prepare the operating site and inject a 1% solution of novocaine around the fracture site and muscle, or inject aminazine intramuscularly. If 5-10 ml of novocaine solution is injected between the broken bones, the muscles will relax after 5-7 minutes. For analgesia - permeability, epidural and anesthesia can sometimes be applied to large animals. After anesthesia, bone fractures should be repositioned. To do this, the broken bones are put in place by pulling from the proximal and distal part of the fracture, bending, twisting and other movements. When the broken bones are placed in their proper place, blood circulation and innervation are restored, healing is rapid, and functional impairment disappears.

***Fixation of a broken bone.***

Once the bones are in place, they are fixed with a splint or plaster cast. The auxiliary holds the fracture site motionless, the plaster bandage is wrapped in a spiral from bottom to top, and after 4-5 layers of plaster bandage is applied, the plaster mixture is rubbed over it. The

plaster bandage is immersed in warm water before wrapping, then the water is squeezed out a little and in this case it is wrapped around the fracture or a ready-made plaster bandage is used in bone fractures.

In the presence of open fractures, the wound is treated with primary surgery. By revising the wound, the broken bone fractures are removed, the dead tissue is removed, and the pockets are cut open. the wound is sprinkled with white streptocide or Vishnevsky emulsion. Then a closed plaster bandage is placed. In order to keep the plaster bandage sterile, it is soaked in chlorinated lime (40-50 g of lime in 4 l of water) or 2% chloramine solution. Penisillin , intravenously, intramuscularly to prevent infection sulfate, a nilamid drugs .

Stimulyasiya agreement to gemoterapiya tissue intravenous therapy , 10% with calcium xl o r , vitamin C, D, then the standards implementation , massage , ultra-violet rays . 5-6 weeks , small animals Yes vonlarda 3-4 weeks after the gypsum dressings are removed .

During the course osteosintezni , if possible , to put metal cored wire or desirable to carry out the methods of bone graft .

## 17 -practical class : DISEASES OF TENDONS AND TENDON SHEATHS

**The purpose of the lesson.** To teach students to diagnose serous tendovaginitis and bursitis and to differentiate and treat their various forms.

**Equipment, tools and animals.** Machine for fixation of large animals, rope, table for fixation of small animals, photos showing the anatomical topography of the flexors of the fingers, images of clinical signs of acute serous tendovaginitis in the flexors of horses, Cooper scissors, Jane's syringe , 20 gram syringes, needles, tub, 3% novocaine solution, 0.5% narcotic alcohol, 5% iodine solution in alcohol, gauze, ice pack, clean test tube and sick horses and dogs.

Course style. The course is held at a surgical clinic or veterinary treatment facility. The students in the group are divided into 3 subgroups, each of which is assigned a sick animal to perform clinical and diagnostic examinations. Within two hours, all small groups should rotate all sick animals in turn and undergo a clinical examination.

If sick animals need to be treated surgically or otherwise, students perform these procedures under the guidance of a teacher.

***Anatomical and morphological structure of the pelvis and pelvis.***

The stakes are made of hard fibrous connective tissue. Collagen fibers are oriented parallel side by side , forming bundles. They stick to each other at the expense of collagenous mucous substances.

Between the primary bundles and the soft connective tissue are lymphatic vessels, nerve endings, and a small number of vascular capillaries. The secondary set is wrapped with soft connective tissue. From the secondary set, a tertiary set is formed, surrounded by a soft bonding layer. From the third set in the thick stakes, a fourth set is formed.

The synovial sheath of the buttocks surrounds the parietal part of the leg muscles, allowing the muscles to work easily . There are two types of shares:

1. The fibrous sheath of the joints wraps around the muscle joints and forms a sheath, covering its outer surface with a membrane.

2. The mucous sac of the vagina is a modified form of the mucous sac and is quite complex in structure. This muscle wraps around the entire area of the stake, forming an elongated sac in which the stake moves freely. Such sacs occur in active joints. For example, it is placed on the wrist and heel joints.

The mucous sac of the vagina is divided into two sheets: a) the inner sheet — directly wraps the vagina; b) forms the outer wall of the outer sheet-vagina. In some places the mucus merges with the vaginal joint and takes the name of the synovial vagina, such vaginas encircling the muscle of the wrist joint in cattle.

***Slime bag*** - (Bursa) a lot of time and effort trying to friction, the muscles under biriktir dp tissue sacs. Inside the sac is synovial fluid, which reduces muscle friction. Bag , large or small, and depending on the work carried out by the same. Knowing the topographic location and structure of the sacs is of great importance in surgical practice.

Depending on the location of the bag a few different matter: c k ul underground minerals underground and subcutaneous sacs.

Depending on the structure, the bags can be simple-single-bag and complex-multi-bag.

### *Elongation and rupture of stakes*

Elongation and rupture of the stakes are more common in animals in the distal part of the stalks that bend the fingers . In horses, the breakage of the stallions is 44.8%, and in the general stallions it is 3.7%.

Factors that cause rupture and elongation of joints include mechanical impacts, slipping, slipping, leg cramps, jumping over obstacles, as well as acute and chronic inflammation, degenerative changes in joint tissue, tendovaginitis, arthritis, hypovitaminosis, rickets, osteomalacia, protein deficiency, improper cleaning and tying of the hooves.

***Clinical signs.*** When stretched, limited serous inflammation develops and a painful hot swelling appears, with the animal changing its legs frequently when it is still. The animal walked a little conventional, conventional armed forces undertaken if there ya .

When the foot is partially severed, the injured area swells due to aseptic inflammation, sudden pain and numbness appear, the local temperature rises, and in some cases the overall body temperature may also rise.

Payne difficult to locate some fresh, examined when fresh fibrin collected a niqlash.

When the foot is completely severed, it completely loses its function, a sudden strong tingling occurs, and the foot position changes. A ruptured tumor (hematoma) appears. On palpation, a pit is observed at the fracture site and a squeaking sound is heard. Payne fresh start in place a strong inflammatory fall, the pain and the local temperature of a luck, sometimes the temperature rises. The animal cannot lean on its legs, the muscles tremble when moving, lie down a lot, have difficulty standing, and the animal loses weight. When the bilateral axillary tendon is severed, the animal stands up and sits like a dog.

***Treatment.*** The sick animal is given complete peace. Stretching and working short novocaine blockade will be held within the first 12-24 hours of cold therapy used to twitch connection installed, then heat treatments were applied towards. The compressor applikasiyalari wax, alcohol, acute irritative and erotic ointment and linimentlar. In the final stage of treatment, it is massaged and performed sparingly.

Disruptions in the tendon foot and a half Büke case of pathological foci ing at high and low key at the joints fixenal , and the plaster is connected (1.5-2 months). After the cast is removed, it is massaged with 6% iodine-vasogen, tied with cotton and a bandage, and the animal is moved a little.

### *Inflammation of the joints*

Inflammation of the tendons - tendinitis occurs in all types of animals, more common in horses and bulls. More flexors (flexors), less extensors (writer) joints are damaged. Bukuvchi fingers deep inflammation of the muscles in more than Payne bukuvchi equity 89.3% share, surface bukuvchi a minimal 9.6%.

When cattle and pigs are kept together, tendinitis accounts for 1% of foot diseases in them.

Depending on the course, tendinitis becomes acute and chronic. Acute tendinitis is aseptic and purulent, while chronic tendinitis is fibrous and ossifying.

While equity inflammation often repeated injuries to eat the shares and take partial failure , a read wrong, tendons caused by stress, hooves grow and wrong Wrong Occurs when cutting .

### *Acute aseptic tendinitis*

Acute aseptic tendinitis results from lat eating, stretching, and contraction. The tendon fibers , soft connective tissue and capillary blood vessels inflammation develops.

***Clinical signs.*** The stump thickens, pain, local temperature rises, and inflammatory swelling is observed in the surrounding tissues of the stake. The deeper the damage to the joint, the stronger the above symptoms. When the animal walks, it tends to bend the legs of the animal in flexor (flexor) tendonitis (volar flexion) , because it reduces the weight and reduces pain.

***Treatment.*** Peace is given to an animal, pathological furnace to reduce fluid in the first k nda cold Olaj used to twitch ligament. Circulating novocaine sieves are applied, followed by heating compresses, paraffin, heat transfer lamps, and hot compresses after application of massage.

The point of the damaged ligament around 2-3 per 1 kg animal live weight of 0.1 mg gidrok o rtizon , diksazon, metadiksazon solution to the conventional rapidly absorbed and the pain, inflammation, swelling and restoration of ligament tissue 'he says.

### *Fibrous tendinitis*

It is a chronic inflammation of the joints, characterized by the deposition of fibrous connective tissue at the site of injury of the joints.

The causative factors are similar to those of acute tendinitis, except that they result from frequent and persistent relapses of factors or from the transition from acute aseptic inflammation to a chronic form. Too much connective tissue is formed, the stakes thicken, grow together with the surrounding tissue. The fibrous connective tissue then twists and turns into a scar, causing the joints to contract and contract.

***Clinical signs .*** Watching the animals pay less palpable thickened tissue in the direction of motion, pain , hardening of the tendon thick and surface roughness. Conventional low sezil undertaken a di feet, full of trust. In uneven soft soils, an increase in lameness is observed when animals run.

***Treatment.*** The causes that previously caused the disease are eliminated. Early in the disease, acute healing tickling, burning paraffin applikasiyalari point and lane ways, tissue therapy, pathological furnace g of a lidar sent a di, animal massage, active harakatlantiriladi. If tendogenic contractures occur, tenotomy surgery is performed, if the animal is less significant, it is excluded.

### *Osteoporosis*

Payne pathological tissues ranging from lime salts with each sit in a kterlanadi.

Osteoporosis tendinitis is mainly caused by partial or complete rupture of the tendons, especially in injuries where the tendon attaches to the bones, as a result of damage to the bone tissue and their inflammation.

***Clinical signs.*** At the onset of the disease , bone-like hard, sharp-edged, painless, cold tumors appear in some places, and the movement of the foot is impaired. When the needle is pierced, it is difficult to enter and a squeaking sound is heard. When the animal is driven towards a sloping height, the limping becomes stronger. When fibrous tissue is overgrown, it becomes difficult to find the bony location of the stake.

***Treatment .*** The animal is excluded. If the animal is purebred, a neuroectomy is performed by blocking the nerve fiber that controls that portion with novocaine. In skeletal tendinitis, 25-30 ml of 1% Lugol's solution is taken intravenously , 125-150 ml of saline is mixed with it, and after 4-5 days the treatment is repeated.

In addition to burn methods, a sharp tickling ointment and rubbed linimentlar lib , hot treatments.

### *Purulent tendinitis.*

Purulent inflammation of the joints occurs due to infection of the joints or the development of purulent processes in the surrounding tissues (phlegmon phlegmon, purulent arthritis). Purulent inflammation mainly develops in the connective tissues around the joint, compressing the joint ligaments, disrupting nutrition, and leading to necrosis.

***Clinical signs .*** The clinical manifestation of the disease depends on the location of the lesion, the degree of injury, and the extent to which the tissue is infected. In purulent tendinitis, there is a painful, tense swelling, thickening of the tendon and surrounding tissues , local and general temperature rise.

Under the influence of purulent infection, the connective tissue separates and the connective tissue breaks down. Liquid pus is released from the wound, the pus is bluish in color, in which the dead tissue is mixed, the animal's motor function is impaired, and the pus is extremely strong.

***Treatment .*** After local anesthesia, the surgical site is prepared, operated on, and the pus is removed, the dead tissue of the pile is cut, and the pockets in the surrounding tissue are opened. After treatment of the wound with iodine alcohol or iodoform ether, sprayed with antibiotics, sulfanil a mid, iodoform, boric acid powder , put a plaster bandage for 10 -12 days.

Circulatory or regional novocaine blockades are performed before and after surgery, and antibiotics dissolved in 1% novocaine are injected into the aorta.

***Finger bukuvchi share their acute serous tendovaginiti.***

When the animal is at rest, the patient leans on the tips of the hooves with his legs half-bent. In the direction of the vagina, there is a long, limited fluctuating edema. Slight pain on palpation and local temperature rise may be detected. Passive movement of the foot does not cause a strong reaction in the animal. Level 1 lameness is observed during active movement, which is especially noticeable at the beginning of movement.

***Acute serous-fibrinous tendovaginit -*** Pay FIG terms of the size of their armies . More or less fibrin accumulated in the inflammatory exudate. On palpation, a dough-like swelling was found in the lower part of the pelvis, which gave crepitation.

***In acute fibrinous tendovaginitis, the*** tumor is not large, the pain is very strong, the local temperature is much higher, does not fluctuate, the tumor consistency is doughy, gives crepitation on palpation. When standing still, the animal keeps the patient's leg free. The second level of limping is observed when moving.

***Chronic serous tendovaginit -*** swollen limit a distinct areas is very clear, flyuktuasiya, painless, the local temperature. In used animals , lameness is observed when more is used.

***Fibrozlitendovaginit -*** serous fibrinous or fibrinous tendovaginit to develop. The course is chronic, the swelling is painful, stiff, dense , rough, the local temperature does not rise, the hooves are always deformed, the condition of the joints changes , there is a weak limb.

***Osteoporosis (calcified, salt accumulated) tendovaginitis*** is caused by fibrous tendovaginitis , the above-mentioned clinical signs are observed. On palpation, there is a non-dense solid consistency swelling

***Purulent tendovaginitis -*** can be: primary (if there is an penetrating lesion in the vagina) and secondary - when purulent inflammation is in the surrounding tissues or occurs metastatically. The swelling in the pelvic region is very large, and a strong pain reaction is observed on palpation. The wall of the vagina is tense. Local temperature rises, swells, gives fluctuations. The skin and subcutaneous layers are swollen. When punctured, purulent fluid flows. When the animal is calm, it puts its feet on the tip of the hoof, and when it moves, there is severe pain.

***Treatment .*** The basic principle of treatment is to clear the cavity filled with pus from the pus. The puncture is punctured and 500-600 thousand TB of penicillin is mixed with 0.5% novocaine. Antibiotics are also injected intramuscularly.

## 18 -practical class : HEAD DISEASE

**The purpose of the lesson** . Another common clinical signs of the disease, external x allusions to get acquainted with the treatment and prevention measures.

**Equipment, tools and animals** . Sick animal slides, various damaged lower jaws with skull, actinomycosis and tumor. For facial nerve palsy and artificial hematoma: syringes 20.0-1, needles - 3, 10% solution of sodium citrate - 20 ml, 3% novocaine - 60 ml, various animals with diseases of the head area.

**Course style** . Since it is not possible to get acquainted with all the diseases pertaining to this course, it is expedient to consider several diseases which are similar to each other.

**Hematoma of the supraspinatus .**

30 minutes before the start of the lesson, the pig's tail is slightly cut and 40 ml of blood is taken, to which 4 ml of 10% sodium citrate solution is added to prevent blood clotting. Then 40 ml of prepared blood is sent to the inside of the ear supra, between the skin and the uncle.

Examination of the animal focuses on the clinical signs of the disease (rapidly forming edema, absence of pain, normalization of local temperature, hanging of the ear supras, etc.).

Students then differentiate hematoma from diseases with similar clinical signs to abscess, inflammation of the middle ear, and paralysis of the facial nerve to diagnose hematoma.

*Treatment* . Depending on the course of the pathological process and clinical signs, students independently justify treatment. The teacher noted that it is difficult and practically impossible to apply cold on the first day, it is not advisable to suck blood or cut the tumor (because with a decrease in pressure there is a flow of blood from the vein), as well as accumulated blood and lymph. explains the impossibility of absorption due to the lack of vessels.

By 5–6 days of treatment of the supra hematoma of the ear, the tumor is properly cut and cleaned of blood clots, antiseptic drugs, more precisely, streptoside is sprayed, then the wound is sutured, after 7 days the wound threads are removed and the bandage is placed.

It is advisable to use this treatment in dogs, while in pigs it is more difficult when they are mainly fed in groups ( cannibalism) . Therefore, in pigs, the ligaments are sutured to the ear supra.

**Paralysis of the Be t nerve**

If the patient is not an animal, then the disease is artificially called.

Students check the general temperature, respiration, and heart rate of the sick animal.

Factors that can cause facial nerve palsy in horses include: Acute and chronic in horses: mango, contagious pleuropneumonia, invasive diseases - trypanosomiasis, brain tumors, abscesses, hemorrhages, injuries (Fig. 1), as well as poisoning by poisonous plants and chemicals will be. If the above diseases are not observed in animals, local tests are performed.

If there is unilateral paralysis of the facial nerve, it is accompanied by drooping of the lower lip, pulling of the upper lip to the healthy side, narrowing of the nostril on the paralyzed side (rhinostenosis), drooping of the ear and closure of the upper eyelid (ptosis) and difficulty eating. (Figure 2)

When there is bilateral paralysis of the facial nerve, the lower and upper lip hang down, the nostrils shrink (rhinostenosis), the eyelids are half closed, the ears hang down, and it is difficult to swallow. Asphyxia is observed if the animal has narrowed bilateral nostrils.

Depending on the clinical signs and the results of clinical examination, the animal is mainly diagnosed and the factors that cause the disease are studied (stroke, abscess, tumors, inflammation of the middle ear and parotid gland).

*Treatment* . Pathogenetic (novocaine blockade, tissue therapy), pharmacological, physical therapy and surgical treatment methods are used in facial nerve palsy. Typically, the above-mentioned treatments are applied depending on the nature of the pathological process and its stages. If the nerve is severed, the wound is quickly treated surgically, the nerve is sutured to the surrounding tissue, and antibiotics are used to prevent infection.

In the period of acute and semi-acute inflammation of the peripheral nerves of lat eating, stretching and other mechanically damaged, it is advisable to apply hot, warm compresses, Minin lamp, paraffin and ozokerite therapy.

An isotonic solution of novocaine, veratrin, strychnine and sodium chloride is injected between the skin and muscle to reduce pain and stimulate regenerative processes.

During the first two days, 0.01 g of veratrin is increased, over the next two days its amount is increased to 0.02 g, and for the fifth time to 0.03-0.04 g. In the following days, the amount of veratrin is reduced to the amount of the first day.

Vitamins $B_6$ and $B_{12}$ in addition to the above treatments also give a positive result. In this case, the vitamins are injected into several areas of paralyzed muscles, 1-2 g for adults, 50-200 mg for dogs, a total of 15-20 injections.

Intravenous administration of 0.25 or 0.5% novocaine solution at the onset of the disease has been shown to give good results in our studies . In this case, it is advisable to send 1 ml per 1 kg of live weight of the animal.

Massage chronic course of the disease, acute tickling mal h am and linimentlar, paraffin applications, and tissue therapy, autogemoterapiya constant galvanic electricity and lights outlet. Of the drugs, strychnine and veratrin are administered in the amounts mentioned above.

**Actinomycosis.**

First, the druses of light fungi are examined under a microscope. At the same time it is necessary to pay attention to the jugular expansion of the edges of the mycelial filaments.

Nursimon fungi animal body only Shika s tlangan can enter through the skin and mucous membranes. Young animals with weak skin and mucous membranes are more prone to the disease . They get actinomycosis when they eat rough hay in spring and winter. In the spring, the mucous membranes and skin become less resistant, and the fungal fungi penetrate deeper into the tissues. On clinical examination of the animal, attention should be paid to the gradual development of the tumor in the head area.

On general examination, it is observed that the condition of the animal, local and general temperature did not change. Local examination reveals the topography of the pathological process. It is found to be limited, painless, low-fluctuating, and in many cases ruptured. The pus separates from the discharge, the druses of the purulent fungus can be seen with the naked eye (white-yellow, granular in color).

The clinical manifestations of actinomycosis vary depending on the location. If the pathological process is in the subcutaneous tissue and lymph nodes (submaxillary, laryngeal space), the tumor is mobile, if the pathological process is located in the lower or upper jaw bones, it is absolutely immobile (Fig. 3). In pigs, postpartum actinomycosis of the mammary glands is more common. This is because the udder, which is damaged by the piglets, is damaged when the straw, which is contaminated with fungi, is thrown under the animal during and after birth.

Diagnosis of the disease is largely based on clinical signs. But in making a diagnosis, of course, it is necessary to distinguish it from other diseases. Actinomycosis of the tongue should be distinguished from oral tumors, i.e., it is a limited, painless, cold, shrinking base, and a tumor located more in the palate . In addition, in animals, the process of eating and chewing gum in the disease is disrupted.

Actinomycosis of the head area should be differentiated from capillary currents. Leaks are acute purulent inflammations that occur in the masticatory muscles, salivary glands in the ear, or between the jaws, and a discharge canal is formed, and when applied, odorous liquid pus flows out.

The disease is being sent good looking at the end of his treatment and that it is effective or ineffective.

*Treatment* . After studying the literature on actinomycosis, based on many years of treatment data conducted by the department (Professor SNVaxidov and others), it can be concluded that the only general treatment that can be recommended for the treatment of actinomycosis is 'q. Spesifik methods of treatment actinomycotic micro-structure of the compound to be KA T challenges.

*Iodine therapy* . T -saving drug, potassium iodide and salt iodine content KA 2-3, 5-6 g animals, young animals g twice a day oral administration of a full recovery 34 days.

100-150 ml of a 10% solution of potassium iodide is injected intravenously into adult animals and 50 ml twice a day into small animals, the treatment lasts 33 days.

Depending on the size of the actinomycosis node, 5-20 ml of 1% iodine solution is injected around the actinomycosis, and treatment lasts 28 days.

If a 1% solution of iodine is injected around the actinomycoma for 2-3 days and then extirpated surgically, the disease is cured in 17 days.

*Treatment with antibiotics* . If 20-50 ml of 0.5% novocaine solution is injected into the carotid artery every 2 days in 250-500 thousand units of 0.5% novocaine, and in young animals in 10-20 thousand units of penicillin and streptomycin, the animal will recover in 13 days, if this method The animal is treated for 7-8 days if treated with 3-4 days, then extirpated surgically and the wound is sutured.

*Disease prevention* . In order to prevent actinomycosis in infected farms, it is advisable to carry out the following work:

1. actinomycosis all cattle with good speed Inda should be allocated to the building. Buildings are disinfected daily with a 2-3% hot solution of alkali;

2. Animals where an open process has begun and fistula holes are present should be cleaned regularly, systematically with antiseptic agents. Otherwise, the leaking purulent exudate can damage the feed, bedding, and surrounding equipment, leading to the spread of actinomycosis;

3. Ter i , and q sa, the mucous membranes of the oral cavity Shika s tlangan time with a 1% solution of iodine in tissue processing . Blackened teeth are removed because they actinomycotic pathogen key access roads;

4. Rough hay infested with actinomycosis is evaporated for 1-2 hours at a temperature of 90-100 $^{0}$, using special S-12, KZ-7, KZ-10 and other feed polishers , which can cure actinomycosis. kills pathogens and other microbes.

**Tumors in the head area.**

Dangerous, benign tumors and more papillomas are found in the head area.

*Tumor* - refers to the overgrowth of pathological tissue, the cells of such tissue will multiply rapidly, they are divided into safe and dangerous tumors, depending on their source:

1. Safe of epithelial tumors - papillomas, adenomas; dangerous - carcinoma, cancer;

2. Safe for connective tissue tumors - fibroids, lipomas; dangerous - sarcoma, fibrosarcoma;

3. Safe of nerve tumors - ganglioneuromas, neuromas, gliomas; dangerous - neurosarcoma;

4. Safe for muscle tumors - fibroids; dangerous - myosarcomas;

5. Safe for vascular tumors - angioma; dangerous - angiosarcomas;

6. Safe of epidermal tumors - epitheliomas; The most dangerous - squamous cell carcinoma.

*Papillomas* . Located in the skin and mucous membranes, it is composed of connective tissue covered with a multilayered epithelium, the appearance of which varies. Papillomas on the skin, warts, appear in the form of flat tumors, while in the mucous membrane - in the form of tumors similar to villi, suckers or cauliflower. Papillomas grow slowly, tumors in the skin do not bother the animal, but if they are located in the mucous membrane, they can bleed and sore, sometimes turning into a dangerous tumor.

Tumors of various sizes and shapes are located in the dog’s oral cavity, causing damage and bleeding when the dog eats.

In large horned animals, papillomas are found all over the head area, mostly in the oral area, where they do not adversely affect the general condition of the animal.

If there are dangerous papillomas, the result is bad, if safe, the result is good.

*Treatment* . Treatment depends on its nature and location. Boundary papillomas are cut if they are located in the oral cavity, and the bleeding surface is burned using 10 percent silver

nitrate, lyapis, or a thermocauter. In addition papilloma basis of 3% Novocaine 30 ⁰ mixed with liquor C o ' time, will go down in 6-10 days.

In the treatment of papillomas, intravenous administration of 0.25-0.5 % novocaine 3-5 times at intervals of 4-5 days gives good results.

**Homework and questions**

1. Etiology of ear hematoma.
2. What diseases differentiate ear hematoma?
3. Treatment of ear hematoma.
4. What is frontitis and in what animals does it occur?
5. Methods of treatment of frontitis.
6. Etiopathogenesis, treatment and prevention of scabies.
7. How to distinguish purulent aerocystitis from purulent mumps?
8. What are the clinical signs of odontogenic osteomyelitis and dental caries?
9. What are the clinical signs of salivary gland discharge?
10 What are the clinical signs of facial nerve palsy?
11. Treatment of actinomycosis.

## 19. Topic: DISEASES OF THE NECK AND NECK

**The purpose of the lesson** . Identification and differentiation of common diseases in the neck and neck area. Study of the main types of diseases and their clinical manifestations (bruising, lymphoextravasation, inflammation of the cervical bursa, cervical phlegmon, fracture of the cervical spine, thrombophlebitis of the jugular vein, dilation and rupture of the esophagus, foreign body obstruction in the esophagus stay). To study the specific features of the above diseases, to identify, treat and develop preventive measures.

**Equipment, tools and animals** : anatomical and topographic tables of the industry, drawings, slides of sick animals, zevnik, nasopharyngeal and esophageal probes, thermometer, ruler, straight Cooper scissors, scalpel, surgical tweezers, hemostatic tweezers, 20 g. syringe, injection and surgical needles, 0.5-2% novocaine solutions, aminazine, rompun, rheumatoid.

Bikes with binding materials (cotton, bandages, napkins, tampons, sewing threads), alcoholic solution of 5% iodine, iodized alcohol, antibiotics, rubbing alcohol, white streptocide, iodine boric acid. Sick animals: horse, large horned animal, dog.

**Course style** . The course is held in a clinic, training farm or meat processing plant in a pre-prepared conditions of sick animals. Depending on the number of animals, the group students are divided into small groups, and the students take turns examining the animals.

Students collect anamnestic data about the animals, which are clinically checked (temperature, pulse and respiration). The pathological process is studied using anatomical-topographic tables, pictures, instruments. Clinical signs of lat eating, serous and purulent bursitis, phlegmon are recorded.

Attention should be paid to the tightening of the point when there is a bruise on the neck area and the increase in pain when turning the head to the left or right. Using observation and palpation, pain, local temperature, swelling, and tightness in this area are determined, while the size of the tumor is measured and recorded.

In hematomas and lymphoextravasations, the tumor is limited, and on palpation the fluid passes from one side to the other. When the muscles around the neck rupture, blood clots and inflammation are observed, and palpation reveals the presence of cavities and cavities in the muscle. The animal dies when there is a fracture in the atlas and cervical bone. In inflammation of the neck and atlas bursa, that is, in aseptic superficial bursitis, the shape of the neck changes, forming a painful limited edema that gives fluctuations.

When the deep bursa of the neck-atlas becomes inflamed, a hot, bilaterally tense edema with a painful border is formed. Purulent bursitis may be primary under the influence of mechanical influences and the hematogenicity of microbes or pathogens of brucellosis,

onchocerciasis and mango disease. Inflammation develops in the sac cavity, pus collects, the sac expands, its wall becomes thinner, and the upper side is perforated laterally, forming a stream from which pus flows.

If the purulent inflammation is on the surface bursa, after a few days a clearly demarcated edema appears, which gives fluctuations. If the lesion is located in the deep bursa, at the onset of the disease, there is only a bilateral tense painful edema, followed by the development of purulent-necrotic processes, the formation of a leak, the dead tissue from the leak is separated with pus. During the development of the pathological process, the body temperature in horses rises to 39-40 $^0$ until a discharge is formed .

The primary diagnosis is made based on the nature of the fluid punctured from the tumor and is confirmed to be a hematoma, lymphoextravasation, serous, serous-fibrinous, or purulent bursitis.

**Ensa area phlegmon.**

Phlegmon of the cervical region is more common in horses, less in large horned animals, which makes it easier to diagnose the disease. Phlegmon of the neck occurs under the skin and between the muscles, depending on the location, which is why their course is different.

Intramuscular phlegmon is often severe and depends on the cause. More often, the disease is caused by mechanical shocks, infection due to open injuries , the development of bursitis or the appearance of purulent infections, resulting in the development of cervical phlegmon, which includes the surrounding muscle, fascia, subcutaneous and connective tissue. and will be very heavy.

*Clinical signs* . The general condition of the animal deteriorates, the body temperature is 40 $^0$ and above. At his neck , his head down on a manger . Occipital region diffuse , hot and painful swelling . Later, some of the size of the tumor , where we flyuktasiya o ' choqchalar hole formed in the skin of one or more of the fistula is formed , and they are different .

Checking key ebonit tube fistula , fistula is determined by the presence of curved roads . The curve is checked using the method of fistula channels fistulagrafiya .

Occipital region of necrotic process for a long , neck connected nekroziva the occipital bone kariyesiga Atlant-neck , causing membrane is broken down and pus cavity of the brain , skin inflammation of the brain , nervous system dysfunction , the animal dies .

*Diagnosis and Q consequence* . The diagnosis based on clinical examination methods and consequences .

Subcutaneous flegmonasida his career best , purulent bursitis and neck tissue of necrotic processes to be careful , if the occipital region of necrotic process is long , stiff connected necrotic occipital bone caused kariyesiga Atlant-neck membrane of pus into the brain cavity of the tire will be consequences .

*Treatment* . Based on information from the subject of animal therapy , surgery , treatment, accurate and cost effective methods of therapy , the patho genetic treatment with antibiotics ( short-novocaine blockade , infrared and ultraviolet rays ) are widely used .

If the pathological process of expanding to surrounding tissues damage , operational methods . At the same time , the animal fixenal to the operating area , and the local og'riqsizlantiriladi . Flyuktasiya pathological process kiln is opened , if the physical contact of purulent necrotic nature of Bursa , the link should be cut off in the middle part ( Merilattu .)

The dead tissue is removed and then sprinkled the blood stopped and antibiotics , and then loaded into the buffer space to maintain the skin sutures , 3-4 days after ligament replacement . After the transactions were injured Bodoni r od peroxide solution , washed with yodoform or broadcast . Vishnevsky emulsi

on impregnated wound cavity to
drain out , ultraviolet and infrared rays değişiklikler suspended . The
wound cavity to continue treatment until they reach granulyasion tissue .

The horse lying on the floor because the horse 's head down when the injury improves the separation of the liquid .

**Fracture of the cervical spine .**

More fractures of the 1st and 2nd vertebrae of the neck are observed. Fractures are often caused by the fall of animals, squeezing with a rope, stuffing of the head into the manger, branching and other factors.

However, fractures can also be caused by purulent-necrotic processes from the cervical region, osteoparosis and bone caries.

The symptoms of the disease are as follows: if the first cervical vertebrae move, the animal dies immediately as a result of damage and compression of the elongated brain, if the first cervical vertebrae are broken, the neck is not bent.

When the dentate gyrus of the second cervical spine is broken, severe spinal cord injury is observed and leads to the death of the animal. If the fracture is in the joint area, the animal will not be able to bend its head to the side. In all cases, the consequences are bad, because the treatment does not always give good results.

**Neck flexion.**

Neck flexion can be traumatic and rheumatic in nature.

Neck flexion is manifested in the fall of the animal, fracture of the cervical spine tumor, stretching and rupture of ligaments and muscles, paralysis of the neck muscles, rheumatism in the contracture of the spinal joint will be.

Clinical signs depend on the type of injury and the degree of tissue damage, in which the neck is bent and shifted to the side, ie one side of the neck is bent outwards and the other side is inwards, the head is lowered. 'ladi.

At the beginning of the disease is observed pain, swelling and local temperature rise in the muscles. If there is an injury to the cervical spine, crepitation is observed. To correct the bent neck, the swollen area of the neck is pressed by hand, and at the same time the head is straightened. If the flexion is related to the rupture of muscles and ligaments, the neck is corrected using the arm, and when the arm is removed, the neck returns to the same position.

When the cervical spine has a lateral tumor and a fracture of the joint, it is not possible to correct the curved neck.

*Treatment* . Treatment depends on the type
of injury . Acute aseptic inflammatory processes - cold , hot , short-
novocaine blockade , gidrokartizon , massage , paraffin ozocerite applikasiyalari . Half of
acute and chronic processes, and pointed to
inflammatory ointment linimentlar , paraffin appalikasiyalari d methods
of Irish music . Rheumatic inflammation observed salisillat drugs for the treatment and detection
. 0.5 % novocaine 0.2 g per 100 kg animal live weight compared
to intravenous damaged , massage and infrared rays nurlantiriladi with chloroform . In
part , the animal anesthetic will be corrected in the neck vertebrae . Wooden or metal plates are used to keep the neck and tied around the light instead of cushions .

**Esophageal foreign body obstruction .**

More common in large horned animals and dogs, the clinical manifestations of the disease in animals are as follows: salivation, strong agitation, neck elongation, frequent swallowing and vomiting .

In large horned animals, chewing stops and a large abdominal flatulence is observed. If a foreign body is blocked in the neck of the esophagus, it is known on palpation.

In dogs, if a foreign body made of iron is blocked, it can be detected using the radioscopy method. The prognosis basically requires caution when a foreign body gets stuck in the chest part of the esophagus.

*Treatment* . When the foreign body is spherical, vegetable oil is poured into the animal's mouth or a 0.5 percent novocaine solution is injected into the foreign body, which reduces spasm in the esophagus. The probe is then sent and slowly the foreign body is moved out of place and pushed inwards if it is in the chest area.

If the foreign body is at the beginning of the esophagus, then the lower jaw nerve is anesthetized by IIVoronin and the foreign body is removed using the hand or cornea.

If the above methods do not work, then an esophagotomy is performed and the foreign body is removed. Vomiting drugs may be recommended in pigs and dogs.

**Homework and questions**

1. What form of bursitis is more common in the neck region, what are their clinical symptoms and etiopathogenesis?
2. Etiopathogenesis, clinical signs and treatment of cervical phlegmon.
3. Etiopathogenesis, clinical signs and treatment of periphlebitis and thrombophlebitis.
4. What is the diagnosis of esophageal diverticula?
5. Prevent foreign bodies from getting stuck in the esophagus.
6. Fracture of the cervical spine and its prevention.
7. How is the curvature of the neck formed?
8. What is the treatment for foreign body obstruction in the esophagus?
9. What treatments are used for neck curvature?

## **20. Topic:** Diseases in the abdomen

**The purpose of the lesson** . It consists of the study of diseases of the abdominal region, ie peritonitis, types of dabba in animals, their diagnosis and treatment.

**Plant, equipment and animals** : Dabbs and operational methods of treatment , reflecting the scalpel, surgical tables and hemostatic pinsetlar record syringed, Cooper scissors, surgeons dash k k yarn and catgut (ampoule), sterilizer, wound hooks, 1% novocaine, 5% iodine alcohol solution, rubbing alcohol, iodized alcohol, ethyl alcohol, saline solution, rampun, azaperon, sterile cotton, measuring ruler, 4-5 sick animals (piglets, calves, etc.) different types of Dabbs ( belly, abdomen, groin) and abdominal injuries with injury IRA.

**Course style** . On a course of training in agriculture or agricultural farms , intern doctor at the clinic to be held at the farm, and separate the sick animals and 10-12 hours prior to the start of the course has to breast- warns about, creates a workplace.

In the course, first of all, using tables, pictures, diseases of the abdominal region (hematoma, lymphoextravasation, injury) are studied, the classification of the lesions, its parts, the clinical signs of rectifiable, irreversible and compressed lesions. The sick animal is then examined. The anatomical topography of the injured (dabba) site, its size, shape, appearance and other clinical signs are determined. Palpasiya the nature of the method, the local temperature, pain, swelling, fluting k are Dabbs bodies inside the bag and mobility, adjusted the size of the hernia opening.

Clinical signs are thoroughly studied and each animal is diagnosed and treated separately , surgery is performed.

*Classification and clinical signs of dandruff* . The following are distinguished in dabbas:

1. Dabba hole - an anatomical cavity is a disorder in the abdominal wall through which the organs inside the dabba come out;
2. Depending on the location of the duodenum, it is formed from the fascia of the abdominal wall, the pleural wall, or the cerebral cortex;
3. The organs inside the duodenum are the organs of the abdominal region (intestine, intestines, uterus, bladder, etc.), in the intercostal ducts - part of the lungs, in the cerebral hemispheres - part of the brain, the duodenum.

Depending on its origin, dabba can be congenital and acquired. Depending on the formation and location, it is divided into the abdomen, umbilicus, pelvis, diaphragm, femoral canal, intercostal space and cerebral cortex. Depending on the clinical signs - superficial, internal, correctable, non-correctable and compressible.

*At adjustable dabs, there is* a *dab* hole, a limited soft consistency, painless swelling. When the tumor is pressed by hand, the organs inside the dabba sac fall into the anatomical cavity and the tumor shrinks or goes unnoticed. On auscultation of the duodenum, bowel movements, tympanic sounds are heard in percussion.

*In non-adjustable dabs* , the dabba sac, the surrounding tissue, and the organs inside the sac form a spike (bending - the tissue grows and joins together), resulting in the organs inside the sac into the anatomical space. does not fall and creates conditions for intestinal constriction and necrosis.

*Squeezing* the duodenum is the *squeezing of* the bowel, which falls into the duodenum, into the duodenal opening. Suddenly, the pain behavior, accumulation of gas in the intestines, dung ahead performed y rise in temperature, pulse acceleration is one of the characteristic clinical signs. The animal may be poisoned and die of sepsis. Dabba tumor is tense, inflamed, painful. Qi soft bowel necrosis.

*Treatment* . In young animals, if the hole in the umbilical cord and pelvic girdle is not large, the organs inside the umbilicus are sent in and the skin is bandaged with a plaster, bandage, or compression bandage, but this method of treatment is not always beneficial.

In mares, umbilical hernias with a small hole are treated conservatively according to Malsev. Irritant fluids are injected around the umbilical cord opening (4 - 5 points): 1-2 ml of lugol's solution or 0.1-0.2 ml of 70% alcohol turpentine (in one place). The most convenient and useful method of treatment is the operative method.

To do this, the animal is fixed, placed and anesthetized, then the operating area is prepared, local anesthesia is performed. In cutting, the skin is lifted and cut with tweezers, then the dabba sac is separated from the skin, the organs inside the dabba sac are inserted, then the dabba sac is twisted and its lower part is tied.

The twisted dabba bag is straightened, cut from the top, and the inside is inspected, if there are no organs left inside, it is completely cut off. Once the dabba bag is cut, the rest is sewn firmly into the dabba hole. As a result of a tumor of the umbilical cord, antibiotics are injected into the enlarged area of the skin, and its edges are sutured close to each other.

**Homework and questions**

1. What are the specific features of abdominal wall injuries?
2. What types of abdominal wall injuries are there?
3. What complications are observed in abdominal wall injuries?
4. What surgical methods are used in cases of intestinal wall ulcers and intestinal obstruction?
5. What is the treatment for phlegmon of the abdominal wall?
6. What causes traumatic peritonitis and reticuloperitonitis?
7. Describe abdominal and abdominal injuries?
8. Classification and clinical signs of dandruff.
9. Treatment of umbilical hernia.
10. Factors causing abdominal cramps and their treatment.

## 21. Topic: URINARY AND GENITAL DISEASES

**The purpose of the lesson** . Surgical diseases of the urinary and genital organs: balanoposthitis, acroposthitis, phimosis, paraphimosis, paralysis, hematoma, tumors, bruising, orchitis, epididymitis, urinary tract, ovarian and gonadal inflammation, study of differentiation and treatment methods.

**Equipment, instruments and animals** : catheters, surgical instruments, surgical silk threads, syringes and injection needles, sterile bandages, analgesics and neuroleptics (500 ml of

10% chloral hydrate solution, rampun, aminazine 0.5 -1 percent novocaine), antiseptics (potassium permanganate 1: 1000, 3 percent hydrogen peroxide, Vishnevsky linement, antibiotics and sulfanilamides), bulls, rams, horses and other animals infected with the above diseases.

**Course style** . The course is held in a clinic, equestrian farm or departmental cattle farm, with the pre-isolation of sick animals. Depending on the number of animals, students are divided into small groups of 3-4 people and receive individual assignments.

The animal is checked , and then learn the pathological process before the influenza . The cause of the disease , clinical signs and similar diseases differ from each other .

Balanopostit , orchitis and epididymitis diseases with similar clinical signs of infectious diseases , mainly b depth , and the rams of rare diseases trichomoniasis , vibriosis and brucellosis should be different .

Sexual organs for the control and treatment of animals sent to the Romper or aminazin or horses I.I.Magda , goiter and rams I.I.Voronin member og'riqsizlantir iladi sex . The urinary tract or rock salt to be sent before the catheter , a small animal radiography ya , if you are suspected Prostatis , is controlled through the rectum . Gemotosele or gidroselega diagnosis of scrotal points from the liquid to be checked .

The main focus of the disease in patients with initial genital organs , diagnose g should be a focus on prevention and effective treatment .

Students urinary tract , bladder and urinary tract stones will learn the clinical signs of the disease appear .

Urinary bladder stones , urinary tract inflammation , but only the deterioration of the quality of the urine of animals forced to urinate or can not take the urine , animal siyganda accepted the situation repeats frequently , colic pain in the abdominal region , and is formed .

Horses and dogs to have sex with members of his injuries are more female animals with bladder added . The bleeding , hemat oma and swollen genitals .

The prepuce cellulitis , more prepusiyasi long - term and short- animals , is mainly contaminated wound , wound and prepuce inflammation of the bladder ( due to akropostit ) .

The prepuce inflammation , swelling, pain, local temperature prepuce cache size of the outlet and as a result will be difficult , siyganda pain with sex .

B it is visible , sheep and dogs around the Hole in the prepuce formed as a result of inflammation in the hair , urine and mucus will stick to the wounds , mucous membranes . As a result , Fimo , sexual organ prepuce out of the bag or parafimoz - not to produce a result of the size of the penis , prepuce ring can not enter inside the body , the head of the , and inflated . As a result of the violation of the circulation of blood , glass , ulcers and necrosis of the , planes began to appear . Parafimoz , as a result of sexual falajlanishi come from , where he was a member of its own hanging down , rise , and the ability to disappear .

B depth and tumors of the reproductive organs of horses - fibropapilloma , fibrosis, fibrosarkoma , molasses o sarcoma , and carcinoma is the most common identified . One way to effective treatment of tumors operational method

And more than inflammation of the testes , swelling, pain , and examined when the local temperature and in some cases, a general rise in temperature . Palpasiya testes using one or a few places you can determine the location softening points of pus .

The animal will have difficulty moving , urug'donga against the inflamed feet . Fluid accumulation , hematoma, or tumors may grow at the scrotum .

Increases scrotal hematoma , skin, stress , examined when the pain will be felt . Hematoma leads to the development of more purulent processes . At the same time orchitis , testes formation and pus .

Tumors grow testes and scrotum gradually enlarged and z pain and severe edema . X retaliates killed the animal tumors and metastases .

Sexual washed eat member prepusiyaning injuries , surgical treatment , then pathogenet ic and stimulating treatment .

If purulent processes , using novocaine-antiboitiklar perirenal and besieged epiplevral method s i .

Sexual organs seem to be one or two places , with their operational after operations to r emove the cattle and spa or blood vessels 0.5-1.0 % solution (0.2 g per 100 kg live weight ) 2-3 2-3 day intervals to provide the best results .

**Homework and questions**

1. How is a urinary tract stone diagnosed and what methods are used in its treatment?
2. Etiopathogenesis, diagnosis, treatment and prevention of genital diseases of stallions, bulls, male pigs and rams.
3. Etiopathogenesis, diagnosis and treatment of paraphimosis in horses.
4. Etiopathogenesis, diagnosis and treatment of orchitis and periorchitis.
5. Etiopathogenesis, clinical signs, diagnosis, treatment and prevention of postitis and balanoposthitis.
6. Differential diagnosis and treatment of genital tumors.
7. Treatment of genital paralysis.
8. Prevention of urinary and genital diseases.
9. Etiopathogenesis, clinical signs and treatment of phimosis.
10. Clinical signs and their treatment in inflammation of the testicles and its excess.

## 22. Topic: COMPLICATIONS OF ANIMAL HUSBANDRY

**The purpose of the lesson** . To learn how to diagnose and treat complications that occur after castration of animals. To study the etiology and prevention of any resulting castration complications. It is important to conduct this course on the farm or during the internship.

**Equipment, tools and animals** : a table showing the anatomical and topographic location of the sperm and ovary. Equipment for casting, ie instruments suitable for surgery and with defects, thermometer - 3, phonendoscope - 3. Drugs and binders. Reagents and analgesics, anesthetics needed for blood testing, 2-3 animals with various postpartum complications.

**Course style** . At the beginning of the lesson, students are asked about the fixation of animals, methods of castration, post-castration complications, and their knowledge is determined.

Students are then divided into three groups . The first group of students of transactions , that is , animal abuse fixenal to learn how to avoid complications arising . The second group of students during the surgery , the animal OPERATIONS wrong and improper operating result of complications arising from the study . The third group of transactions , that is operating during the aseptic and antiseptic as well as animal health complications arising from a breach of the rules read .

Then, three small groups of students to complete the task , and they will .

Assignment 1. Castration complications . Written in their clinical symptoms , causes and prevention measures . Akhtar devices and clic king the reasons that it is suitable for them .

Assignment 2. Depending on the age and type of animal , complications that occur during castration are indicated . The reason for their characteristic symptoms , differential diagnosis and prevention measures to be passed . Necessary equipment , pharmaceutical drugs and dressing materials separa ted .

Assignment 3. Depending on the age and type of animal , complications that occur after castration are studied . Their causes , sym ptoms , differential diagnosis and prevention measures . Necessary equipment , pha rmaceutical drugs and dressing materials have been allocated .

In the middle of the course is based on number of sick animals and sick animals and each animal 2-3 students appointed curator . They will receive data in animal history and clinical examination of the animal . At the same time they are peaceful animals tu r forgery and pay attention to the foot , the back to keep the body moving .

Scrotum and testes tizmachasi connection of the control flow of the blood in which blood vessels . Then a bit t animals studied the method used to stop the blood of the testes , vagina when the curtain , omentum , bowel , bladder , symptoms are identified , differensiasiya and diagnosis . Then, treatment is carried out .

Scrotum curtains , ovules inflammation of the vagina , abdominal abscess, clinical character recognition , diagnosis and treatment are carried out . The treatment of aseptic and antiseptic rules must be strictly observed .

**Homework and questions**

1. What complications are dangerous in castrating animals and how to prevent them?
2. From which blood vessel is excessive bleeding observed and how is it stopped?
3. What is the complication of mass castration of male pigs and small horned animals and how to prevent it?
4. What kind of help is provided in case of bowel, bowel and common vaginal discharge?
5. Causes of traumatic shock in stallions, their treatment and prevention.
6. Diagnosis, differential diagnosis and treatment of funiculitis.
7. Treatment of purulent processes in the spleen.
8. What are the complications of improper use of zanda and non-manipulator casting ceilings?
9. Prevention of funiculitis.
10. What local complication of sepsis can cause sepsis?

**Topic: METHODS OF DIAGNOSIS OF FOOT DISEASES**

**The purpose of the lesson** . To teach students methods of sequential examination of the appearance of pathological processes in diseases of the legs of animals.

**Equipment, tools and animals** : animal hoof inspection tongs, hoof knives, wooden triangular pest to check for mosquito bites, tarpaulin bucket, syringes 10-20 g, injection needles, 50-100, 0.5% iodine solution, 0.5-3% novocaine solution - 300.0, rubbing alcohol, hydrogen peroxide, cotton, bandages, tampons. Sick animals (horses, cattle, dogs, etc. with acute and chronic pathological processes).

**Ng noted that the style of the course** . Diagnosis of foot diseases requires a thorough examination of anatomy, topography, static o- dynamics and diagnostic methods. Students conducted a full examination and diagnosis methods to check the Nation j wrote Designing place.

A complete medical history is taken before the examination of the feet: the time of onset of the disease, the conditions of origin, the observed symptoms, what changes occur in the animal before and after the onset of symptoms; the extent to which the disease appeared in the head during and at the end of the disease; the body's temperature, pulse, respiration, and condition of the mucous membranes of the animal should be determined. After that, the diagnosis of foot diseases is started using various methods.

Inspections are divided into 2 groups: general and special inspections:

a) physical - visual observation, palpation, percussion, auscultation;

b) functional methods - slow and active motion control.

1. *Watch* (eye tracking) with the general condition of the animal, the operative position and the character of its acquisition in the foot changes shape, size, shape, deformation (change) the presence of a figura o change, fractures, wounds occurrence is determined, and the first diagnosis name.

Depending on the location and nature of the foot disease, the sick animal will accept a different situation. It presses its foot forward, backward, outward or inward, sometimes to the tip of the foot (zasep), to the side wall, or to the back of the hoof. In this case, the position of holding the head also changes, in the one-sided limb of the front leg, he raises his head when he puts it on the ground, and in case of pain in the hind legs, he lowers his head.

Abdukadir chest muscles in the legs, the front-back axis and delta pay part of, I know, I know g ring and the pursuit of external iliac joints in the fingers, on the back foot by sevens, the outer wall is determined by the presence of inflammation, etc. .

In the case of adduction, it is pathological in the submandibular and large round muscles, in the shoulder-shoulder joint, in the inner wall of the hoof or in the pelvis (fracture), in the pelvic joint, in the mucous membrane of the middle sacral muscle the presence of a process is determined.

Often the block, part of a pendulum picks up a leg qn ing on the skin, usually the presence of arthrosis, osteoarthritis and rheumatism. Leaving the front leg back is the result of inflammation of the back of the hoof, the biceps muscle of the shoulder, the front of the hoof or the hoof bone, the toes that bend the toes, and the vagina.

2. *Using* palpation: tissue sensitivity, changes in the skin - moisture, sweating, peeling, changes in skin tone, temperature, elasticity, skin thickness, the presence of foreign matter, mobility, fluctuations , gi j irlasi is found to have grown along with the surrounding tissue. (Figure 11,12,13)

3. Diagnosis of hard and soft tissue diseases ( *percussion* ) (in the horn, bone fractures, osteophytes, fractures of the hoof bone, subcutaneous eczema, bone fractures). Percussion is determined by comparing symmetrically located (sick and healthy) areas.

4. *Auscultation* (hearing) - helps to hear sounds coming from the injured areas (hematosis, fibrinous arthritis, synovitis, bone fractures, gas phlegmons). Place the stethoscope on the injured area and move the joints slowly.

In special examinations (group 2) - it is advisable to start the examination of the legs from its lower side.

**Examination of hooves and hooves.**

They are first cleaned and washed. Then, using observation, palpation, tapping, auscultation, and special examinations, the hoof-based arrow, the soft part of the hoof, the hoof wall, the circumference, the wire and the hoof bone, the correct heel stitching, the nails, the shape of the hoof on the ground, deformation, the presence of foreign matter, fluid leakage, injury. The location of the painful reaction and the pathological process is determined using test hoof clamps. Squeeze slowly first with the clamps and then increase the pressure. If a reaction of traction of the foot is observed when the painful area is compressed, it indicates the presence of a pathological process in this area.

One side of the clamp is placed on the hoof wall and the other side is placed on the base of the hoof. First the nail is inspected , then the inner parts, the lateral and middle parts of the needle . (Figure 14)

The pulse of the carotid and carotid arteries is palpable. If the pulse of the arteries is accelerated, the temperature of the hoof circle rises, it indicates that an acute inflammatory process is taking place in the hoof.

Checking the moxibustion line using a hoof hook, palpation, and pliers - one end of the tester clamp is placed in the middle of the arrow and the other is placed on the outside and inside of the hoof, respectively. The direction of tension is directed towards the moxibustion block. Inspection with a pona is carried out using a wooden right-angled pona, 25 cm long and 15 cm wide. The pain reaction indicates that a pathological process is taking place in the mucosa.

*Examination of soft uncle ligaments* . The helper lifts the legs and fixes them from the bed joint. The examiner grabs their soft uncle and writes them on two opposite sides. The pain reaction indicates that there is a pathological process in it.

*Examination of the hoof joint* . The raised leg bed joint is fixed from the top of the round bone, and the examiner grabs the back of the hoof and moves it down, forward, and in a circular motion. Pain occurs when the wire is injured.

*Examine the area where the fingers share the common stake to the intermediate bone* . In the raised leg, the hoof joint is bent backwards (volar flexion). In this case, the stake is stretched, and if there is pain, the presence of an injury is detected. Then bend forward and determine the position of the intermediate joint joints, round joints, flexor joints, femur. (Figure 15)

*Examination of the round (venechnyy) joint* . Attention is paid to the wound on the skin. Tissue swelling, local temperature, pain, consistency are examined, and dorsal and volar flexion (bending) are performed. It is determined whether there are exostoses, fractures, cracks in the pelvis and round bones.

*Examination of the bed joint area* . On the basis of observation and palpation, pain in the mucous membranes of the joints, joints, muscles is detected. The position of the joints is determined by rotating the joint.

*Check the paw area* . The writing joints of the fingers, the bones, the muscles, and the deep and superficial flexors, their vaginas, are examined.

*Examination of the wrist joint area* . Tumors in the lower part of the joint, the foreskin in this area are examined. In the case of deformed arthritis, it can be very painful to lean when a healthy foot is lifted quickly.

*Examination of the wrist and elbow joint area* . Diseases of the skin, subcutaneous tissue, muscles and bones, fractures, bursitis, arthritis, triceps are detected by observation and palpation.

*Examination of the shoulder joint* . At the same regions defigurasiya (inflammation of the muscles atrophy, deformation, and the two-headed arrow, and the arrow back muscles), Salesforce, miopatoz bone fractures.

The presence of abduction in the shoulder joint and the movement of all parts of the leg indicates that there is a pathological process in the back muscle of the shoulder joint.

Mixed paralysis is the result of damage to the supraspinatus nerve in the patient's leg when there are no visible changes in the shoulder-shoulder joint during the onset of the disease other than abduction and tactile sensitivity changes.

When the wrist nerve disease - paralysis and paresis is suspected in the clinic, an "elbow examination" (in general surgery) is performed.

*Examination of the area of the compensatory (jumping) joint* . Frequently observed and difficult to diagnose without the presence of the disease (kollogenozlar, spastic ileus of cattle and horses - are diseases of the joints osteodystrophy) gala joints n i sound. By observation and palpation, the shape, the integrity of the skin, the condition of the synovial folds, the local temperature, the change in volume, and the tension of the axillary tendon are determined. Osteoarthritis monitoring changes in the bones of the inner surface of the felt il name.

Chronic deformed osteoarthritis is diagnosed by a spatial examination. If layers are observed in the axillary tendon, palpation of the calcaneus is checked by palpation (paying attention to the integrity and condition of the axillary tendon). Tendovaginitis and bursitis can be detected by observing and palpating the anterior part of the joint .

*Examination of the calf area* . Through observation, the integrity and size of the skin is determined. Palpation determines the condition of the fascia, muscles, bone, and bone marrow. For example, if movement, pain, crepitation, tissue swelling are observed, a large femur fracture is suspected.

*Examination of the knee joint area* . Observation reveals an injury, swelling, deformity of this part. Grope your laptop lid , b og'lamlarining Learn about the location and change its position sh . If the anterior, inner surfaces of the bag capsule, and the lower part of the knee cap are maximally tense, there will be a sign that the knee cap is protruding upwards and sideways. Slime bag l If your laptop (underground), held their anatomical location of the probes, the punk, the joint capsule or liquid slime bags checked.

*Examination of the pelvic joint and pelvic area* . Pathological processes in the pelvis are examined by methods of observation, palpation and rectal examination. Pain reactions are detected by simple palpation.

In addition to the above methods, especially in cases where it is difficult to diagnose diseases of the distal parts of the legs, the following methods are used: nerve conduction analgesia, (Figures 16,17,18,19) hot baths, diagnostic operations and X-ray examination, nerve o If the conductivity and excitability are violated, galvanization and faradization are carried out using current. At the end of the examinations, the results of the examinations are discussed with the students.

**Homework and questions**

1. Why are foot diseases more common in working and high-yielding animals?
2. What are the causes of foot diseases?
3. What economic damage is caused by foot diseases?
4. What is included in the general examination of foot diseases?
5. How are pelvic, spar, and elbow methods performed and what is their diagnostic value?

## Topic : SURGERY OF FINGERS

**The purpose of the lesson.** Students are shown surgical treatment of purulent necrotic processes, paraarticular phlegmon and other cases that occur in the distal part of the animal's fingers.

**Equipment, tools and animals** : syringes and needles, surgical tweezers, scalpel, scissors, hemostatic tourniquet, needles and surgical needles, 5% formalin alcohol solution, 3% novocaine solution, 5% iodine alcohol solution , 4% potassium permanganate, 3% hydrogen

peroxide, antibiotics, sulfonamides, degt, turpentine, Vaseline, rope, silk sutures and animals infected with purulent-necrotic processes.

**Course style** . Under the guidance of a teacher, students demonstrate techniques for the surgical treatment of special ulcers of the hoof, pathological changes of the skin between the toes (tiloma), soft uncle necrosis in horses in sick animals.

**Special (Rustergols) ulcer of the hoof**

Specific hoof ulcers are more common, especially in high-yielding cows (O. Dits., NSOstrovsky). In some cases, young animals and bulls get sick. The disease is more common in the more lateral hooves of the hind legs of animals. (Fig. 33)

The disease occurs when animals are kept on narrow and rounded iron floors, as well as due to untimely shearing of hooves and adinoma.

Symptoms of the disease in animals depend on its transition period and the weight of the animal. At the onset of the disease, there is a decrease in appetite in animals, a gradual decrease in body weight and milk yield. The sick animal lies down a lot, moves slowly, and then the basal limb is observed. In animals, lameness begins to manifest itself strongly when walking on uneven and hard terrain. When the hoof heel is examined, the horny layer in the pathological foci becomes grayish-yellow, reddish-yellow, or dark red, and has lost its flexibility and strength. Later, instead of moving the cornea, a wound is formed, and there is a purulent-necrotic process.

Primarily in the treatment of disease q argan etiological arrow shaft will be eliminated . Sick animal fixenal q i l s finger is removed and damaged hooves o ' sgan Cut soap and warm water or washed with 5% potassium permanganate . See the nerves, aching fingers sizlantirilib operating area , and the finger put more emphasis tow di

After that, the separated dead and pathological horn tissue is removed by cutting. If the lower part of the deep flexor joint of the finger is necrotic, the joint is partially removed.

The tourniquet is removed if blood flows from the veins, and if it does not flow, the wound is sprayed with antibiotics (oxytetracycline, tetracycline) and sulfonamides or powdered potassium permanganate and an equal amount of boric acid.

After the treatment is applied in the same manner, a bandage is applied to the wound. Dyogt or turpentine is mixed with an equal amount of Vaseline and soaked in gauze, and it is placed inside the gauze wound and tied with a bandage over it.

The sick animal is treated by keeping it flat and dry.

**Mild uncle necrosis in horses.**

Mild uncle necrosis occurs mainly in horses and accounts for 16.5% of hoof diseases (AVYesyutin).

Mild uncle necrosis is more often caused by complications of parachondral phlegmon, phlegmon of the hoof (gultoj), lat-torn wounds, deep purulent pododermatitis, phlegmon of the hoof joint. It can also occur as a result of an infection of the soft tissue of the uncle (Fig. 34).

When soft-tissue necrosis results from a complication of the above-mentioned diseases, the general temperature of the animal increases and paralysis is observed.

At the onset of the disease, an abscess is formed, which then turns into a sore discharge, after which the body temperature drops significantly, the abscess decreases or disappears completely.

The swelling around the soft palate hardens, the pain decreases, or disappears completely. A small greenish-gray pus comes out of the discharge canal. If relapse is observed in the animal, it is indicative of purulent arthritis or necrosis of the hoof bone.

Mild uncle necrosis is a secondary disease, and in its treatment the main focus should be on the treatment of primary diseases in which the necrotic uncle is removed after the cessation of the acute process.

In the acute process of phlegmon is first used antibiotics (intramuscular bicillin -3 4000 TB per 1 kg of live weight), sulfonamides (intravenous 10% norsufazole 0.02 g per 1 kg of live

weight) and other antiseptics. An alcohol-based bandage or UVC is placed on the injured area. Novocaine-antibiotic blockades on the palms of the hands are also of good benefit.

If this treatment works best , not the development of necrosis of soft cartilage operation s al .

A day before operations foot cut off from the horseshoe and the hoof is cleaned . Jarraud h Atlas Mountains hair into finger around 3-
4% potassium permanganate or lizolning washed with a solution of warm and connected .

The operation is performed while the animal is lying down . Operating area with a damp alcohol or gasoline iodide twice and 5% ,
5% alcoholic solution of iodine formalinning alcohol or 4% solution of potassium permanganate , then .

OPERATIONS 15 q a minute before the Volyn and plantar nerves on Magda o ' tkazuvchan without og'riqsizlantiriladi , peace h porch light anesthesia . S o ' ngra jump joints associated with higher tow .

The soft cartilage necrosis ke s o familiar with the case q abroad .

1. Sapojnikov - Skvorsov method .

This method is based on the circumference of the skin , foot skin and hoof wall necrosis b Department 's failure to women ' used in . ( Figure 34)

To do this, the hoof wall is cut in the form of a semi-ellipse with a hoof knife at the border of the soft ridge to the leaf-like layer. Then cut the skin and subcutaneous layer and 8–12 cm long horizontally to the soft uncle, 1.5–2 cm above the hoof ridge, parallel to it. Through this incision, the skin of the hoof, the skin base of the hoof circle, and the hoof wall are separated. The uncle is divided into two equal parts and removed in pieces with a double-edged convex knife. The surgical wound is sutured by spraying the wound with antibiotics and sulfonamide powder.

This method has several advantages over other methods. When animals are treated with this method, the wound heals quickly and no deformation of the hoof is observed.

The disadvantage of this method is that the necrotic uncle must be removed without seeing under the skin, which does not allow to cut off the entire part of the necrotic uncle.

2. In the Ivanov method, the skin is first removed in the form of an ellipse, then the skin base of the hoof circle, the hoof wall and the necrotic uncle are removed.

This method is used when there is a lot of dead tissue in the skin, hoof circumference skin base, and other parachondral tissues, along with mild uncle necrosis. Before suturing the wound, antibiotics are mixed with 0.25% or 0.5% novocaine or mixed with antibiotics and sulfonamides powder. The wound is then covered with gauze soaked in Vinevsky, syntomycin or sulfanilamide ointment, and the tourniquet is removed and a bandage is placed.

If the wound does not develop purulent processes, the general temperature does not rise and there is no leakage, then the bandage is replaced in 10-15 days.

When using operative methods in hoof soft uncle necrosis, one method should not be standardized, depending on the nature of the pathological process, it is recommended to use this or that method.

**Homework and questions**

1. Clinical signs of a specific hoof ulcer.
2. Treatment of a specific wound of the hoof.
3. Factors causing necrosis of the soft palate.
4. Clinical signs and treatment of necrosis of the soft palate.
5. Sapojnikov-Skvorsov method.
6. Ivanov's method.
7. Factors causing specific hoof ulcers
   consists of.
8. When is the Ivanov method used?

9. When is the Sapojnikov-Skvorsov method used?

## Topic: ANATOMIC - TOPOGRAPHICAL STRUCTURE OF THE EYE

**The purpose of the lesson** . It consists of teaching students the anatomy, physiology, and clinical signs of an eye disease in animals.

**Equipment, tools and animals:** horse, cattle, sheep, dog skulls , eye model, pictures, drawings, diagrams, tables on eye anthomy o i d, canned and clean slaughtered animal eyes, scalpel, scissors, tweezers, 2 and 5 ml syringes with needles, probes, corneal histological preparations microscope and others.

**Course style** . Course will be held at the Laboratory of the Department, s wholly of the complexity of the structure of the eye and its measurement is one of q aratiladi. According to the students, primarily a zmali h q use of armed force their knowledge about the anatomy of the eye being and enrichment of solid-respect .

Every small groups led by a teacher d a look at the material symbols of various diseases of the eye q q learn to be a pathological changes.

*The eyeball (orbit)* . The goblet is a symmetrical cavity located at the border of the skull called the face and brain q , in which k its beak is located together with all the auxiliary organs . It is formed by the union of the forehead , temples, k own young, cheek s nests. The largest subsidiary of x li animals much lower orbit q tears the name of the bone yup visible part of the external k il. He yup q , easy to damage. This elongation of a variety of drug substances for treatment.

There is a groove on the surface of the eyeball, in which the tear gland is located. There is a hole in the tear bone that leads directly to the tear nasal canal.

*The periorbita* is a curved conical sac in which the eyeball is located, and fibrosis is composed of elastic substances. The main part of the periorbital is attached to the edge of the eyeball, while the inside is attached to the eye socket and the wall of the eyeball. The periorbital is surrounded on the outside by extraorbital adipose tissue. Within the periorbita, the eyelids, muscles, nerves, blood vessels, fascia, and introorbital adipose tissue are covered. (Fig. 35)

The eyeball is moved by the eye muscles, i.e., four straight and two curved muscles. They will all be attached to the eye socket. The muscle that pulls on the eyelid starts at the eye socket and connects to the eyeball in the form of four teeth, wrapping around the optic nerve. The right muscles of the eye are in the form of four bands, consisting of the upper, lower, lateral, and middle muscles. It all starts near the orifice and ends at the fibrous membrane of the eye. The curved muscle of the eye is also in the form of a ribbon, which begins in a special groove of the tear bone and passes to the lateral surface of the eyelid and ends in the fibrous membrane. In karakul sheep it intersects with the lower right muscle.

The upper curved muscle of the eye passes from the lower part of the lattice hole to the inner surface and goes to the inner corner of the eye, then turns to the side and ends in a fibrous membrane near the right muscle. The same goes for karakul sheep, but they end up in the form of a thin curtain. The straight muscles of the eye rotate the eyeball in all directions, while the curved muscles rotate around the axis.

The fascia of the eye is divided into two parts.

1. The superficial fascia of the eyeball begins near the orifice, wraps around the eye muscles, and extends to the eyelid and into the upper and lower eyelids.

2. The deep fascia of the eyeball passes between the eye muscles and splits in two, one going to the eyelid and the other to the edge of the cornea of the eye. The fascia of the eyeball (Tenonov) passes from the edge of the cornea towards the fibrous membrane, wraps around it, and ends near the eye socket. It is also joined by a deep fascia, forming a vagina around the optic nerve. The internal Tenonov cavity of the ocular fascia is also joined by the vascular cavity and the subcortical cavity of the optic nerve of the brain.

*Lids.* The upper and lower lids consist of skin and muscle folds that form a transverse slit when closed. Eye corners are formed on the side and inner edge of the squash slit . Where the eyelids close, there is a joint and squash edges, which have an outer and inner edge (lashes).

On the outer edge there are long k i prik hairs. See the upper eyelids over a barrel q small and velvet doubt the smart strip i i q overpower the screen, q ovoq called the conjunctiva.

*Conjunctiva.* The eyelids and the skin bo'rmasining the inner edge of kon'yunktivaning connective tissue, and the eyeball conjunctiva of the eye q influenza. Covers the eyeball conjunctiva of the eye o ' encom- conjunctiva g umbazi, yoriqchasi called a cache of conjunctiva. The inner surface of the eye, small tears burtikchasi, the small tears in cho'qurchalar ko ' li -covered. Casements tears of cattle and horses, a lot of big, ch o ' pork ac h g' is the color of the sweat glands. The depth of the conjunctival bag of different animals, ch a. The squash conjunctiva contains glands and lim fat follicles.

The third vertical pumpkin milking the inner corner of the eye conjunctiva s configuration, its length is 2.5 cm, the shape of various animals , etc. will be different. He is the third eyelids elastic cartilages g of a depression.

The eyelids are moved by the following muscles:

1. The circulatory muscle of the squash
2. The outer muscle that lifts the upper eyelid
3. Yu q origi The inner muscle that lifts the eyelid
4. The muscle that lowers the lower eyelid

*Tear apparatus* . The upper and uchinchiqovoq glands, ducts, bag and tears of the sacred path n. The superior squamous gland is located under the conjunctiva at the base of the cheek tumor near the upper heel of the forehead bone. His color q roam the city better, q open market through the conjunctiva. After the tear glands to gather plenty of tears, tears storm q i , on the upper and lower lids. The tear ducts fall into the tear sac. The tear sac is a veiled tear - it passes towards the nasal passage and out into the canal in the nasal cavity. There are 6 to 7 large and several small pathways of the pancreas in autumn. Horses k o h age gland is the size of 5.5 x 3.5 cm , 12 - 16 by way of their diameter of 2 mm. Tears - The nasal passage opens into the inner part of the nose.

Tears are a clear, clear, salty-tasting, low-alkaline liquid that is 99% water and 1% solids. Lysozyme in tears has antiseptic properties and plays an important role. Tears come out of the gland and fall into the conjunctival sac, moistening the conjunctiva and cornea and washing away foreign substances in the conjunctival sac.

Tear fluid has bactericidal properties and is involved in the nourishment of the cornea. Tears accumulate in the inner corner of the eyelid. The tear sac hyech how borderless tears - pass through the nasal passages and join the canal in the nasal cavity.

Tear-nasal canal. It is 25-28 cm long in large animals, passes through the tear and upper jaw bones, is directed to the nasal passages, and opens near it. In general, the lacrimal apparatus performs a protective function, constantly separating tear fluid, affecting the microbes in the conjunctival sac, and moistening the conjunctival cornea to prevent them from drying out and various injuries when the eyelids move.

Eye oil. Basically it is divided into two parts: 1) the fat pad of the eyelid; 2) special oil bag. The fat pad of the eyelid fills the cheekbone outside the periorbital cavity, so it is not called eye oil. A special fat sac is located in the periorbital, separating the eye muscles and fascia from each other and performing a protective function around the optic nerve.

Fat formation is a biological shock absorber that allows the eyeball to move easily in the orbital cavity.

**The structure of the eyeball**

The eyelid is spherical in shape, the front is hollow and the back is slightly convex. The eyelid is located on the front of the eyeball, behind the eyelids. At the back of the eyelid is a

retrobulbar cavity that is filled with muscles, fascia, nerves, blood vessels, and fat. The eyeball is connected to the brain via the optic nerve.

The eyes of horses weigh 30 grams and have a volume of 5-8 $cm^3$.

The eyelid consists of the following three layers:

1. Outer fibrous membrane - tunica fibrosa;
2. Vascular membrane - tunica chorioidea;
3. The inner retina is the tunica retina.

**The outer fibrous membrane is the tunica fibrosa**

The outer fibrous membrane of the eye forms a closed solid shell that reflects the shape of the eye. It consists of a clear and dense horny (horn) curtain on the front and an opaque white curtain on the back. The outer fibrous membrane consists of 2 layers:

1. The lens of the eye. Covers 5 to 4 parts of the eyelid. It does not transmit light rays, is dense, contains few blood vessels. At the back of the leaky curtain is a lattice plate through which the fibers of the optic nerve pass.

2. Shox curtain. It is located in front of the eye socket and occupies 1 in 5 of it. The cornea is clear, transparent, very dense, it has a large number of nerves, but no blood vessels. Its thickness is 0.8–1.5 mm and is fed diffusely. Place half to add to the silver screen of the cornea is clear, he said , " Limbo " is referred to.

Histologically, the cornea consists of 5 layers:

1. Multilayered squamous epithelial;
2. Front main plate or bowman curtain;
3. Special tissue or corneal parenchyma;
4. Organ main plate or dessemet curtain;
5. Endothelium.

**The vascular membrane is the tunica chorioidea**

Central vascular inner surface of the white curtain covering g to see the curtain aside a bit of stick vashox and added to the nerve. It is divided into three parts:

1) Front colored curtain.

The colored cornea of the eye is of different colors in animals, and stands between the cornea. In the middle of this curtain there is a simple hole pupil , on the anterior and posterior surface of the colored curtain there are folds-pupil and the edges of the eyelashes, which join the body of the eyelash to the vasculature. On the upper side of the pupil there are dark shapes resembling grape clusters. Color curtain pigments give different colors. The smooth muscle fibers around the pupil of the eye are the dilators of the pupil sphincter, the muscles located in the radi k al state are the dilators of the pupil. Its expansion and contraction will depend on the light. Pupil are also a variety of different animals, CIPM o ' animals are exposed to, aylanasimon dogs, cats and a strong standing in the light, the light-ka m aylanasimon.

2) Ciliary or ciliated body.

It is the middle part of the vascular membrane and is up to 10 mm thick in the form of a ribbon located between the colored membrane and the special vascular membrane. The ciliary body has an ciliary muscle made up of smooth muscle fibers. He radicalized k from 70 to up to 110 taro q shaped eyelashes tumor and taught. This is the front side of the body, eyelashes o ' zag , carrying corals mutual functioning.

3. Private vascular membrane.

It is the posterior part of the vascular membrane and is located between the retina and the leaky membrane. The color is dark brown, the blood vessels are very thin and densely connected with the leaky membrane. On the dorsal side of the membrane is a light-reflecting layer, the structure of which is cellular in dogs, fibrous in animals, and not in pigs. Its color is blue-green in horses, green-blue in cattle, and golden-yellow in dogs.

The special vascular curtain consists of 5 layers:

1. Suprax o rioid or multiple plate layer;
2. Large vascular layer;

3. Reflective layer;
4. Capillary vascular layer;
5. Glass or base plate layer.

**The retina is the tunica retina**

The retina of the eye is divided into visible and invisible parts. The part you see is also divided into two:

1. Pigmentlashga floor and combined vascular close to the floor.

2. The special (chin) retinal layer goes from the entrance of the optic nerve to the ciliary body. The color will be reddish-clear. T o ' the curtain to see the nerves will have (speed bumps) on top of it. Its diameter is 4.5-5 mm. There is a central border in the middle of the net curtain, which is the best place to see.

In terms of histological structure, the retina consists of 10 layers, functionally two layers, the outer - light-receiving and inner - light-transmitting. The light receiving unit of the main elements of the tube and asimon cells.

The ciliary part and the colored cortex part are very thin and consist of two layers, one of which joins the ciliary body and the other to the colored curtain. Karakul sheep retina, the back part is a little vague, do'nglig round shape with a diameter of 2.5-3.5 mm.

The optic nerve is the second pair of cranial nerves. In the cranial cavity of the skull, the two optic nerves join together to form a connection . The optic nerve is 5.5 mm in diameter and pierces the vascular and white membrane. It is surrounded by hard and round brain membranes. With this nerve, the arteries and veins of the retina are located together.

The optic nerve is divided into three parts:

1. Private (chin) optic nerve;
2. Intersection section i;
3. Visual tract.

Light-refracting media include intraocular fluid, the eyeball, and the vitreous body.

See the front of the eye fluid and eye or a camera. The intraocular fluid is clear, colorless and contains water, 0.02% protein, mineral salts, vitamins and a se tilxolins. Intraocular fluid is produced by the ciliated body. A dangerous disease glaucoma develops when the absorption of eye fluid is impaired.

The eyeball is a double-sided convex lens that sits behind a colored curtain. He was very clear and dense consistency and an image of the retina, the light broke, to start the service. G Avha 's surface k i floor is surrounded by a capsule, which bark, dense core parts. The cells of the bark part are long, so the fixed ore is in the form of several layers of skin resembling an onion. The eyeball is attached to the ciliary body by a stake or by a lifting stake. It has lymphatic fissures that are filled with lymph fluid. As a result of the contraction and writing of these stakes, the diamond in the always elastic state expands and narrows, making it easier to see the objects.

The vitreous body is a spherical, transparent organ located in the space between the diamond and the retina. It contains a dark substance. The vitreous body is a vibrating mass that contains 98.5% water and 1.5% density. The vitreous body creates intraocular pressure and serves to hold the retina and vascular membrane in a normal position.

During the lesson, students prepare a healthy and diseased eyelid and see the state of all its elements. For example, in phlegmon, tumors, changes in the elements of the eyelid in case of injury are examined.

**Homework and questions**

1. The structure of the eyeball.
2. The structure of the periorbital.
3. What muscles move the eyeball?
4. The structure of the eyelids and the muscles that move it.
5. The structure of the tear apparatus.
6. The structure of the eyeball.

7. The structure of the vascular membrane.
8. The structure of the front colored curtain.
9. The structure of the ciliated body.
10. The structure of the special vascular membrane.
11. The structure of the retina of the eye.
12. How many parts does the optic nerve consist of?
13. Where is the intraocular fluid?
14. The structure of the eyeball.
15. The structure of a vitreous body.

## JOINT DISEASES

**The purpose of the lesson.** To teach students to identify joint diseases and make differential diagnosis (comparative diagnosis) and methods of their treatment.

**Equipment, tools and animals.** Pictures depicting various joint diseases, pathoanatomical museum drugs (ankylosis, ossifying periarthritis, deformed arthritis, etc.), Cooper scissors, syringes (20 grams) and needles, bandages, cotton swabs, 3% chlorinated acetic k slots, 3% solution, 0.5% pushed alcohol, 5% solution of iodine in alcohol, ice, cold water, fixenal instruments, experimental sick cattle animal, horses and sheep .

**Course style.** At the beginning of the lesson the anatomo-morphological structure of the joints of farm animals and diseases of the joints are explained. The course is conducted in a surgical clinic or veterinary treatment facility. Students in the group are divided into small groups according to the number of sick animals. Each small group, in turn, clinical trial, and diagnosis of sick animals and diseases of the joints of each differe c vaccine, and diagnostic testing. Special attention is paid to the work carried out at the department in the treatment of joint diseases.

Surgical arthropuncture and treatment procedures are performed by students under the guidance of a teacher.

At the joint, two or more bones are said to be mutually mobile joints that fit together.

The joints are divided into the following depending on the fusion of the bones.

1. Simple - 2 (finger bone, shoulder, elbow and tos- pelvic Bo ' spouse ) .
2. Complex - consists of several bones (knee, wrist joint, etc.).

Depending on the movement of the joints are divided into the following types.

1. One axis.
2. Two-axis.
3. Multi-axis.

The main elements of the joint: epiphyseal and metaphyseal ends of bones, joint joints, joint fibrous capsule, ligaments, synovial layer, synovial fluid, nerve, blood and lymphatic vessels, periarticular soft tissue.

The joint capsule is a direct extension of the bone marrow and consists of two layers:

1. Outer fibrous layer
2. Synovial layer

The joints of the anterior and posterior leg bones perform the following movements: flexion, extension, transmission, assembly, twisting, and rotation.

***Classification of joint diseases:***

According to Shakalov KI:

1. Bo'g'imningyo accompanied by acute and chronic traumatic shock aseptic diseases : injuries, GE martroz, for a long time, bound in the menu, sinovitlar (serous, fibrinous serroz , fibrinous) para and periarticular fibrosis, periarthritis, contractures.

2. Open (traumatic) injuries of the joint .

3. Purulent joint diseases : synovitis, capsular phlegmon, arthritis, osteoarthritis, paraarticular f legmona, putrefactive arthritis and panarthritis .

4. Special acute and chronic become contagious and infectious-allergic joints Gallo l seek to: brucellosis, rheumatism, paratifoz.

5. Chronic exudate s i z joints Gallo l seek to: deformasiyalonuvchi arthritis (osteoarthritis), suyaklashuvchi periartrit, arthrosis and ankiloz .

6. Toxic-allergic joint diseases introduced by the department.

***Examination and treatment of animals with arthritis.***

H Animal registration, anamnesis collection, and general examination (temperature, pulse, respiration) are followed by examination of the joints at rest and during movement.

***Acute serous synovitis of the calf joint.***

Horses do not fully lean on their next leg, holding it in a semi-bent position and leaning lightly on the tip of the hoof. Palpation of the joint area reveals the presence of a limited, hot, and painful fluctuating tumor. A lighter or heavier base is observed when moving.

Dogs do not lean on the patient's leg at all, and when the joint is examined by passive movement, a sharp protective reaction is observed.

This disease is differentiated from chronic serous and purulent synovitis, purulent arthritis, joint empyema, capsular and paraarticular phlegmon. To do this, an arthropuncture is performed in the joint, the necessary operating area is prepared, and 5 ml of fluid is taken into 2 clean test tubes using a syringe and needle. At the same time, fluid (color, consistency, elongation, viscosity) is examined by taking fluid from a healthy joint for comparison. The synovial fluid from the diseased joint is more fluid in consistency, turbid, less elongated, and less viscous. Add 5% trichloroacetic acid (1 ml) to the points and mix lightly. In a fluid from a healthy joint, a floating fluid clot is formed in the solution, and in a fluid from a diseased joint, the fluid clot settles under the test tube. The diagnosis is made on the basis of the obtained data.

***Treatment.*** Peace, blockade with the addition of hydrocortisone to novocaine, compression bandage, cold, after 2-3 days a warming compress, paraffin application, followed by massage, absorbing ointments, tight bandages are applied to the joint.

***Purulent synovitis .*** Purulent inflammation of the synovial membrane. Lat is caused by eating, bruising and other mechanical injuries. In addition, this process sepsis, postpartum infections, nasal , Paratii, omfaloflebitda development.

Inflammatory tumors develop in the synovial layers with microbial infiltration. Obvious hyperemia, swelling of the synovial nipples, hyperplasia are observed. Tumors also occur in the fibrous layer of the capsule and in the paraarticular tissue. The synovial membrane has a yellowish, velvety appearance. Collateral edema develops in the paraarticular tissues. Subsequently, large numbers of leukocytes, lymphocytes, and erythrocytes are observed in the joint capsule. A large amount of purulent exudate accumulates in the joint cavity. The amount of hyaluronic acid and mucin is sharply reduced. The environment is acidic PN 5.2-6. The anatomical disorder of the uncle is not observed. Toxins are absorbed and purulent-resorptive fever develops.

Joint pain, local temperature rises, bulges tighten, blurred yellow exudate flows in the wounds, lameness increases when the animal moves. The leg is in a semi-bent position. Fluid accumulates in the joint capsule, resulting in enlargement of the joint , resulting in the development of empyema.

At the beginning of the disease, the diagnosis is determined by examination of the point. As for the solution of 5% or 10% with three 2-3, 3-5 ml of acetic acid, and the chlorine is

added to the drop point. If the joint is diseased, the inserted puncture coagulates, breaks into small pieces, and sinks to the bottom of the vessel.

***Treatment.*** It aims to prevent the development of infection and limit the process. Novocaine blockade method , antiseptic therapy, the main blood vessels novocaine to antibiotics. Into the joints diksazon, metadiksazon, with hydrocortisone 300-500 thousand units penisillin mixed with novocaine. Alcohol-ichthyol bond is applied dry, hot. The joint is washed every day for 2-3 days.

***Purulent arthritis .*** Purulent inflammation of all the elements that make up the joint. Purulent arthritis can be primary or secondary. Purulent inflammation develops in the capsule and uncle after the microbe is injured as a result of the penetrating injury and the microbe falls . Some areas of the turbidity lose their shape and become bumpy. The pus passes into the bone and enters the cavities. Wounds and sequesters appear on the joint surfaces of the bones . Bone necrosis and osteomyelitis develop. The process of disintegration is more severe at the junction of the capsule, when the upper shell of the bone is damaged, "exostosis" occurs.

Purulent arthritis, which is accompanied by damage to all the tissues around the joint, is called panarthritis. Purulent arthritis characterized by growth of bone tissue is called purulent osteoarthritis.

***Clinical signs.*** The disease is very severe. The temperature rises , especially in horses 1 , 5-2 ◦C , joint pain, the animal is severely weakened. The joint surfaces will be smooth. Yellow-blue pus flows from the stream. Arthrogen can lead to sepsis.

***Treatment.*** Novocaine blockade, the main artery to the antibiotics, antiseptic therapy, artrotomiya, Vishnevsky ointments and sintomisin emulsion with the drains placed in severe cases the legs of the distal part of the finger amputasiyasi and ekzartikulyasiyasi is located.

***Osteoarthritis.*** It is a chronic disease of the joints without inflammation. Degenerative-dystrophic changes and joint deformities are observed in the bone and joint. It often develops in the jumping joint in horses . There is no single idea of its origin, its occurrence in cattle has recently been reversed. K is often caused by disorders of vitamin-mineral metabolism, rickets, osteomalacia, and others.

The onset of osteoarthritis is characterized by the gradual erosion of the joint . Uncle will be gray-yellow or brownish-yellow. Once the bone marrow is eroded, the bone surfaces rub against each other and remain smooth. Later, osteosclerosis begins in the bone. The joint crack narrows. Changes in periarticular tissues are less pronounced.

***Clinical signs.*** There are no obvious changes in the first stage. X-rays show sharp pointed bone tumors at the edges of the joint, spotty osteoparesis.

In the second stage, joint function is impaired. Lameness, alternating pressing of the legs, narrowing of the joint fracture, proliferation of tumors are observed.

In the third stage, there are obvious clinical, radiological and pathomorphological changes, the shape of the joint is distorted, and the pain is not noticeable .

***Treatment.*** No specific treatment method has been developed. Metabolism is restored. Vitamins A, D , calcium phosphate, fish oil are mixed into the feed. Paraffin and ozokerite applications, UBN are used.

***Ankylosis .*** Immobilization (hardening) of the joint area or as a result of the development of inflammation in itself.

Ankylosis is mainly a secondary manifestation of joint disease. In practice, fibrous, connective and skeletal ankylosis is observed. Depending on the location of the tissue, it can be external, capsular, and intra-articular. It can be real and fake. In true ankylosis, the joint fracture heals.

***Treatment .*** By bending and writing the joint, it is possible to separate the sticky areas and restore the elasticity of the tissue. Treatment of osteoporosis is useless. In alcohol, novocaine is a permeable blockade.

***Hemarthrosis*** **is a** hemorrhage in the joint that results from injury, dystrophy, joint dislocation, closed fracture of the joint.

***Clinical signs.*** The patient leans lightly on the tip of the hoof while the leg is bent. As the joint size expands, the joint capsule becomes tense. On palpation, the animal feels intense pain, fibrinous crepitation is heard. There is a basal ganglia when the animal moves, a mixture of blood and synovial fluid when arthropuncture.

***Treatment .*** Aseptic gemartroz , broken bones 1 st and 2 days of cold and twitch interchanges, 3 m damaged from suffocation in the upper part of the massage treatments, hot little less clear, Novocaine blockade. If hemarthrosis is caused by a bone fracture, a plaster cast, novocaine antibiotic blockade is performed to prevent the development of infection.

At the end of the lesson, the teacher points out the shortcomings identified by the students and gives a task to prepare for the topic to be covered in the next lesson.

## DISEASES OF THE WITHERS AND CHEST

**The purpose of the lesson** . Examination of injuries in the chest area, identification of symptoms of trauma complications (pneumothorax, hemothorax, rib fractures , shock, collapse), assistance in complicated and uncomplicated injuries, as well as differentiation of diseases of the thoracic region and to get acquainted with the ways of treatment, prevention of the above diseases in case of traumatic edema, bursitis, necrosis of the shoulder joints.

**Equipment, tools and animals** : pictures of pathological processes, table of disease classification according to I.Ye. Povajenko, 3 thermometers, 3 phonendoscopes, 3 plethysmometers, 3 10-20 gram syringes, 20 injection needles, 3 needles, 3 surgical tweezers, 10 hemostatic forceps, 5 Cooper scissors, reflector glass, 5 scalpels, 3 metal plates, anti-shock agents and anti-collapse medications, iodoform, iodinol, ayatin or 5 alcoholic solution of iodine, hydrogen peroxide, potassium permanganate solution, caffeine, lobeline, sulfocamphocaine, antibiotics, Vishnevsky, syntomycin ointments, colloid, gauze, bandage, cotton, towels, sheets, sterile gauze, catgut, surgical silk of various numbers, 'Animals with pathological processes in the crack and rain area.

**Course style** . This lesson should focus on the course of the injury, its complications, and the rules of first aid for the animal. Incoming wounds in the chest are treated quickly and in two stages (pre-hospital and with the help of a doctor). First aid is provided by farm workers (shepherd, operator, milker, etc.). To do this, the veterinarian must teach them first aid when animals are injured. Students are divided into three groups, take the necessary tasks and carry out first aid and treatment of a sick animal.

Assignment 1 . First aid when there is an injury to the animal’s chest.

The animal should be given first aid as soon as possible. An alcoholic solution of 5% iodine , y odosol , iodinol, ayatin is applied to the wound canal, gauze and a cotton bandage are placed, and if it is not, a clean sheet or towel is placed. The pre-bandage is well inserted into the wound and tied tightly with a bandage or thread. The animal is then given peace of mind and an ambulance is called immediately.

Assignment 2 . Development of a method of postoperative care for an incoming j injury formed in the chest .

The animal Sitter people, how to make sure that the conditions of injuries and first aid ko'rsatguncha and he was asked about how they behave after the animal. Without removing the ligament from the wound, the general condition of the animal is checked: body temperature, pulse, respiration are measured, mucous membranes are examined, the chest is auscultated and percussed. The results of the examination ensure that no collapse or traumatic shock has occurred.

The clinical symptoms of traumatic shock injury h formed at once or after a few hours, and in some cases can be seen a few days later. It is characterized by different transitions. At the beginning of the disease (first phase) there is a strong agitation in the animal, he tries to resist when fixed, opens his eyes wider, the pupil dilates, breathing is faster, the pulse is faster, p

sweats, frequent urination and rapid separation, muscle tremors, etc. In an animal, this condition lasts for 3-5 minutes, then suddenly the animal falls into a state of victimhood (second phase).

There is a decrease in reflexes, muscle contraction, unresponsiveness to pain, frequent lying down of the animal, poor response to external influences, pale conjunctiva and mucous membranes, weak pulse: body temperature 1- Decreases to 2 $^{0}$ and spontaneous urine and feces separation occurs in the animal. H if timely treatment is carried out to the veranda, shock paralytic stage and animal mortality m will lead to the right .

Collapse powerful movement kuzatilmasdan the animal is weak, the pulse is weak, and breathing will be fast and threadlike, poverty, mucous membranes and blood , but nktivaning paleness.

The overall reaction of the animal is reduced, muscle tension is maintained.

With the help of the teacher, the students begin to treat the sick animal.

After removing the animal from a state of shock or collapse, or if no shock or collapse is observed in the animal, the animal is fixed and the bandage on the wound is removed. The injury is examined to determine if it is an penetrating or superficial injury. The inspection will be more detailed and faster. Metal probes should not be used to examine penetrating wounds in the chest.

The clinical signs of penetrating injuries in the chest depend on the size of the wound canal and its timely treatment. After the formation of the injury the following complications: pneumothorax, while the gemotoraks g instant failure, chest injury to the internal organs (lungs, heart, diaphragm, chest blood vessels, etc.).

Pnevmot o dance injured in the pleural cavity through the air inlet channel is characterized .Pnevmotoraksning three types: open, closed and valve.

The most dangerous for animal life is valvular pneumothorax, in which blood clots or damaged tissue form in the wound canal, air enters freely through the canal when the animal breathes, and valves close the canal when exhaled and do not expel air.

Open pneumothorax is more likely to result from injury to the chest wall and in some cases the large bronchi. It is characterized by the absorption of air into the chest when breathing in the free position, and the free exit through the wound canal when air is expelled. Ik k ala which is characteristic of low or high shrieky sound. The animal moves, the sound suddenly becomes louder. In open pneumothorax, when air is expelled, pleural fluid from the pleural cavity, blood is mixed with air.

As a rule, in animals of this or that type of pneumothorax pleurisy is observed after 2-3 days of strong agitation, asphyxia, tachycardia, cyanosis of the mucous membranes and conjunctiva.

At the onset of pleurisy goes into a serous-fibrinous, then purulent process, and the animal shows characteristic signs of intoxication (poisoning).

Closed pneumothorax injury during the chest cavity of air k Irishman followed by tissue injury as a result of the closure of the outlet air is characterized by the interruption. Typically, this type of pneumothorax is observed in small stab wounds. In this case, the wound canal is closed from the outside with dry scab or coagulated blood. In the animal, general changes, i.e., shallow breathing, are observed with a hard pulse.

Blood flow to the pleural cavity (hemothorax) is caused by damage to the intercostal arteries, the internal thoracic artery, the pulmonary artery, the aorta, and other blood vessels.

Symptoms: whitening of the mucous membranes, low pulse, irritability, respiratory damage, increased heart rate, impenetrable sound coming from the lower part of the chest wall during percussion. These symptoms only indicate large vascular injury.

To determine the diagnosis, a puncture is made in the chest (pleurocentesis) and the resulting fluid is poured into 2-3 ml of a solution and quickly poured 10-15 ml of distilled water, stirred and waited for 2-3 minutes. If there is pure blood in the fluid obtained, complete hemolysis is observed and the fluid becomes clear. If the liquid q compound formed as a result

of the absence of pleurisy, the tube Condensed q % of fuzzy vamayda separated into small pieces.

Once the animal is finally diagnosed, treatment is started.

If the wound has not penetrated into the chest cavity, the following steps are taken:

1. The bleeding is stopped (a blood vessel is sutured or a tampon is placed) ;

2. The foreign body or small bone springs are removed;

3. The injured area is thoroughly disinfected (hydrogen peroxide, potassium permanganate, chloramine, etc.);

4. If the wound ends with primary traction (but the area is less contaminated with bacteria), the wound canal is dilated in accordance with the rules of asepsis and antiseptic;

5. The stitch is put on;

6. If the stems are drawn by the primary healing process, the wound cavity kapillyarli or drain pipe, and the j arohatga Anti optical use of drugs, sulfonamides;

7. If animals anemia, a German trials, the animal is sent to the blood vessels, blood or blood substitute drugs;

8. Next treatment of injuries jar Unquestionably , depending on the course.

If there is an injury that penetrates the chest cavity, the following treatment is performed:

1. The wound canal is tightly tied with a gauze napkin as soon as possible.

With this procedure should be carried out as follows: first the wound channel a li infiltrasion anesthesia around the place (if the wound is greater than the channel), and then wound into the channel pinset using clean gauze or a napkin the list. Tampons made of cotton and gauze are stuffed and tied to the resulting bag. This bandage tightly closes the wound canal and provides a good opportunity to clean around the wound.

Set channel ligament injury sheep , before it's 5 percent solution of alcohol iodine or yodisol, the signs are processed with qot i b iviqlari blood, removes foreign objects and blood stopped a di;

2. After the bandage is placed, the general condition of the animal is checked. Shock and to prevent the collapse of sulfuric o kamfokain and kamfora oil or Asratyanning sho k sent against the fluid;

3. The area around the wound is cleaned and washed, the hair around the wound is cleaned. Then the skin of 5% solution of iodine in alcohol or yodisol note , the signs of friction and injured around 2% solution og'riqsizlantiriladi.

4. A 3-layer suture is placed on the edges of the wound (the first - in the pleural area, the second - in the intercostal muscles, the third - in the skin). To do this, the tampons inside the inserted bag are gradually removed.

After the pleural portion is sutured, antibiotics and sulfanilamide are injected into the wound canal and an incision is made in the intercostal muscles.

5. Make sure that the wound canal is tightly closed. To do this, a thin layer of cotton to stop the blood pinset injury channel with the help of a li on the channel (if the wound tightly closed, cotton earthquakes occur 2-3 cm), or injury Canal zoqlikda kept in metal or glass buyumchasi. If there is evaporation, j indicates that the wound canal is not tightly closed;

6. After the wound canal is tightly closed, 3 rows of sutures are applied to the skin.

This leaves little space for fluid to drain out of the lower part of the wound;

7. torn and crushed wounds, the wound channel a line with the pleura and the muscles can not close, crushed tissue will be less cut and sprinkled with antibiotics, sulfonamides drugs. Then the edges of the j arohat are gently pulled li b, brought together and sewn with silk k and catgut;

8. The head of the pleura is punctured and air is drawn from the thoracic cavity using a JANE syringe Bobrov needle.

The point of piercing the needle is 12-15 ribs, 5-20 cm below the midline of the waist. 5-10 12-20 l animals, small animals, dogs 1-0,5 l l h r ib.

After inhalation of air to prevent cavitation (spike) in the pleura, using this needle is administered a solution of 30-38 $^{0}$ antibiotic novocaine and 40-60 mg of hydrocortisone, streptomycin emulsion, camphor oil. Their dose is 150-200 ml in large animals, 5-10 ml in small animals;

9. Anti-shock measures are applied;

10. In subsequent treatments, the animal is given rest and treatment with antibiotics, sulfonamides is continued.

Assignment 3 . Povajenko's classification of diseases of the Yagrin region is studied.

In this case, diseases of the pelvic region, their etiology, clinical signs, treatment and prevention measures are carried out in writing and checked by the teacher.

**Homework and questions**

1. What factors cause jaundice?

2. What diseases are most common in the pelvic and thoracic regions of horses and cattle?

3. Treatment and prevention of superficial necrosis and purulent bursitis.

4. Clinical signs, differential diagnosis, prognosis and treatment of deep bursa inflammation.

5. What complications occur when there are injuries that penetrate the chest cavity?

6. Clinical signs of lesions entering the chest cavity.

7. What complex therapies are used in pneumothorax and hemothorax?

8. How to prevent damage to the feed in the conditions of the farm?

9. How is phlegmon treated in large horned animals and horses?

**Topic: Cleaning, trimming and trimming hooves**

**The purpose of the lesson.** To acquaint students with the correct casting of animal legs, hoof shapes, deformed hooves and hooves, methods of immobilization of animals in orthopedic treatment of hooves, tools used in cleaning and cutting hooves. In addition, the training will include the equipment of the tying workshop and acquaintance with the horseshoes, nails and tools used in tying.

**Equipment, tools and animals** : animal immobilization machine, rope, orthopedic instruments, healthy and deformed hooves of animals, surgical instruments, binding materials, horseshoes and nails, hoof knives, shears, clamps, harness , pelvis, hoof ego and others. Table showing the anatomical and topographic structure of the hoof, 5% iodine, 2% blue diamonds and animals (horses, cows).

**Course style.** The course is held in a surgical clinic, on a training farm and in a horse stable. At the beginning of the lesson, the teacher conducts a survey of students on this topic for 10-15 minutes, checks their theoretical knowledge and additionally explains the topic to them. S o ' ngra students were healthy and deformasiyaga foot and tuyoqchalarni clinical examination.

See the animal's leg o ' Yishan , etc. also affect the shape of the foot and tuyoqchalarni. Not the feet o ' correct q o' meat has , as a result of dirt in some places equal weight to avoid foot and tuyoqchalarda various deformasiyalar. Hoof and tuyoqchalarda various deformasiyalar, h the porch and look for some weakness and distal (lower) part of chronic illness • The development of the casus belli can be monitored.

Judging by the shape o ' change, actions and violations of animal ma h h suldorligining decline.

Judging by the deformasiyasida foot deformed Postal floor with an injury to the skin and destroy its trophic which, n a Vbatn new o ' sib Postal Floor T con lib not affect the quality o' correct o ' growth resulted b o ' ladi. Deformasiyaga were lame hoof capsule only

change b o ' the skin of dust, but a morphological and functional b sauces zilishlar and hooves and metabolic processes.

See the horses before they Alashan feet q hoof urban li and p a k t o make sure that there is no logical process or q twist. The purpose of this e ch at the animal penny and while arakatlanganda e h .The track is checked.

**Check the foot q carving.**

Tipsters q T o be correct form for referring the case here t o ' correct Calls yi shi .

Calls to check the Yishun flat y o ' la k Calls y la d i and its front , rear and is regarded by side. Animal front legs t o ' correct Calls , hangover shoulder b o' that implies I see in front of drawing down the name of q are pulled throughout both feet g distance equal to about the split. Put the foot before I go on the side, shoulder to check for bone o n q down between the Arab line t o rtiladi. Put foot wrong, this line of T i m rsak vapor warns afternoon ferry to ameliorate the push to halve o ' o' between the institution and soft Base f RGA. To check will be placed on the back foot qu ym diarrhea d o teaching down to see the Arab subject line. To g'r see the back of this line being OYO stack o ' no' between the folds of medicine, hoof angle to the ground mid d ' autobiography. If this top q see the emphasis on the side of a RALS , he metacarpal bone d o ngligiga heel, soft touch of sadness the back of the z g of a fall to earth. The back-foot, pelvis deer o ' between the lines are pulled down, down t o g r i went to the inner side of the hoof capsule t survive te g ib.

Q o ' yilishlarida body weight, hooves and all the parts will be the same, so am hooves h o' passing t o maintain the correct form.

Previous t o ' to make correct foot here compared to 45-50 ◦angle e d ago, while the hind limbs 55-60 ◦ni.

As a result of various aseptic inflammations in the hooves of horses, various forms of deformation of their hooves are caused. (Figure 23.24)

In animals, a variety of deformed hoof shapes are found.

*The* hook part of the *long (sharp-pointed)* hoof is significantly elongated, the angle of the hook wall is less than 45 ◦relative to the palm part, in some cases the hoof is turned upwards.

*The flat* hoof is characterized by the fact that the heel part is flat with the *palm of the* hand. The hanger and side walls are spread out, the palmar horn layer is soft, unevenly thin, and erodes quickly.

*In an* impenetrable *angled* hoof, the soft heel is high and the hoof wall forms an angle of 60 ◦to 90 ◦with the ground . The main weight falls on the hook part of the hoof and the hoof circumference (gullet), which causes more aseptic and purulent pododermatitis in these areas.

*The vertical (vertical)* hoof is characterized by the vertical placement of the hanging wall and forms a right angle with the ground. The il g ich wall and the soft compensation wall are at the same height. Rvation animals cracked concrete floor trays come in this form of the hoof deformasiyalari q name.

See the *crooked* hooves external wall of the camber me qq dipped in an interior wall partitions focus on better ground bo'ladi.Bunday weight palms on the wall camber out of the palm side of the falls, this is a way to cause degradation and tuyoqchalar mid g ' weight falls on the skin.

Students deformasiyaga treat forms of the hoof met with then clean the hooves and q Alashan Calls carrying equipment and blacksmith shop ji h familiar with the offering.

Q rural q foot and tuyoqchalarini treatment of farm animals and q ir k hoof knife, eg for hunting and foot o mb settings.

See the hooves ke s hoof horn before the excess of the name o ' the name of sgan q q q ir feet karîm where t o' lame correct to put a t o ' correct form. See the lame hooves cutting through the Alashan am ready l h in Jakarta. The hooves not o ' correct them, not to cut o' thieves q Alan.

Other animals, cut the horses 'hooves n i k ide kq are performed in sequence: first lead powder horn q Picture s o' ngra the left edge of the wall of the horn and the arrow pointing cut.

The bullet left , the corneal layer of the hoof p Icho is cut off, the horn o l g a n q Picture cleared . See the horn floor q she births a knife , cut with the floor is going to fall apart -qavat , gray b o ' links. Over q , eg i luv ch an maydalanm a ydigan and cut off " tir i k horn floor . " This layer cannot be cut.

The bullet hit the left edge of the wall of the hoof horn o mb he cut with the hoof knife and saw, you need to align it with the flattening k i, the foot bullet chasi hoof wall and the qchiziq should be evenly.

Once the hooves are flattened and trimmed, a horseshoe is thrown at it. There should be a tool and a shoemaking workshop for shoveling. (Figure 25.26)

The blacksmith shop is far from other structures, but is built of high-temperature heat-resistant construction equipment. The workshop is spacious, 4 m high, and consists of several rooms - a furnace room, a manege, a coal storage room, an iron storage room, a changing room, a washroom, and an air exchange engine. rooms. In the yard of the workshop will be built a paved driveway and a special place for tying horses.

In the room where the furnace is located, there is a blacksmith's furnace, sangdon, workbench, clamp, drilling apparatus, tools for making horseshoes, tools for cleaning the furnace, a device for placing ready horseshoes, a bucket of water, a box for coal and the first should be a help box. The size of the room should correspond to 12m $^2$ per blacksmith .

The floor in the oven room is dry and cannot be covered with any other equipment. In the manege, horses are mainly taken and tied. This room is the size of a horse 12-15 m $^2$ of land area , its width should be no less than 6-7 m. Uneven asphalt is laid inside the room.

To tie the animals, there should be a hammer (hammer), egov, hoof knife, tongs, a wrench, a nail, a horseshoe to turn the horseshoe roofs. Q ALARM 13 (0; 00; 1 ; 2; 4; 3; 3.5; 2.5; 4.5; 5; 6; 7; 8) digital standard l s and q a back finished 6 (4,5,6,7,8,9) digital standard form l bee. (Figure 27.28)

When tying horses, horseshoes and nails are mostly made in a blacksmith shop. The hooves are cut, cleaned and leveled before tying. Once the hoof is ready to be tied, measurements are taken from it. According to the obtained measurements, a new horseshoe is made in a blacksmith's shop or a ready-made horseshoe made in a standard factory is obtained. Measurements on the horseshoes are made using a ruler (podometer) (Fig. 29) or a stick. The hoof is measured in 3 directions, along the length of the first curve, where the distance from the hoof hook to the heel angle is measured. The width of the hoof is measured from two places, the first being the widest point, the distance between the two side edges of the hoof, and the second the distance between the corners of the heel. Based on these dimensions, the horseshoe is separated and the hoof is tied. Measuring the heel on a cleaned hoof is called heel adjustment. (Figure 30)

This is the most basic process, in which the hoof is adapted to the hoof, not the hoof. If the horseshoe fits the hoof:

1. The horseshoe covers the hoof wall along the outer border;

2. Mix y o ' lakchasi and nail holes in the white line b o' will focus mA s ;

3. The horseshoe protrudes 0.5-1 mm from the hook and side of the hoof, 3-5 mm from the heel.

Adaptation of the hoof to the hoof is done in two different ways: cold and hot.

*Cold method* . In this method, standard horseshoes are expanded, narrowed and flattened without heating. The cold method is mainly used in pasture conditions where it is not possible to heat more horseshoes.

*Hot method* . After the hoof has been trimmed and cleaned, the hoof corresponding to the hoof is removed and heated until the hoof turns dark red, then the palm of the hoof is pressed for 2-3 seconds. After that, the surface of the heel pressed to the hoof is examined very carefully,

if any part of the heel is not correct, it is quickly corrected. An experienced blacksmith thus heats it twice and straightens the hoof to the hoof.

Attaching the heel to the hoof consists of basically three processes. (Figure 30)

1. Nail the horseshoe nails.
2. Pull the heel to the hoof.
3. Return the mix ends.

First, two parallel nails are driven into the hook of the hoof in turn, and the hoof is lowered to the ground, if it moves slightly from the place of the horseshoe, it is straightened by hammering, and then the remaining nails are driven. The outlet of the nail tips to the hoof wall should be at 3/1 of the hoof wall or 2 cm above the lower edge of the hoof wall.

When attaching the hoof to the hoof, the stumbling nails should not protrude from a line in the hoof wall, if in one line the hoof will impair the strength of the horn layer.

After the nails are nailed, the nails are struck again with a hammer, and if pain is felt, the same nail is pulled out and nailed again. (Fig. 31) At the end of the saddle, the horse is tried to run, and then it is run if the horse does not stumble, indicating that the saddle has been performed correctly.

**Homework and questions**

1. What are the tools of the trade?
2. Rules for tying and trimming the hooves of horses, large horned animals, sheep and pigs.
3. How is an old horseshoe taken and why is it important to check it?
4. Take measurements from the hoof.
5. At what height should the horseshoe nail protrude from the hoof wall?
6. What is the difference between the front hoof and the right hoof and the left hoof?
7. How does improper harnessing affect the horse's hooves and its movement?
8. What are the requirements for proper bonding?
9. Expiration date.
10. How does an animal's foot form a sharp-pointed and impenetrable hoof?
11. What are the defects of the hoof in the deformation of the hoof?
12. How different is the adaptation of the heel to the hoof?

## Topic: EYE INSPECTION METHODS

**The purpose of the lesson** . To teach students to examine the light-transmitting, clear layers of the eye and the organs located at the base of the eye using special instruments and to diagnose diseases.

**Equipment, tools and animals** . Room illuminated with natural and artificial light, dark room, spherical and cylindrical glass or lens, simple and refractive ophthalmoscope, keratoscope, portable electric lamp, syringes of 5-10 ml, 0.5-3 % novocaine solution, 1: 5000 ratio furacillin, 1% atropine-10.0, eye pipette, pumpkin lifter and pumpkin expander. Tables, pictures, etc. depicting the bottom of the eye of various animals. Different types of animals.

**Lesson style** . At the beginning of the lesson, the teacher explains the topic-specific eye examination methods. Students are then divided into several small groups and independently learn specific eye examination techniques. They learn to use eye inspection techniques in animals in bright and dark rooms.

**Ophthalmoscope** - a circle in the form of a flat mirror or a curved reflective surface, with a hole in the middle. It is used to check the clear layers of the eye. The cornea, anterior chamber, cornea, vitreous body, and fundus are examined. The distance between the eye of the examiner and the eye of the animal should be 30-50 cm. When the animal is examined, natural or artificial light should be directed from the back of the head. The light falling on the

ophthalmoscope is directed to the pupil. The light passes through the eye and returns from the vascular membrane and the pigmented layer, where the pupil turns reddish. When viewed through an ophthalmoscope aperture, light returning from the bottom of the animal's eye falls into the ophthalmoscope and the pupil becomes clear.

If the pathways of light rays are blurred, i.e., degenerative changes in the light-transmitting layers of the eye, then black spots of various sizes appear in the illuminated pupil.

**Examination of the eye using a keratoscope**

Small, undetectable pathological changes in the cornea of the eye are examined using a keratoscope instrument. It is a circle with a hole in the center. Its surface is black with straight and flat white circles.

Using a natural or artificial light, the keratoscope is brought closer to the animal's eye and viewed through its orifice so that white and black circles appear on the cornea of the eye, with the eye of the animal being examined facing the dark side. If there is no hyech any pathological change in the cornea, the white and black circles appear straight and flat. When the luster in the cornea of the eye is disrupted (due to degenerative changes), these circles appear oval, elliptical, elongated, wavy, or ring-shaped. If there are foreign bodies or pigmented areas on the cornea, the border of the black circles appears curved, and if there is a scar or a dull white spot, the white circles are not visible at all.

When the surface of the cornea is smooth, the circles appear straight and even, while when the surface of the cornea is uneven (in inflammation, injury, wounds, etc.), the white circles on the keratoscope it looks sleek, crumbly, and even ring-shaped.

**Purkinje-Sansonov image**

The Purkinye-Sansonov image is used as an additional method to examine the cornea of the eye, but is mainly used to examine the cornea and the less vitreous body. This method is based on the return of light from mirror-curved surfaces. The surface of the cornea, the anterior and posterior surfaces of the cornea, is considered to reflect light.

To use this method, the animal is brought into a dark room and a lighted candle is held on one side of the eye, while the examiner examines the eye on the other side. In this case, three images appear into the eye: the first image is straight and not very large, it is bright and returns from the cornea, moving forward as if returning from a mirror; the second image is also correct, larger than the first, but whiter, it returns from the front of the eyeball, and the third - the reverse image is the whitest and smallest, the eye from the back of the pearl it looks as if it has returned from a curved window.

When light directed into the eye is added, the first and second images are added and directed in one direction, while the third image is separated from them and directed in the opposite direction.

The appearance of the three images inside the eye indicates the sharpness of the cornea, eye chambers, and eyeballs.

When the eyeball is blurred, the third image appears to be blurred or not visible at all, depending on the degree of blurring. When the vitreous body is blurred, the third image becomes clearer. The second and third images are not visible at all when the eyeball is partially or completely protruding and without it. This condition is also observed in the blurring of the fluid in the anterior chamber of the eye.

The Purkinje-Sansonov image is not only used for additional examination of various cataracts (blurring), but also to some extent helps to gain an understanding of eye accommodation (adaptation). For example, in the accommodation of the eye relative to nearby objects, the second and third images shrink. Basically, the second image shows that the animal's eye is significantly smaller when it is accommodated relative to distant objects.

**Examination using an ophthalmoscope instrument**

Ophthalmoscope examination methods are not only widely used to diagnose changes in the clear environment of the eye (cornea, eye chamber fluid, eyeball, vitreous body), but also the retina at the base of the eye. It is also used to examine changes in the optic nerve and vascular

membrane. The fundus of the eye is part of the posterior wall of the eye, located in front of the pupil of the eye, and is convenient for examination. It can only be examined using an ophthalmoscope using natural and artificial light.

When artificial light is used, the base of the eye becomes slightly darker. The light should be directed one way. With the animal's eye being placed on the dark side, the examiner places the ophthalmoscope in the right eye and sends light into the eye using an ophthalmoscope, then approaches the eye and examines the bottom of the eye through the ophthalmoscope hole.

The light falls on a bent ophthalmoscope and returns to a point, which is called the focus. A curved ophthalmoscope illuminates better than a flat ophthalmoscope, which is why it is widely used in veterinary medicine.

There are two ways to examine the eye using an ophthalmoscope . Natural light from the bottom of the eye seems to be directed in a way it is a very good and clear . Before dropping of atropine eye and bent ophthalmoscope 15-20 diopteri focus . Put the animal 's eyes dark side , closer to animal testing ophtalmoscopically right eye , and the
eye , the eye lashes eyeball light directed from a distance and the fundus is examined .

The bottom of the right eye and the size of the case . His swelling , ophtalmoscopically bent on holding the rotating light beam floors . ( Figs. 36,37,38,39).

According to the laws of optics, the larger it is, the smaller the visible area. It is therefore possible to examine a portion of the fundus with the correct ophthalmoscope. On direct examination of the fundus of the eye, its visible part appears to be 8 times magnified. Therefore, not all parts of the fundus can be seen. When examining the fundus of the eye using the second method of examination, i.e. by examining it by forming an inverted image, a large part of the fundus can be seen at once, but the image does not appear clear and distinct.

**Homework and questions**

1. The structure of the ophthalmoscope.
2. Examination of the cornea.
3. Examine the eyeball and vitreous body.
4. Tearing and its diagnostic significance.
5. Purkinje-Sansonov image.
6. Examine the eye using a keratoscope.
7. Technique of washing the tear-nasal canal.
8. Diagnostic drugs and methods of their use.

**Body temperature, pulse, respiration of various animals**

**Body temperature measured from the rectum**

| Animal tour i | Tana temperature ( ◦Shisobida ) | Hayv o n type | A score of body temperature ( ◦C ) |
|---|---|---|---|
| Sigir | 39 (37.5-39.5) | Cat | 39 (38.5-39.5) |
| Put it down | 39.5 (38.5-40.0) | Rabbit | 39 (38.5-39.5) |
| Goat | 39.5 (38.5-40.0) | Guinea pig | 39 (38.0-39.5) |
| Pig | 39.5 (38.0-40.0) | Chicken | 41 (40.5-42.0) |
| Ot | 38 (37.5-38.5) | Kur k a | 40.5 (40.5-41.0) |
| Donkey | 38 (37-38.5) | Goose | 40.5 (40.0-41.0) |
| It | 38.5 (37.5-39.0) | Duck | 42.0 (41.0-43.0) |
| Tuya | 37.0-39.0 | | |

**Pulse of healthy animals**

| Animal type | Vein several times per | Animal type | The |
|---|---|---|---|

| | minute rate | | vessel several times per minute rate |
|---|---|---|---|
| Sigir | 50-80 | Steam | 36-48 |
| Calf | 70-100 | It ( adult ) | 70-80 |
| Well | 60-85 | Dog ( small ) | 80-120 |
| Lamb | 90-100 | Puppy ( child ) | 110-130 |
| Goat | 60-85 | Cat | 110-120 |
| Capricorn | 90-110 | Rabbit | 120-160 |
| Pig | 60-80 | Mouse | 175-225 |
| Pigs | 90-120 | Chicken | 120-150 |
| Ot | 24-44 | Pigeon | 150-200 |
| Toy | 50-70 | | |
| Tuya | 30-56 | | |

**N is the number of normal breaths**

| Animal type | Respiratory rate | Animal type | Respiratory rate |
|---|---|---|---|
| Sigir | 10-30 | It | 15-30 |
| Put it down | 12-30 | Cat | 20-30 |
| Pig | 10-20 | Rabbit | 50-60 |
| Goat | 14-20 | Chicken | 15-30 |
| Ot | 8-16 | Duck | 16-30 |
| Tuya | 10-20 | Pigeon | 50-70 |

**LITERATURE .**


1. Rustamov HK, et al. " Operative surgery ", Samarkand, 1997
2. Belov AD, and dr. «Ob shch aya veterinarnaya xirurgiya », Moscow , 1990
3. Shakalov KI, i dr. « Frequent veterinary surgery », Leningrad , 1986
4. Kalashnik Practicum IA PO weather also vipers i chastnoe veterinarnoy xirurgii , Moscow, 1988
5. Aripov UO , he .Mustafoev . " General Surgery " , Tashkent , 1994
6 . Narziyev DX " Animal Anatomy " , Tashkent , 1986


## Topic: EYE INSPECTION METHODS

**The purpose of the lesson** . To teach students to examine the light-transmitting, clear layers of the eye and the organs located at the base of the eye using special instruments and to diagnose diseases.

**Equipment, tools and animals** . Room illuminated with natural and artificial light, dark room, spherical and cylindrical glass or lens, simple and refractive ophthalmoscope, keratoscope, portable electric lamp, syringes of 5-10 ml, 0.5-3 % novocaine solution, 1: 5000 ratio furacillin, 1% atropine-10.0, eye pipette, pumpkin lifter and pumpkin expander. Tables, pictures, etc. depicting the bottom of the eye of various animals. Different types of animals.

**Lesson style** . At the beginning of the lesson, the teacher explains the topic-specific eye examination methods. Students are then divided into several small groups and independently learn specific eye examination techniques. They learn to use eye inspection techniques in animals in bright and dark rooms.

**Ophthalmoscope** - a circle in the form of a flat mirror or a curved reflective surface, with a hole in the middle. It is used to check the clear layers of the eye. The cornea, anterior chamber, cornea, vitreous body, and fundus are examined. The distance between the eye of the examiner and the eye of the animal should be 30-50 cm. When the animal is examined, natural or artificial light should be directed from the back of the head. The light falling on the

ophthalmoscope is directed to the pupil. The light passes through the eye and returns from the vascular membrane and the pigmented layer, where the pupil turns reddish. When viewed through an ophthalmoscope aperture, light returning from the bottom of the animal's eye falls into the ophthalmoscope and the pupil becomes clear.

If the pathways of light rays are blurred, i.e., degenerative changes in the light-transmitting layers of the eye, then black spots of various sizes appear in the illuminated pupil.

**Examination of the eye using a keratoscope**

Small, undetectable pathological changes in the cornea of the eye are examined using a keratoscope instrument. It is a circle with a hole in the center. Its surface is black with straight and flat white circles.

Using a natural or artificial light, the keratoscope is brought closer to the animal's eye and viewed through its orifice so that white and black circles appear on the cornea of the eye, with the eye of the animal being examined facing the dark side. If there is no hyech any pathological change in the cornea, the white and black circles appear straight and flat. When the luster in the cornea of the eye is disrupted (due to degenerative changes), these circles appear oval, elliptical, elongated, wavy, or ring-shaped. If there are foreign bodies or pigmented areas on the cornea, the border of the black circles appears curved, and if there is a scar or a dull white spot, the white circles are not visible at all.

When the surface of the cornea is smooth, the circles appear straight and even, while when the surface of the cornea is uneven (in inflammation, injury, wounds, etc.), the white circles on the keratoscope it looks sleek, crumbly, and even ring-shaped.

**Purkinje-Sansonov image**

The Purkinye-Sansonov image is used as an additional method to examine the cornea of the eye, but is mainly used to examine the cornea and the less vitreous body. This method is based on the return of light from mirror-curved surfaces. The surface of the cornea, the anterior and posterior surfaces of the cornea, is considered to reflect light.

To use this method, the animal is brought into a dark room and a lighted candle is held on one side of the eye, while the examiner examines the eye on the other side. In this case, three images appear into the eye: the first image is straight and not very large, it is bright and returns from the cornea, moving forward as if returning from a mirror; the second image is also correct, larger than the first, but whiter, it returns from the front of the eyeball, and the third - the reverse image is the whitest and smallest, the eye from the back of the pearl it looks as if it has returned from a curved window.

When light directed into the eye is added, the first and second images are added and directed in one direction, while the third image is separated from them and directed in the opposite direction.

The appearance of the three images inside the eye indicates the sharpness of the cornea, eye chambers, and eyeballs.

When the eyeball is blurred, the third image appears to be blurred or not visible at all, depending on the degree of blurring. When the vitreous body is blurred, the third image becomes clearer. The second and third images are not visible at all when the eyeball is partially or completely protruding and without it. This condition is also observed in the blurring of the fluid in the anterior chamber of the eye.

The Purkinje-Sansonov image is not only used for additional examination of various cataracts (blurring), but also to some extent helps to gain an understanding of eye accommodation (adaptation). For example, in the accommodation of the eye relative to nearby objects, the second and third images shrink. Basically, the second image shows that the animal's eye is significantly smaller when it is accommodated relative to distant objects.

**Examination using an ophthalmoscope instrument**

Ophthalmoscope examination methods are not only widely used to diagnose changes in the clear environment of the eye (cornea, eye chamber fluid, eyeball, vitreous body), but also the retina at the base of the eye. It is also used to examine changes in the optic nerve and vascular

membrane. The fundus of the eye is part of the posterior wall of the eye, located in front of the pupil of the eye, and is convenient for examination. It can only be examined using an ophthalmoscope using natural and artificial light.

When artificial light is used, the base of the eye becomes slightly darker. The light should be directed one way. With the animal's eye being placed on the dark side, the examiner places the ophthalmoscope in the right eye and sends light into the eye using an ophthalmoscope, then approaches the eye and examines the bottom of the eye through the ophthalmoscope hole.

The light falls on a bent ophthalmoscope and returns to a point, which is called the focus. A curved ophthalmoscope illuminates better than a flat ophthalmoscope, which is why it is widely used in veterinary medicine.

There are two ways to examine the eye using an ophthalmoscope . Natural light from the bottom of the eye seems to be directed in a way it is a very good and clear . Before dropping of atropine eye and bent ophthalmoscope 15-20 diopteri focus . Put the animal 's eyes dark side , closer to animal testing ophtalmoscopically right eye , and the
eye , the eye lashes eyeball light directed from a distance and the fundus is examined .

The bottom of the right eye and the size of the case . His swelling , ophtalmoscopically bent on holding the rotating light beam floors . ( Figs. 36,37,38,39).

According to the laws of optics, the larger it is, the smaller the visible area. It is therefore possible to examine a portion of the fundus with the correct ophthalmoscope. On direct examination of the fundus of the eye, its visible part appears to be 8 times magnified. Therefore, not all parts of the fundus can be seen. When examining the fundus of the eye using the second method of examination, i.e. by examining it by forming an inverted image, a large part of the fundus can be seen at once, but the image does not appear clear and distinct.

**Homework and questions**

1. The structure of the ophthalmoscope.
2. Examination of the cornea.
3. Examine the eyeball and vitreous body.

**Body temperature, pulse, respiration of various animalsBody temperature measured from the rectum**

| Animal tour i | Tana temperature ( ◦Shisobida ) | Hayv o n type | A score of body temperature ( ◦C ) |
|---|---|---|---|
| Cow | 39 (37.5-39.5) | Cat | 39 (38.5-39.5) |
| Put it down | 39.5 (38.5-40.0) | Rabbit | 39 (38.5-39.5) |
| Goat | 39.5 (38.5-40.0) | Guinea pig | 39 (38.0-39.5) |
| Pig | 39.5 (38.0-40.0) | Chicken | 41 (40.5-42.0) |
| Ot | 38 (37.5-38.5) | Kur k a | 40.5 (40.5-41.0) |
| Donkey | 38 (37-38.5) | Goose | 40.5 (40.0-41.0) |
| It | 38.5 (37.5-39.0) | Duck | 42.0 (41.0-43.0) |
| Tuya | 37.0-39.0 | | |

**Pulse of healthy animals**

| Animal type | Vein several times per minute rate | Animal type | The vessel several times per minute rate |
|---|---|---|---|
| Cow | 50-80 | Steam | 36-48 |
| Calf | 70-100 | It ( adult ) | 70-80 |
| Well | 60-85 | Dog ( small ) | 80-120 |

| | | | |
|---|---|---|---|
| Lamb | 90-100 | Puppy ( child ) | 110-130 |
| Goat | 60-85 | Cat | 110-120 |
| Capricorn | 90-110 | Rabbit | 120-160 |
| Pig | 60-80 | Mouse | 175-225 |
| Pigs | 90-120 | Chicken | 120-150 |
| Ot | 24-44 | Pigeon | 150-200 |
| Toy | 50-70 | | |
| Tuya | 30-56 | | |

**N is the number of normal breaths**

| Animal type | Respiratory rate | Animal type | Respiratory rate |
|---|---|---|---|
| Sigir | 10-30 | It | 15-30 |
| Put it down | 12-30 | Cat | 20-30 |
| Pig | 10-20 | Rabbit | 50-60 |
| Goat | 14-20 | Chicken | 15-30 |
| Ot | 8-16 | Duck | 16-30 |
| Tuya | 10-20 | Pigeon | 50-70 |

## Topics and scope of independent work on the subject "Veterinary Surgery"

| No. | Self-study topics |
|---|---|
| 1 | Diseases of the blood and lymphatic vessels |
| 2 | Muscle diseases<br>(myositis, myopatosis) |
| 3 | Skin diseases<br>(dermatitis and eczema) |
| 4 | Nerve diseases<br>(paralysis, paresis) |
| 5 | Tumors<br>(malignant and benign tumors) |
| 6 | Diseases of the head area (Diseases of the nose. Inflammation of the additional sinuses of the head) |
| 7 | Diseases of the abdomen (inguinal hernia, surgical diseases of the udder) |
| 8 | Treatment of fractures of the scapula and humerus |
| 9 | Treatment of aseptic and purulent inflammation of the elbow joint |
| 10 | Precarpal bursitis treatment |
| 11 | Treatment of tendon wounds in the wrist area. |
| 12 | Treatment of wounds and dislocations of the second phalanx of the fingers. |
| 13 | Normal and pathological forms of hooves, depending on the position of the limbs. |
| 14 | Hoof diseases caused by improper shoe shoeing. |
| 15 | Anatomotopographic characteristics of the lacrimal apparatus and methods of its examination. Diseases of the lens. Blepharitis. |

**LITERATURE .**


1. Rustamov HK, et al. " Operative surgery ", Samarkand, 1997
2. Belov AD, and dr. «Ob shch aya veterinarnaya xirurgiya », Moscow , 1990
3. Shakalov KI, i dr. « Frequent veterinary surgery », Leningrad , 1986
4. Kalashnik Practicum IA PO weather also vipers i chastnoe veterinarnoy xirurgii , Moscow, 1988
5. Aripov UO , he .Mustafoev . " General Surgery " , Tashkent , 1994
6 . Narziyev DX " Animal Anatomy " , Tashkent , 1986

## 3.5. Glossary of Terms

**Abdomen**
The abdomen is that part of the body, lying between the chest and pelvis, containing the digestive organs (i.e. the belly).

**Abscess**
Localized accumulation of pus in a cavity; usually associated with infection. A common outcome of cat fights.

**Acute**
A rapid and often severe onset. (e.g. acute infection).

**Addison's Disease**
This disorder occurs when the adrenal glands fails to produce enough hormones for normal function, causing a metabolic and electrolyte imbalance and can potentially be fatal. In dogs, the symptoms can include vomiting, diarrhoea, lethargy, lack of appetite, shaking, muscle weakness, low body temperature, collapse and low heart rate.

**Alimentary**
Pertaining to food or the digestive tract (alimentary canal).

**Allergen**
An allergen is a substance that can cause an allergic reaction. In allergic animals, the immune system recognizes allergens as "foreign" or "dangerous" and responds accordingly. In non-allergic animals these substances cause no immune response.

**Alopecia**
Alopecia is a loss of hair from the body. Whilst in humans, alopecia can also be the result of environmental conditions, in animals it is usually the sign of an underlying disease. Some animals may be genetically predisposed, while in other animals it may be caused by hypersensitivity or nutritional factors.

**Analgesia**
The relief of pain. An analgesic is something designed to relieve pain.

**Anaphylaxis**
Anaphylaxis refers to a rapidly developing and serious allergic reaction that afects a number of different areas of the body at one time. Severe anaphylactic reactions can be fatal.

**Anaemia**
A lower than normal level of red blood cells (also referred to as erythrocytes) carrying oxygen to the body.

**Anaesthesia**
Anaesthesia is the total loss of feeling or sensation. It is induced with drugs to allow surgery or procedures to be performed without causing pain. Anaesthesia may be applied to the whole body, when it is known as general anaesthesia, or to part of the body, when it is known as local anaesthesia.

**Anorexia**
Loss of appetite, whatever the cause.

**Antibiotics**
A compound or substance that kills or slows down the growth of bacteria. Antibiotics are not effective against viral infections.

**Antibody**
Also known as an immunoglobulin is a large Y-shaped protein to identify and neutralize foreign antigens like bacteria and viruses.

**Antiemetic**
A medication used to treat vomiting and nausea.

**Antifungal**
A medication used to treat fungal infections such as ringworm.

**Antigen**
A substance that triggers the production of an antibody. The immune system recognizes an antigen as a foreign and potentially harmful invader (e.g. bacteria and viruses).

**Antipruritic**
A medication to relieve itching.

**Antipyretic**
A medication to reduce a fever or high temperature.

**Antitussive**
A medication to relieve coughing. Veterinarians often prescribe antitussive medications to pets that suffer from conditions that cause severe or intense coughing, such as canine cough

**Anus**
Opening at the end of an animal's digestive tract where faeces are expelled.

**Arrhythmia**
Disruption in the regularity of the heartbeat. They occur when the electrical impulses to the heart that co-ordinate heartbeats are not working properly, making the heart beat too fast/slow or inconsistently.

**Articular**
Pertaining to a joint.

**Ascites**
The build-up of additional fluid in the abdomen, otherwise called the peritoneal cavity.

**Aspirate**
To draw in or out using a sucking motion. Aspiration can also mean breathing in a foreign object (such as inhaling food into the airway).

**Asymptomatic**
If a patient is a carrier for a disease or infection but is not experiencing clinical signs.

**Ataxia**
A neurological sign that consists of a lack of motor coordination of muscle movements. It often manifests as wobbliness or unsteadiness in animals.

**Atopy**
Atopy is an allergic skin condition in dogs caused by exposure to normally innocuous substances in the environment such as house dust mite, pollen from trees, flowers or grasses and mould spores that are absorbed through the skin or inhaled. These substances, called allergens make the immune system over-react and release histamines causing excessive itching. The dog's paws, face, groin, armpits and ears are most commonly affected areas.

**Atrial Fibrillation**
An irregular heart rhythm associated with disorganized electrical activity in the upper two chambers of the heart (atria). Its name comes from the fibrillating (i.e. quivering) of the heart

muscles of the atria, instead of a coordinated contraction. The result of the rapid, irregular beats is ineffective filling of the ventricles, the bottom two chambers of the heart that pump blood out to the body.

**Atrium**
Most commonly refers to a chamber in which blood enters the heart, as opposed to the ventricle, where it is pushed out.

**Atrophy**
Atrophy is the progressive decrease in the size of an organ or tissue.

**Attenuated**
Weakened. Normally refers to an attenuated vaccine whereby the disease-causing abilities of the vaccine components are weakened or attenuated during the manufacturing process to make them safe upon administration.

**Auscultate**
Auscultation is a method used to listen to the sounds of the body during a physical examination, usually with a stethoscope.

**Autoimmune**
A medical condition characterized by an overactive immune system which attacks the body, mistaking normal tissues in the body for harmful substances.

**Azotaemia**
A medical condition characterized by abnormally high levels of nitrogen-containing compounds, such as urea and creatinine, commonly as a result of kidney malfunction or dehydration.

**Bacterium**
A bacterium is a unicellular microorganism which represents one of the most basic and primitive forms of life. Bacteria are everywhere. Some bacteria are capable of causing disease in animals.

**Benign**
Harmless.

**Bilateral**
Meaning two sides.

**Bile**
A green/yellow liquid formed in the liver. Bile plays a vital role in the digestion of fats.

**Biopsy**
The removal of a sample of tissue or cells from a living subject to determine the presence or extent of a disease.

**Bitch**
A female dog.

**Bladder**
A sac that receives and holds a liquid until it is excreted. Often refers to the urinary bladder.

**Bladder Problems**
Bladder problems are common in dogs and can include issues such as bladder stones, urinary tract infections and incontinence and can present itself by blood in the urine, difficulty urinating and frequent urination.

**Bladder Stones**
Bladder stones are a common occurrence in domestic animals such as dogs and cats. Blood in the

urine, painful urination or straining to urinate may all be signs. Bladder stones may be associated with urinary tract infections, particularly in dogs.

**Bloat**
A medical condition in which the stomach becomes overstretched by excessive gas. Bloat is a very serious health risk for many deep-chested dogs.

**Blood Glucose**
The amount of glucose (sugar) present in the blood.

**Bone Marrow**
Bone marrow is a spongy, fatty tissue that houses stem cells, located inside a few large bones. These stem cells transform themselves into white and red blood cells and platelets.

**Borborygmus**
The rumbling noise caused by the movement of gas through the stomach and/or intestines.

**Bradycardia**
An abnormally slow heart rate.

**Bronchi**
The large airways within the lungs.

**Bronchodilator**
A substance that dilates the airways in the lungs.

**BUN**
Blood urea nitrogen (BUN) measures the amount of urea nitrogen, a waste product of protein metabolism, in the blood. It can be used as an aid to measure kidney function.

**Caecum**
Part of the gastrointestinal tract between the small and large intestines. It is a small, coiled organ in dogs.

**Calcified**
The build-up of calcium salts in soft tissue, causing it to harden.

**Calculus**
A concretion of material, usually mineral salts, that forms in an organ of the body. Bladder or kidney stones are an example of calculus.

**Cancer**
Cancer is the leading cause of death among older dogs. The warning signs of cancer in dogs are very similar to that in people. A lump or a bump, a wound that doesn't heal, any kind of swelling, enlarged lymph nodes, a lameness or swelling in the bone or abnormal bleeding should all be investigated.

**Candida**
This fungus or yeast can normally be found in areas of the body such as the mouth, the genital and intestinal tracts. It can cause disease in animals.

**Canine**
Pertaining to dogs.

**Carcinoma**
A subtype of cancer that arises from epithelial cells. Epithelial cells form the lining of our internal organs, cavities, glands, and skin.

**Cardiac**
Pertaining to the heart.

**Cardiomyopathy**
Literally means "heart muscle disease".

**Cardiopulmonary**
A term relating to both the heart and lungs.

**Cardiovascular**
Refers to the circulatory system comprising the heart and blood vessels which carries nutrients and oxygen to the tissues of the body and removes carbon dioxide and other wastes.

**Carpus**
The animal equivalent of our wrist.

**Castration**
Removal of the testicles.

**Cataract**
A cataract is a clouding of the lens of the eye causing a reduction in vision or blindness. Several factors can promote the formation of cataracts; a genetic predisposition, diabetes mellitus, advanced age or previous eye damage. Currently, cataracts may be treated surgically, if vision is severely impaired.

**Caudal**
A term meaning toward the tail or the posterior end of the body.

**Cerebellum**
A region of the brain that plays an important role in motor control and co-ordination.

**Cerebrum**
A region of the brain that controls emotional, behavioural and learning functions.

**Chemotherapy**
Treatment of cancer with drugs. The drugs used are slightly more toxic to cancer cells than healthy cells, so the cancer is treated without causing permanent damage.

**Cherry Eye**
Cherry eye is the common name for the condition where the tear producing gland of the third eyelid prolapses. resulting in the appearance of a firm fleshy mass. Cherry eye is particularly common in some breeds of dog and is thought due to weakness in the attachment of the gland, allowing it to protrude.

**Chronic**
A disease of slow onset and of long duration. (e.g. chronic osteoarthritis)

**Cirrhosis**
A chronic disease of the liver whereby healthy tissue is replaced by scar tissue.

**Central Nervous System (CNS)**
Consists of the brain and spinal cord.

**Coagulation**
The process by which the body forms a blood clot (thrombus) that prevents further blood loss from damaged tissues, blood vessels or organs.

**Coagulopathy**
A defect in the body's mechanism for making blood clots.

**Coccidia**
Coccidia are microscopic, single celled organisms that infect animal cells. They can cause watery or bloody diarrhoea in pets.

**Colitis**
Inflammation of the large intestine (colon).

**Collapsing Trachea**
The trachea, or windpipe, is the tube that runs from the larynx to the lungs through which air passes. The trachea is normally held open by cartilage rings however if these cartilage rings are too weak, the trachea may flatten out during breathing. The most common clinical sign in affected dogs is coughing (described as a goose honk cough) especially when excited or after exercise or pulling on a lead. Exercise intolerance, respiratory distress, and gagging while eating or drinking may also occur. Treatment for mild to moderate cases include medication while severe cases may require surgery.

**Collie Eye Anomaly**
Collie eye anomaly is a congenital and inherited eye disease, which affects the retina, choroid, and sclera. It can be a mild disease or cause blindness. There is no treatment but the disease can be diagnosed by an examination.

**Colon**
The section of the large intestine extending from the caecum to the rectum.

**Colostrum**
Colostrum is an antibody-rich milk which is secreted by all female animals during the first few days of a newborn's life.

**Coma**
A state of unconsciousness from which an animal cannot be awakened.

**Complete Blood Count**
A complete blood count (CBC), also known as full blood count (FBC) or blood panel, is a test that gives information about the cells in a patient's blood. It is used to evaluate overall health and detect a wide range of disorders, including anaemia and infection.

**Computerized Tomography Scan (CT Scan)**
Also called computerized axial tomography (CAT) scan, combines a series of X-ray views taken from many different angles to produce cross-sectional images of the bones and soft tissues inside your pet's body.

**Congenital**
A condition that is present at birth.

**Conjunctiva**
The tissue lining the inner surface of the eyelids and covering the white of the eyes (sclera).

**Conjunctivitis**
Inflammation of the conjunctiva.

**Constipation**
A condition in which bowel movements occur less often than usual or consist of hard, dry stools that are painful or difficult to pass.

**Coprophagia**
The eating of faeces. Is considered normal behaviour in some species, such as rabbits. However, in other species coprophagy can be related to certain diseases or behavioural problems.

**Core Vaccine**
Vaccines which are strongly recommended, and sometimes even required. For example, parvovirus vaccine in dogs or panleucopenia in cats.

**Cornea**
The clear front part of the eye.

**Corneal Ulcers**
Corneal ulcers occur when there is damage to the outer layer of the cornea. Corneal ulcers are painful, resulting in excessive tearing, squinting, and pawing at the eye. Treatments include antibiotic therapy and pain medication, and in severe cases surgery may be required.

**Corticosteroid**
Any of the steroid hormones produced by the adrenal gland or their synthetic equivalents.

**Cranial**
Pertaining to the head or in the direction of the head.

**Culture**
The propagation of microorganisms in a growth media. Used to diagnose and guide treatment for infectious diseases.

**Cushing's Syndrome**
Cushing's disease is the common name for hyperadrenocorticism, a condition where the body produces excessive corticosteroid hormones. This disease is caused by an abnormality in the pituitary gland or the adrenal glands and can often be the result of a tumour within either of these glands. Lethargy, poor appetite, a distended abdomen, excessive drinking and urination, thin skin and excessive hair loss are all symptoms which can be treated with surgery or medication.

**Cutaneous**
Relating to, or affecting the skin.

**Cyanosis**
A bluish colour of the skin and the mucous membranes due to insufficient oxygen in the blood.

**Cyst**
A pathologic space in bone or soft tissue containing fluid or semi-solid material.

**Cystitis**
Inflammation of the urinary bladder.

**Cytology**
Refers to a branch of pathology that deals with making diagnoses of diseases based on the examination of cells.

**Dehydration**
The excessive loss of body water.

**Dental Disease**
Dental disease is very common in dogs but can be prevented. The most obvious sign of dental disease is calculus or dental plaque. Plaque build up can lead to gingivitis which if left untreated can progress to periodontitis and resulting in tooth loss. Treatment involves scaling and polishing of the teeth under general anesthesia and treatment of any periodontal disease. Special diets or treats, brushing, and plaque prevention gels can be use to prevent dental disease.

**Dermal**
Pertaining to the skin.

**Dermatitis**
Inflammation of the skin.

**Diabetes**
Diabetes is a metabolic disease where the animal has persistently high levels of glucose in the blood. Blood glucose levels are normally regulated by insulin, which acts cause cells to take up glucose. Diabetes can result if there is a lack of insulin production by the pancreas (so-called insulin dependent diabetes), or if the cells do not respond appropriately to the insulin (non-insulin dependent diabetes). Symptoms, are excessive drinking and urination, excessive appetite, often with weight loss, and cloudy eyes due to the formation of cataracts. If left untreated, diabetes leads malnutrition, ketoacidosis and/or dehydration, and death.

**Diagnostic Test**
A test to determine the presence or cause of disease.

**Diarrhoea**
Excessive and frequent evacuation of watery faeces, usually indicating gastrointestinal distress or disorder.

**Digestive System**
The organs responsible for the transit and metabolism of food in the body. These organs include salivary glands, mouth, oesophagus, stomach, small intestine, liver, gall bladder, pancreas, colon, rectum, and anus.

**Dilated Cardiomyopathy**
This heart condition, which is also known as DCM, is when the heart becomes weakened and enlarged and cannot pump blood efficiently. The symptoms can include less activity and tiring easily, lower appetite, signs of difficult respiration, panting and coughing while at rest and an enlarged pear-shape tummy as fluid accumulates in the abdomen.

**Disinfection**
A cleaning process which destroys most microorganisms, but not highly resistant forms.

**Distemper**
An infectious viral disease occurring in dogs. Clinical signs include loss of appetite, a discharge from the eyes and nose, vomiting, fever, lethargy, partial paralysis and sometimes death.

**Diuretic**
A substance increases the production of urine.

**Domestic Animal**
An animal that is not wild and is kept as a pet or to produce food.

**Dry Eye**
Dry Eye Syndrome is common in dogs. Most cases are caused by a genetic predisposition, but chronic conjunctivitis, canine distemper, and some drugs can result in either decreased tear production or increased tear film evaporation. Symptoms include eye redness, a yellow or greenish discharge, ulceration of the cornea, pigmented cornea, and blood vessels on the cornea.

**Duodenum**
The first part of the small intestine. The duodenum extends from the stomach to the jejunum (the second part of the small intestine).

**Duration of Immunity**
Length of time an animal is protected from a disease after vaccination. Vaccines for some diseases provide a long duration of immunity, others only provide immunity for up to a year.

**Dysphagia**
Difficulty in swallowing.

**Dysplasia**
A term used in pathology  meaning abnormal development of tissues.

**Dyspnoea**
Difficult or laboured breathing; shortness of breath.

**Dystocia**
Difficult birth.

**Dysuria**
Painful or difficult urination.

**Ear Canal**
The narrow tube, between the ear and ear drum, through which sound enters the ear.

**Ear Drum**
The thin membrane that separates the middle ear from the external ear. Also called the tympanic membrane.

**Ear Infections**
Ear infections are commonly seen in dogs.  Clinical signs include behavioural changes such is constant scratching or head shaking.  The ear canal may be red and a discharge or strong odour may be present.  If these clinical signs are present veterinary attention should be sought.

**Ear Mites**
Mites that live in the ears of animals. They can just barely be seen as a small white dot with the naked eye.

**ECG**
An electrocardiogram (ECG) is a test that records the electrical activity of the heart.

**Echocardiogram**
A test that uses sound waves to create a moving picture of the heart (i.e. an ultrasound of the heart).

**Ectoparasite**
A parasite, such as a flea, that lives on the exterior of an animal.

**Ectopic**
Meaning "out of place." (e.g. an ectopic pregnancy is one that has implanted outside the reproductive system)

**Electrolyte**
In medicine, certain mineral elements that are critically important to life, including sodium, potassium, chloride, calcium, and phosphorous.

**Elizabethan Collar**
A medical device that is shaped just like a cone and is used to prevent the animal from biting, licking, and scratching at wounds and injuries while they heal.

**Elongated Soft Palate**
The soft palate is the fleshy tissue at the back of the roof of the mouth that separates the mouth from the nasal passages. In some short muzzled breeds, such as pugs or bulldogs, the soft palate can be excessively long resulting in snoring, wheezing, snorting, and coughing when the dog is exercising. This can be corrected with surgery.

**Emaciation**
A wasted condition of the body.

**Emesis**
Vomiting.

**Encephalitis**
Inflammation of the brain.

**Encephalopathy**
Disease, damage, or malfunction of the brain.

**Endocrine**
Pertaining to hormones and the glands that make them. These hormones regulate an animal's growth, physiology and sexual development.

**Endoscope**
A lighted medical instrument used to get examine organs such as the oesophagus, stomach or airways.

**Endotracheal Tube**
A breathing tube placed into the trachea. Commonly used during anaesthesia to facilitate delivery of oxygen and anaesthetic to the lungs.

**Enteritis**
Inflammation of the intestine, especially the small intestine

**Envenomation**
The act of injecting a poisonous material (venom) by sting, spine or bite.

**Enzyme**
Enzymes are proteins that increase the rate of chemical reaction. Almost all processes in a cell need enzymes to occur at significant rates.

**Epidermis**
The outer layer of the skin.

**Epistaxis**
Technical name for bleeding from the nose.

**Erythema**
Redness of the skin resulting from dilation of blood vessels caused by irritation or injury to the tissue.

**Erythrocyte**
A red blood cell.

**Exposure Keratitis**
When eyelids are unable to close properly and hence are unable to keep the eyeball moist and free from debris and irritants, an inflammation of the cornea occurs, resulting in it becoming cloudy with a loss of transparency. This is known as exposure keratopathy syndrome. The signs are pain, squinting, pawing at the eye, avoiding light, and protrusion of the third eyelid. Depending on the cause of the keratitis, treatment may involve eye medications or surgery. If left untreated long-term visual loss may occur.

**Facial Dermatitis**
Facial dermatitis is a condition which causes inflammation and irritation of the face skin. The most common causes are due to flea bite allergies and reactions to allergens, generally seasonal, in the environment. This can lead to scratching or rubbing the affected areas so it becomes inflamed and irritated.

**Faeces**
Bodily waste matter derived from ingested food that is discharged through the anus; also called stool.

**Fanconi Syndrome**
Fanconi syndrome is a condition where the tubules of the kidneys do not properly reabsorb minerals, glucose, amino acids, and water to keep the body in a metabolic balance. In dogs, if untreated Fanconi Syndrome will eventually lead to death. However, there are several different treatment options to manage kidney function. The most common signs are excessive drinking and urinating, weight loss and overall poor condition.

**Feline**
Of or relating to cats.

**Feline Infectious Peritonitis**
Feline infectious peritonitis, or FIP, is an invariably fatal immune mediated condition caused by infection with mutant form of feline coronavirus. Most cats infected with feline coronavirus show no clinical signs, however if the virus mutates to a more dangerous virulent form it may result in FIP. The cats immune response to the virus results in an inflammatory reaction in affected tissues. There are two clinical forms of the disease recognised - wet or effusive FIP and dry or non-effusive FIP. All cats with FIP will typically have a fever, reduced appetite, and weight loss. In addition those with wet FIP develop an accumulation of fluid in their chest or abdomen which may result in breathing difficulties or the characteristic pot bellied appearance respectively. In cats with dry FIP, there is no fluid accumulation. These cats often develop neurological or eye problems such as seizures, paralysis, or blindness. Currently treatment for this condition is palliative.

**Foetus**
An unborn animal in the later stages of development showing recognisable features of the mature animal.

**Fine Needle Aspirate**
A diagnostic procedure sometimes used to investigate superficial (just under the skin) lumps or masses. In this technique, a thin, hollow needle is inserted into the mass to extract cells that, after being stained, will be examined under a microscope.

**FIV (Feline Immunodeficiency Virus)**
A virus that specifically infects cats (not people). It is transmitted by cats biting one another, especially during fights. FIV is the cause of Feline AIDS (Acquired Immune Deficiency Syndrome) – a progressive deficiency of the immune system that can limit the ability of cats to fight off other infections.

**Flatulence**
Generating excessive gas in the gastrointestinal tract

**FLUTD (Feline Lower Urinary Tract Disease)**
Describes a collection of conditions that can affect the urinary tract (bladder and/or urethra) of cats. Common clinical signs include straining to urinate and blood in the urine.

**Follicle**
A small cavity or deep narrow-mouthed depression (e.g. hair follicle)

**Foreign Body**
Any abnormal substance within the body. Commonly used to describe foreign material under the skin (eg splinters, glass) or in the gastrointestinal tract (e.g. toys, balls, bones).

**Fracture**
Breaking of hard tissue such as bone. May be caused by trauma or bone disease.

**Gait**
The manner of walking or moving. Assessed to determine the cause of lameness in animals.

**Gastric**
Relating to or involving the stomach.

**Gastritis**
Inflammation of the lining of the stomach.

**Gastrointestinal**
Relating to the stomach and intestines.

**Gestation**
The carrying of an embryo or foetus

**Gingival**
Pertaining to the gums.

**Gingivitis**
Inflammation of the gums.

**Glaucoma**
Glaucoma is a condition in which there is increased pressure in eye which, if left untreated, can result in blindness. Glaucoma can be sudden in onset (acute) in which case the eye is usually very painful and red, or it can be more insidious in its onset (chronic) with no obvious outward changes until the vision is affected. For this reason regular eye checks are important, particularly in at risk breeds. If detected early medical treatment can be very effective in preserving vision.

**Glucosuria**
The excretion of glucose in the urine. Normally, urine does not contain glucose as the kidneys are able to reclaim glucose back into the bloodstream.

**Granuloma**
A mass or nodule of chronically inflamed tissue.

**Haemangiosarcoma**
A malignant tumour of the blood vessels, usually occurring in the skin, liver or spleen.

**Haematocrit**
The volume of red blood cells in a sample of blood after it has been centrifuged (spun at high speeds). The PCV (Packed Cell Volume), or haematocrit, is expressed as a percentage. For example, normal for dogs is 40-59% and for cats is 29-50%.

**Haematology**
The study of blood and diseases of the blood.

**Haematoma**
A localised swelling filled with blood outside the blood vessels. Usually occurs due to haemorrhage.

**Haematuria**
The presence of blood in the urine; often a clinical sign of urinary tract disease.

**Haemorrhage**
Bleeding.

**Heart Murmur**
A heart murmur is the abnormal sound of blood rushing through one of the heart valves. Instead of just the heartbeat, a whistle of blood flow through a narrowed opening, is heard. The condition is usually detected by hearing a heart murmur during physical examination by a veterinarian.

**Heartworm**
Also known as Dirofilaria immitis, is a parasite that is spread from host to host via the bites of mosquitoes. The natural host is the dog but it can also infect cats and ferrets too. The worms mature in the heart and may cause a physical blockage as well as thickening of the heart and associated blood vessels.

**Hepatic**
Relating to, affecting, or associated with the liver.

**Hepatitis**
Inflammation of the liver.

**Hepatomegaly**
Abnormal enlargement of the liver.

**Hernia**
Protrusion of an organ through a wall of the cavity in which it is normally enclosed.

**Hip Dysplasia**
Hip dysplasia is an abnormal formation of the hip socket which can lead to severe arthritis of the hips. It is an inherited trait that develops particularly with environmental factors such as excess weight, injury at a young age, overexertion on hip joints at a young age, ligament tear at a young age, repetitive motion on forming joint. Clinical signs include lameness, swaying or staggering, discomfort when attempting to lie down or stand up, reluctance to run and jump, or audible clicking sounds when the pet walks or rises to get up. Surgical treatment options are available for severe cases, although most animals can be managed with an appropriate regimen of anti-inflammatory pain relief, weight control, joint supplements, and regular controlled exercise.

**Hormone**
A chemical released by a cell or a gland in one part of the body that sends out messages that affect cells in other parts of the animal.

**Host**
A living animal on or in which a parasite lives.

**Hybrid**
The progeny of two animals of different races, breeds, varieties or species.

**Hydrocephalus**
An abnormal increase in the amount of cerebrospinal fluid (CSF) within the cranial cavity. This may cause increased pressure inside the skull and progressive enlargement of the head, brain damage and even death.

**Hyper**
A prefix meaning more than normal.

**Hyperglycaemia**
High levels of glucose in the blood.

**Hyperplasia**
An abnormal increase in the number of cells in a tissue or organ.

**Hypersensitivity**
An allergic condition in which the body overreacts to certain substances, such as a bee sting or medication.

**Hypertension**
High blood pressure.

**Hyperthermia**
Elevated body temperature.

**Hyperthyroidism**
Hyperthyroidism occurs when the thyroid gland, which regulates metabolism, increases thyroid hormone production. This overproduction of hormones causes a "speeding up" of various body systems. Clinical signs may include behaviours changes such as irritability or aggression, increased heart rate, tremors, weight loss and muscular weakness. Treatment can include surgery, medication, or radioactive iodine therapy. It is a very common disorder of older cats.

**Hypertrophic Cardiomyopathy**
Hypertrophic cardiomyopathy (HCM) is the most common heart disease in all cats and in some breeds is a genetic trait. The disease causes thickening of the heart wall, which makes the heart pump less efficiently which could lead to sudden death. Early detection is important to ward off this life-threatening problem. Cat with HCM are also prone to developing thromboemboli.

**Hypertrophy**
An enlargement of an organ or a tissue as a result of an increase in the size of cells (rather than the number as in hyperplasia).

**Hyperventilate**
To breathe excessively hard and fast causing blood gas disorders.

**Hypo**
A prefix meaning less than normal.

**Hypoglycaemia**
Low levels of glucose in the blood.

**Hypoplasia**
Incomplete formation of a structure or organ in the body.

**Hypotension**
Low blood pressure.

**Hypothermia**
An abnormally low body temperature.

**Hypothyroidism**
Hypothyroidism occurs when the thyroid gland, which regulates metabolism, malfunctions and stops producing enough thyroid hormone. Usually affecting middle-aged dogs, the symptoms that can often be chronic, include hair loss or poor coat, weight gain, muscle loss, and lethargy. It can be effectively treated with medication.

**Hypoxia**
Deficiency in the amount of oxygen delivered to the body tissues.

**Icterus**
Also known as jaundice. It is a yellow discolouration of the skin, mucous membranes or whites of the eyes due to excessive levels of bilirubin in the blood.

**IDDM**
Insulin-dependent diabetes mellitus is a form of diabetes in which patients have little or no ability to produce insulin and are therefore entirely dependent on insulin injections.

**Idiopathic**
Disease arising from an unknown cause.

**Ileus**
Lack motility of the gastrointestinal tract.

**Immune System**
The system that protects the body from foreign substances, cells, and infections.

**Immune-Mediated**
Describes conditions which result from abnormal activity of the body's immune system. For example, immune mediated haemolytic anaemia (IMHA), is a disease in which the body's immune system destroys the body's own red blood cells.

**Immunity**
A condition in which the animal's immune system has been primed and is able to protect the body from a disease-causing agent such as a virus or bacteria.

**Immunisation**
The creation of immunity usually against a particular disease. Vaccination is a way to produce immunisation. However, a vaccinated animal is not always immune. If the body did not respond appropriately to the vaccine or if the vaccine was not administered correctly, immunity may not be stimulated.

**Immunodeficiency**
Immunological disorder in which the body's immune system is inadequate and resistance to infectious diseases is reduced. Can be caused by viral infections such as feline immunodeficiency virus in cats.

**Immunosuppressive**
Pertaining to a substance that suppresses the immune system.

**Inactivated Vaccine**
Vaccines which are made by taking the real, disease-causing viruses (or bacteria), killing them, and putting them into a liquid base. Also called a killed vaccine.

**Incontinence**
Loss of control over urination or defaecation.

**Incubation Period**
The period between infection and the appearance of clinical signs of the disease.

**Infection**
Pathological state resulting from the invasion of the body by microorganisms, such as bacteria or viruses.

**Infestation**
Refers to the state of being invaded or overrun by parasites.

**Inflammation**
A local response to injury that is characterised by redness, heat, pain, swelling, and often loss of function.

**Inherited**
Tending to occur among members of a family. Genetically transmitted features.

**Innate**
Inborn. A permanent characteristic present since birth.

**Insulin**
A hormone secreted by the pancreas to regulate glucose in the body.

**Insulin Resistance**
A condition where insulin becomes less effective at lowering blood sugars.

**Intermediate Host**
A host (animal, insect, snail etc) that harbours a parasite only for a short transition period, during which (usually) some developmental stage is completed.

**Intestine**
The portion of the gastrointestinal tract extending from the stomach to the anus. It is usually divided into two segments, the small intestine and the large intestine.

**Intracellular**
Inside the cell.

**Intracranial**
Inside the cranial cavity or head.

**Intramuscular**
Into the muscle. Generally relates to the site an injection is given.

**Intranasal**
Into the nose. This is an effective way of vaccinating dogs against canine cough.

**Intravenous**
Into the vein. Generally relates to the site of injection of drugs or fluids.

**Intussusception**
Serious disorder in which part of the intestine slides, or telescopes, into another part of the intestine. This often blocks the intestine, preventing food or fluid from passing through.

**Iris**
The coloured portion of the eye is called the iris. In the centre of the iris is the black opening called the pupil.

**Jaundice**
Also called icterus, meaning that a yellow pigment is found in the blood and in the tissues. It is most easily seen in the gums and the whites of eyes. It can be caused by destruction of red blood cells, liver disease and obstruction of the bile duct.

**Jejunum**
The second part of the small intestine. The jejunum extends from the duodenum (first part of the small intestine) to the ileum (the final part of the small intestine).

**Jugular**
Pertaining to the neck. The jugular veins carry deoxygenated blood from the head back to the heart.

**Keratitis**
Keratitis is inflammation of the cornea (the clear part of the eye). The cornea becomes cloudy, resulting in loss of transparency. All types of keratitis must be treated by a veterinarian.

**Keratoconjunctivitis Sicca**
Also known as dry eye, is a condition that results from the inadequate production of tears.

**Ketoacidosis**
A life-threatening condition associated with uncontrolled diabetes.

**Kidney disease**
There are two main forms of kidney disease, acute renal disease and chronic renal disease. Acute renal disease occurs suddenly and is often caused by toxins, infections and changes within a pets body that reduce the blood supply to the kidneys. Whilst, chronic renal disease develops over a longer time and is often a found in older pets. If there is sufficient kidney damage clinical signs of kidney failure will be seen, such as increased drinking and urination. Various medications and dietary changes are used to manage dogs and cats with kidney failure.

**Killed Vaccine**
Also known as inactivated vaccines. Vaccines which are made by taking the real, disease-causing viruses (or bacteria), killing them, and putting them into a liquid base.

**Lactation**
The secretion of milk from the mammary gland and the period of time that a mother lactates to feed her young.

**Large Intestine**
The portion of the intestine that connects the small intestine to the anus. The large intestine is made up of the caecum, colon and rectum.

**Larva (plural larvae)**
A distinct juvenile form many animals (such as insects or parasites) undergo before metamorphosis into adults.

**Larynx**
Also known as the voicebox, it is located at the entrance to the trachea (or windpipe). The larynx acts to control the flow of air to the trachea and food and water to the oesophagus.

**Latent**
A dormant stage of disease occurring between exposure to a disease-causing agent and the onset of the disease.

**Lens Luxation**
This inherited problem is a displacement of the lens from its normal position and can lead to secondary complications such as glaucoma and subsequent blindness. Surgery is required to correct this problem.

**Liver**
A large organ in the front of the abdomen that is responsible for the detoxification of blood, the production of certain digestive enzymes and bile.

**Lymph Nodes**
Are small glands composed of white blood cells called lymphocytes. Lymphocytes play a critical role in the immune system by destroying infectious agents (such as viruses and bacteria) and producing antibodies.

**Malabsorption Syndrome**
Defined as an animal's inability to absorb the vitamins, minerals, and other nutrients it needs from food.

**Malignant**
Refers to becoming worse and even resulting in death. Malignant tumours are cancerous growths which expand quickly and can metastasize, or spread to other areas of the body.

**Malnutrition**
A condition that results from taking an unbalanced diet in which certain nutrients are lacking, in excess, or in the wrong proportions.

**Mammary**
Pertaining to the mammary gland or breast tissue.

**Mandible**
The lower jaw.

**Mange**
Any of several skin diseases of mammals caused by parasitic mites that burrow into the skin or hair follicles. It is characterised by skin lesions, itching and loss of hair.

**Mast Cell Tumour**
Mast cell tumours are a type of cancer that generally occurs on the skin surface of dogs. These tumours often present themselves as a pink lump if it's on the surface of the skin or a lump if under the skin. Mast cell tumours can be very aggressive and can spread to the liver, spleen, or bone marrow. Prompt surgical removal is recommended for this type of cancer.

**Masticate**
Mastication or chewing is the process by which food is crushed and ground by teeth.

**Mastitis**
Refers to swelling, inflammation, and infection of the mammary glands.

**Maternal Antibody**
Antibodies acquired by a newborn animal via the placenta or colostrum (antibody-rich milk) of the mother.

**Megacolon**
A functional disorder that is defined as dilation of the colon or large intestine. This leads to infrequent and difficult passage of faeces and constipation.

**Melaena**
Darkening of the faeces by digested blood pigments. Typically the faeces look black in colour.

**Metacarpus**
The long bones in the front foot connecting the toes to the bones of the wrist (carpus).

**Metastasis**
The spread of disease from one area of the body to another. Normally used in the context of a cancerous tumour spreading via the bloodstream or lymphatic system.

**Metatarsus**
The long bones in the back foot connecting the toes to the bones of the ankle (tarsus).

**Microfilaria**
The larval form of some parasitic worms. For example heartworm microfilariae circulate in the bloodstream of infected dogs.

**Microorganism**
A microscopic, single-celled organism. Microorganisms include bacteria, fungi and viruses.

**Mitral Valve Disease**
A common cause of heart failure in dogs, Mitral Valve disease is more likely to affect smaller and older dogs. The mitral valve separates the left atrium and left ventricle, and functions to prevent the back flow of blood between the chambers. If the valves are misshapen they do not form a tight seal and blood is allowed to flow backwards from the ventricle to the atrium.

Progression of the disease can result in congestive heart failure, with dogs showing clinical signs of coughing, reduced exercise tolerance, reduced appetite, and a pot bellied appearance due to the accumulation of fluid in the abdomen. Medication can alleviate the control clinical signs and provide an improved quality of life.

**Modified Live Vaccine**
A vaccine that utilises a live, attenuated (weakened) bacteria or virus to elicit an immune response.

**Mucolytic**
Medications capable of breaking down or reducing the viscosity of mucus.

**Mucosa**
Thin layer of tissue lining cavities that are exposed to the external environment and internal environment (such as the mouth, urinary bladder, eyelids). Also known as mucous membranes.

**Mucous Membranes**
Thin layer of tissue lining cavities that are exposed to the external environment and internal environment (such as the mouth, urinary bladder, eyelids). Also known as mucosa.

**Musculoskeletal**
Pertaining to the muscles and skeleton (bones).

**Myasthenia Gravis**
Is a neuromuscular disease in which severe muscle weakness is the primary sign. It is caused by an inability of certain nerve receptors to function properly.

**Mydriasis**
Large or dilated pupil size.

**Myelogram**
Radiograph (x-ray) of the spinal cord taken after a radio-opaque dye has been injected into the space around the spinal cord.

**Myocardium**
Muscle of the heart.

**Nebulise**
To convert a liquid into a spray for inhalational treatments.

**Necropsy**
Also known as an autopsy or post-mortem examination. It refers to the examination of an animal after death.

**Necrosis**
Is the premature death of cells and living biological tissue.

**Nematodes**
Also known as roundworms.

**Neoplasia**
A class of disease in which a group of cells display uncontrolled growth, invasion that intrudes upon and destroys adjacent tissues, and sometimes spreads to other locations in the body. Can be used to describe malignant or benign tumours.

**Neuropathy**
A condition involving a dysfunction of the nerves.

**Neuter**
Also known as desexing. It involves the surgical removal of the testes in males or the ovaries and uterus in females.

**Nodule**
Nodules are solid lumps or bumps found on an animal's skin.

**Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)**
Medications with anti-inflammatory, analgaesic (pain reducing) and anti-pyretic (fever-reducing) effects. Non-steroidal distinguishes NSAIDs from other drugs which contain steroids, which are also anti-inflammatory.

**Non-core Vaccine**
Vaccines that should be administered to animals assessed to be at risk of that disease. For example leptospirosis and canine cough in dogs or feline leukaemia and FIV in cats.

**Non-pathogenic**
Not capable of causing disease.

**Nutraceutical**
A term combining the words “nutrition” and “pharmaceutical”. It is used to describe a food or part of a food that allegedly provides medicinal or health benefits.

**Nutrient**
Any substance which has nutritious qualities.

**Nystagmus**
A term describe involuntary eye movement. Nystagmus can be horizontal, vertical or rotary.

**Obsessive Compulsive**
A behavioural condition in which a pet repeatedly performs an action out of context.

**Occult**
Refers to a structure or process that is hidden or detected indirectly.

**Ocular**
Pertaining to the eye.

**Oedema**
The medical term for fluid retention in the body, causing swelling to occur in the affected area.

**Oesophagus**
The part of the intestinal tract between the mouth and stomach.

**Off Label**
Refers to a drug prescribed to treat a condition for which it has not been approved. Off-label use of a drug must be determined by the attending veterinarian.

**Opioid**
A synthetic narcotic that resembles naturally occurring opium.

**Osteodystrophy**
Osteodystrophy is the general term for defective bone development that is usually attributable to renal disease or an imbalance in the calcium and phosphorus metabolism. Symptoms may not be diagnosed until renal disease is apparent but bone deformation can develop. Treatment may include dietary supplements, however, it is a chronic condition.

**Osteomyelitis**
Term to describe an infection of the bone or bone marrow.

**Osteosarcoma**
Osteosarcoma is a type of bone cancer, most commonly found in middle aged to older large breed dogs. The cancer commonly spreads to the lungs. Symptoms include lameness, pain of any of the bones, brittle bones (that break with minimal trauma), swelling of a limb, difficulty breathing, coughing & exercise intolerance.

**Otic**
Relating to the ear.

**Ototoxic**
Damaging to the structures of the ear.

**Ovulate**
The release of an egg from the ovary of the female.

**Oxytocin**
A hormone that stimulates the uterus to contract during birth and the mammary glands to release milk.

**Packed Cell Volume (PCV)**
The volume of blood cells in a sample of blood after it has been centrifuged The PCV, or haematocrit, is expressed as a percentage. For example, normal for dogs is 40-59% and for cats is 29-50%.

**Palatable**
Acceptable to the taste; readily eaten.

**Palpation**
The act of feeling with the hand or fingers. A phase of the physical examination in which the sense of touch is used to gather information essential for diagnosis.

**Pancreatitis**
A term that describes inflammation of the pancreas. Clinical signs include vomiting, lethargy and a painful abdomen.

**Pannus**
Pannus is the common name for chronic superficial keratitis, a condition frequently seen in German Shepherd Dogs. Pannus is thought to be an immune mediated condition that is triggered or made worse by UV light. Affected dogs develop scar tissue, pigmentation, and the new blood vessels on the cornea. Pannus is a life-long condition that is treated with topical eye medications.

**Papule**
A small solid bump rising from the skin that is usually less than 1 centimetre in diameter.

**Paralysis**
Refers to loss of motor function due to impairment of muscles or nerves.

**Parasiticide**
A substance used to destroy parasites.

**Parenterally**
Refers to the administration of a drug into the body through some way other than the digestive tract, such as subcutaneous or intravenous injection.

**Paresis**
Refers to partial loss of motor function due to impairment of muscles or nerves.

**Parturition**
Term used to describe delivery of a baby or giving birth.

**Passive Immunity**
Is the transfer of antibodies from one individual to another. It can occur naturally, when maternal antibodies are transferred to the newborn animal in colostrum, and can also be transferred artificially, such as a plasma transfusion.

**Pathogenic**
Causing disease. Usually used to describe bacteria which are capable of causing disease.

**Pathologist**
Person who specialises in the diagnosis of diseases through the examination of animal tissue and body fluids.

**Patellar Luxation**
Patella luxation is a condition in which the knee-cap no longer glides within its natural groove and can become evident at any age. It is believed that it is an inherited problem which is more common in smaller breeds ,however it can also result from trauma. Symptoms include intermittent skipping, occasional hitch of the leg, or a persistent weight bearing lameness.

**PCV (Packed Cell Volume)**
The volume of blood cells in a sample of blood after it has been centrifuged. The PCV, or haematocrit, is expressed as a percentage. For example, normal for dogs is 40-59% and for cats is 29-50%.

**Perianal Fistula**
A painful condition of the skin surrounding the anus, in which small tracts open up, bleed and get infected.

**Perineal**
The region of the body between the genitals and the anus.

**Peritoneum**
A thin membrane that lines the abdominal and pelvic cavities, and covers most abdominal organs.

**Peritonitis**
Inflammation of the peritoneum.

**Phalanges**
The bones that are in the toes.

**Pheromone**
Chemicals released by an animal enabling it to communicate with other members of its own species.

**Photosensitivity**
Refers to an increase in the reactivity of the skin to sunlight. It can cause reddening and blistering of the skin.

**Pica**
A pattern of eating non-food materials (such as dirt or rocks).

**Placebo**
A dummy medication or treatment.

**Plaque**
A biofilm that develops naturally on the teeth. It is formed by colonising bacteria trying to attach itself to the smooth surface of a tooth.

**Platelets**
Are found in the blood of animals and functions to promote blood clotting. Also known as thrombocytes.

**Polyarthritis**
The term means inflammation of more than one joint. Often used in the context of infectious or immune-mediated diseases.

**Polydactyl**
Having more than the normal number of toes.

**Polydipsia**
Excessive thirst and drinking.

**Polyp**
An abnormal growth of tissue projecting from a mucous membrane.

**Polyphagia**
Excessive appetite and eating.

**Polyuria**
Excessive production of urine.

**Postoperative**
After surgery or an operation.

**Prepuce**
The fold of skin that covers the penis.

**Progesterone**
A hormone produced by the ovaries which is responsible for the continuation of pregnancy and a myriad of other functions.

**Prognosis**
The forecasted outcome of a disease process or treatment.

**Progressive Retinal Atrophy**
Progressive retinal atrophy (PRA) is a genetic condition resulting in the degeneration of the retina. The condition affects both eyes, resulting in a loss of vision and eventual blindness. The initial clinical sign is a decreased vision at night, with more advance signs such as dilated pupils and decreased pupillary light reflex being seen as the condition progresses. There is no treatment but appropriate advice will help maintain quality of life.

**Prolapsed Rectum**
Describes a medical condition where part of the rectum protrudes through the anus.

**Protozoans**
Any of a large group of single-celled organisms that live in water or as parasites. Examples include Giardia and Coccidia species.

**Pruritus**
Itchiness.

**Psittacine**
Relating to, resembling, or characteristic of parrots.

**Pulmonary**
Pertaining to the lungs.

**Pulmonary Arteries**
The artery that carries blood with low levels of oxygen from the heart to the lungs.

**Pulmonary Oedema**
The accumulation of fluid in the lungs.

**Pustule**
A small lump in the skin filled with pus.

**Pyoderma**
Pyoderma is a bacterial infection of the skin. Most cases of pyoderma are limited to the upper most layers of skin (superficial pyoderma) although the infection can spread to the lower tissues of the skin (the dermis) resulting in a deep pyoderma. The most common clinical sign is red, itchy, scaly skin. There may be hair loss at the site, often due to self trauma as the animal bites and scratches at the itchy skin. Most cases of pyoderma are caused by an overgrowth of the dogs normal skin bacteria and so are not contagious - that is they are not spread from dog to dog. Instead pyoderma often occurs due to an underlying condition such as a atopy or food allergy.

**Pyometra**
An accumulation of pus within the uterus.

**Queen**
A breeding female cat.

**Radiology**
A branch of veterinary science dealing with the medical use of X-rays to diagnose and treat disease.

**Recumbency**
Lying down.

**Regurgitation**
Expelling food from the oesophagus.

**Renal**
Pertaining to the kidneys.

**Renal Insufficiency**
Also called renal failure, is when the kidneys no longer function well enough to maintain a normal state of health.

**Respiratory**
Pertaining to respiration, the exchange of oxygen and carbon dioxide.

**Retina**
Term referring to the light-sensitive layer of tissue at the back of the inner eye.

**Ringworm**
Refers to a fungal skin infection.

**Sacrocaudal Dysgenesis**
Sacrocaudal dysgenesis is a genetic musculoskeletal disorder which has developed as a result of the breeding of Manx cats. The vertebrae of the tail and the sacrum are not developed properly. The spinal cord may also not be properly developed or completely sealed. The cat has a tailless or stumpy tail appearance and is commonly called Manx Syndrome, after the tailless cat breed.

**Sebaceous Adenitis**
This is an uncommon autoimmune, inflammatory skin disease that affects the sebaceous glands of the hair follicles. The glands, that excrete a fatty lubricating oil are destroyed, resulting in dried out and brittle skin. This can lead to skin lesions along the back and ears and symptoms include silvery dandruff, hair loss which has a "moth eaten" appearance to the coat, a dull and brittle coat and facial swelling. Management of the disease is generally washing with antibiotic shampoos and soaking in mineral oils, however, results can vary greatly.

**Sebaceous Cysts**
Sebaceous cysts are a benign, non-painful lumps. Usually found on the head, neck, body and upper legs, they are smooth, generally round and vary in size.

**Sebaceous Glands**
Microscopic gland in the skin that secrete an oily/waxy substance.

**Seborrhea**
Seborrhoea is a skin condition that results in excessively greasy (seborrhoea oleosa) or excessively scaly skin (seborrhoea sicca), often with associated inflammation. It is possible for dogs to have both greasy and scaly skin at the same time on different regions of the body. Suggested treatments are medicated shampoo and topical and oral medication.

**Separation Anxiety**
Is a behavioural condition where dogs, when left alone, exhibit distress and behavioural problems.

**Sepsis**
A toxic state caused by the absorption of pathogenic microorganisms and their products into the bloodstream or tissues.

**Septicaemia**
A toxic state caused by the absorption of pathogenic microorganisms and their products into the bloodstream.

**Serology**
Refers to blood tests that detect the presence of antibodies against an antigen or microorganism.

**Serum**
The clear yellowish fluid obtained upon separating whole blood into its solid and liquid components after it has been allowed to clot.

**Shedding**
A term used to describe the release of organisms (bacteria, protozoa, viruses) into the environment from an infected animal.

**Skin Allergies**
Skin allergies are among one of the most common health problems in dogs. Resulting from allergic, environmental, infectious, neurogenic, nutritional and parasitic factors, they vary from acute to chronic or long-lasting problems requiring life-time treatment. Many triggers can start an allergic reaction in dogs from food, carpeting, blankets, dust mites, mould spores in the air to pollen, plastic food dishes, furniture stuffing and ornamental plants. Symptoms can include excessive scratching, licking & chewing of paws/limbs which can lead to poor wound healing with secondary infections becoming a problem. Treatments vary depending on the severity but topical medications & oral medication is often required.

**Skin Cytology**
The microscopic examination of cells that have been collected from the skin.

**Skin Fold Dermatitis**
A common problem, skin fold dermatitis can affect many breeds of dogs. It is particularly common in short muzzle or pug dogs plus dogs with loose skin areas on the neck, trunk and legs where skins folds onto skin. Rubbing and friction between the skin layers, combining this with moisture and the presence of bacteria, can lead to severe lesions and sores in the folds of the skin. Symptoms can be moist to damp feeling in the folds of skin often accompanied by a putrid smell and hot to the touch, lesions, excessively dry and brittle hair or hair loss and dry, puffy, and darkly pigmented skin. Treatment can be using antibacterial shampoo, complete drying of the folds using drying solutions and topical or oral antibiotic.

**Skin Scraping**
A diagnostic test used in almost every skin condition. The skin is scraped and the material examined under a microscope.

**Skin Tumours**
Skin tumours are very common in dogs and most are benign. They appear in or on the skin as a lump or in the soft tissue lying just between the skin and underlying fat, muscle or bone. They can be caused by many different things, including infection (bacterial, viral or fungal), cancer or the simple accumulation and compaction of fat. Early identification of the cause is crucial to prevent the situation becoming more serious.

**Smooth Muscle**
A special type of muscle responsible for the contractility of hollow organs, such as blood vessels, the gastrointestinal tract, the bladder, or the uterus.

**Solar Dermatitis or Collie Nose**
Sunburn is the cause of this disease and results in scaly lesions. Repeated exposure can lead to further skin problems. This condition mainly effects short coated or lightly pigmented hair breeds. Ointments are often prescribed to stop inflammation but sunscreen lotions are a preventative measure.

**Spay (ovariohysterectomy)**
Term referring to the surgical removal of the reproductive organs (ovaries and uterus) of the female animal.

**Sphincter**
A ring of muscle which holds any kind of biological opening closed.

**Spleen**
A large abdominal organ with important roles in regard to red blood cells and the immune system.

**Stasis**
Refers to the state in which the normal flow of a body liquid stops, for example the flow of intestinal contents through the digestive tract.

**Status Epilepticus**
A very serious neurological condition in which the brain experiences a prolonged seizure, or a series of prolonged seizures without a full return to consciousness in between.

**Stenosis**
Also known as a stricture, is an abnormal narrowing in a blood vessel or other tubular or structure, such as the intestine.

**Struvite**
Also known as ammonium magnesium phosphate. Struvite can form stones in the urinary bladder.

**Subcutaneous**
Under the skin.

**Subluxation**
Refers to incomplete or partial dislocation of a joint.

**Syncope**
Is the sudden loss of consciousness, or fainting.

**Synovial Joint**
Is the most movable and widespread type of joint throughout the body. Examples include the knee, elbow and hip.

**Systemic**
Pertaining to or affecting the whole body rather than localised.

**Tachycardia**
Refers to a faster than normal resting heart rate.

**Tachypnoea**
Refers to a faster than normal resting respiratory, or breathing, rate.

**Tarsus**
The animal equivalent of an ankle. It is also known as the hock.

**Tartar**
A build-up of bacteria, saliva, and food on the teeth which becomes mineralised, forming a hard coating and eventually causing gum disease and possibly tooth loss.

**Tear Duct Problems**
Blockage of the tear ducts can be a congenital problem or can occur due to acquired conditions such as infections, dental disease, or cancer. When the tear ducts become blocked tears run down the face. Constant wetting of the skin around the eyes due to the overflow of tears can predispose the dog to developing skin infections in this area.

**Temporomandibular Joint**
The joint where the lower jaw bone, or the mandible, meets the skull.

**Thrombocytopaenia**
The medical term that refers to a low or reduced platelet count.

**Thromboembolism / Saddle Thrombus**
A thrombus is a blood clot that forms within a blood vessel. If the blood clot becomes dislodged it can be carried in the bloodstream and cause a blockage. When this occurs it is known as a thromboembolism. Blockage of a blood vessel due to a thromboembolism stops oxygen getting to the tissues supplied by that vessel, and also prevents the removal of waste products from these tissues. This condition is most frequently reported in cats with heart disease, where the most common site for the clot to lodge is in the large blood vessels supplying the hind legs. Lodging of the blood vessels here results in paralysis of the legs and severe pain.

**Tissue**
Is an organised group of cells, not necessarily identical, that together carry out a specific function.

**Titre**
Is a measure of concentration. Normally refers to the level of antibodies in blood to a particular antigen.

**Topical**
To be applied to external body surfaces such as the skin.

**Toxaemia**
A generic term for the presence of toxin in the blood.

**Tracheobronchitis**
Refers to inflammation of the trachea and bronchi.

**Tumour**
A tumour is an abnormal growth of body tissue. Tumours can be cancerous (malignant) or non-cancerous (benign).

**Ulcer**
A defect of the skin, cornea or mucous membrane caused by the loss of damaged tissue.

**Ultrasound**
A technique used to produce an image of a deep structure within the body by directing ultrasound waves at it and recording the reflections (echoes) from it.

**Umbilicus**
Also known as the belly button. The umbilicus is where the umbilical cord attaches to the foetus during pregnancy.

**Urate**
Is a salt derived from uric acid.  Urate can form stones in the urinary bladder.

**Urea**
Is a compound which is essentially the waste produced when the body metabolises protein.

**Urinary Incontinence**
Is the loss of voluntary control of urination.

**Urinary Obstruction**
A term to describe one of many different conditions that disrupt normal urine flow from the body.

**Urticaria**
Also known as hives. Raised, itchy areas of skin that are usually a sign of an allergic reaction.

**Uveitis**
Refers to inflammation of the middle layer of the eye.

**Vaccination**
The administration of a vaccine to stimulate immunity to a disease.

**Vaccine Failure**
A vaccine failure is when an animal develops a disease in spite of being vaccinated against it. There is usually nothing wrong with the vaccine, but for some reason, the animal's immune system did not adequately respond to it.

**Vasculitis**
Inflammation of blood vessels.

**Vasoconstriction**
Vasoconstriction is the narrowing (constriction) of blood vessels by muscles in their walls.

**Vasodilation**
Vasodilation is the widening (dilation) of blood vessels by the relaxation of the muscles in their walls.

**Vena Cava**
The cranial vena cava is the large vein which returns blood to the heart from the head, neck and both upper limbs. The caudal vena cava returns blood to the heart from the lower part of the body.

**Ventral Comedone Syndrome**
This mostly cosmetic problem, is where comedones (known as blackheads) form as small boil-like blisters, swell then drain and reform on a regular basis. Occasionally, however, the comedones can become the target of bacterial infection which begins to affect the surrounding skin at a rapid rate. If a secondary bacterial infection occurs antibiotic treatment may be necessary.

**Ventricle**
The large, muscular chambers of the heart that pump blood to the body or lungs.

**Vestibular System**
Is the system comprised of the inner ear, nerves and brain, that provides a sense of balance.

**Virus**
A small infectious agent that is unable to replicate outside a living animal cell.

**Volvulus**
Abnormal twisting of the intestines or stomach. This can be a life threatening condition due to the loss of blood supply and accumulation of toxic gases and fluids in the portion of the obstructed bowel segment.

**Whelping**
The act of a dog giving birth.

**White Blood Cells**
Are cells of the immune system involved in defending the body against both infectious agents (bacteria, viruses, and fungi) and foreign materials.

**Window of Susceptibility**
A time period in the life of a young animal in which the maternal antibodies are too low to provide protection against a certain disease, but too high to allow a vaccine to work and produce immunity.

**Wobblers**
Wobblers is the common name for a group of conditions of the cervical vertebrae that causes an unsteady (wobbly) gait and weakness in dogs. Clinical signs are due to compression of the spinal cord and are usually progressive. The disease is most common in large breed dogs, in particular Great Danes and Dobermans. Treatment is either medical to control the symptoms, or surgical to correct the spinal cord compression.

**X-ray**
High-energy electromagnetic radiation used to take radiographs.

**Zoonotic**
A term used to describe any disease or infection that is naturally transmissible from animals to humans.

# V. Questions for certifications conducted in the subject:

# Oral questions for 1 pc (120)

1. What is the purpose and objectives of the subject?
2. What are the advances made in veterinary surgery?
3. What does the concept of a complex of treatment and prevention of surgical diseases mean?
4. What does the concept of etiology, pathogenesis, semiotics and diagnosis of a disease mean?
5. What injuries (injuries) occur in animals.
6. What is the name and essence of the first phase of the wound process?
7. What is the name and essence of the second phase of the wound process?
8. What is the name and essence of the third stage of the wound process?
9. What are the 3 main areas of wound healing?
10. What is the importance of healing over primary healing?
11. What is the course of the process in the first hours after the completion of surgery and clean wounds?
12. What changes in the healing process occur in the first 6 hours?
13. What changes occur in the wound after 1–2 days?
14. What changes occur in the wound after 4-7 days?
15. What is the role of leukocytes, lymphocytes, macrophages, polyblasts and fibroblasts in primary wound healing?
16. What are the causes of primary wound healing?
17. What is the structure and significance of a wound scab?
18. What wounds heal under a scab?
19. What types of granulation tissue do you know?
20. What are the principles of granulation tissue protection?
21. What does the term trauma mean?
22. What is the classification of injuries?
23. What are the types of injuries?
24. How does trauma affect the body?
25. What are the methods of preventing technological injuries?
26. What does mechanical antiseptic mean?
27. What is the order and types of primary surgical treatment?
28. What are the ways to cut and expand the wound?
29. What substances are used to identify dead tissue in a wound?
30. How do antiseptic and bacteriostatic agents work in the treatment of wounds? What are the indications for the imposition of secondary sutures on wounds?
31. What is the essence of the concept of physical antiseptics in the treatment of wounds?
32. What are the indications for the use of hypertonic solutions in the treatment of wounds?
33. What are the indications for the application of hygroscopic powder in wound healing?
34. What types of drainage do you know?
35. What is the essence of the concept of chemical antiseptics in the treatment of wounds?
36. What is the essence of the concept of enzyme therapy for wounds?
37. What are the indications for the use of alkalization and oxidative therapy in the treatment of wounds?
38. What is the essence of the concept of biological antiseptics?
39. What are the types, clinical signs, methods of hematoma treatment?
40. What types of biological antiseptics are used to treat wounds?
41. What are the types of bleeding with bruises
42. What are the causes and changes in tissue stretching?
43. What are the causes and changes in tissue rupture?
44. What is the procedure for treating bruises?
45. What is the essence of the concept of burn?
46. What are the causes of thermal burns?
47. What are the degrees and characteristics of burns?

48. What is the clinic for burns?
49. What is the pathogenesis of the development of burns?
50. What are the causes of chemical burns?
51. How are chemical burns treated?
52. What are the causes of thermochemical burns?
53. How is the comprehensive treatment of burns carried out?
54. What is the essence of the concept of frostbite?
55. What is the essence of the concepts of chills and general freezing?
56. What are the degrees of frostbite?
57. What are the principles of treating frostbite in the pre-reactive period?
58. What are the principles of treatment of frostbite during the reactive period
59. What is the essence of the concepts of chills and general freezing?
60. What are the degrees of frostbite?
61. What are the principles of treating frostbite in the pre-reactive period?
62. What are the principles of treatment for frostbite during the reactive period?
63. What are the reasons for the development of phlegmon in the area of the withers?
64. What is the course and clinical signs of phlegmon in the withers?
65. What are the principles of treatment of phlegmon in the withers area?
66. What are the causes and clinical signs of necrotic processes in the area of the withers?
67. What are the principles of treatment of necrotic processes in the area of the withers?
68. What are the causes and characteristics of chest wall injuries?
69. What are the causes of pneumothorax?
70. What are the course and clinical signs of pneumothorax?
71. What are the principles of pneumothorax treatment?
72. What are the causes and clinical signs of hemothorax?
73. What are the principles of hemothorax treatment?
74. What are the etiology, clinical signs and methods of treatment of abdominal wall wounds?
75. What are the clinical signs and methods of treatment for hematomas of the abdominal wall?
76. What are the etiology and clinical signs of abdominal wall lymphoextravasates?
77. How is the treatment of lymphoextravasates of the abdominal wall carried out?
78. What are the etiology and clinical signs of peritonitis?
79. How is peritonitis treated?
80. What kind of hernia disease and what types of hernias do you know?
81. What is the etiology of hernias?
82. What are the clinic and methods of hernia treatment?
83. What are the causes and clinical signs of balanoposthitis?
84. What are the degrees of development of balanoposthitis?
85. How is balanoposthitis treated?
86. What are the clinical signs and treatments for phimosis?
87. What are the clinical signs and treatments for paraphimosis?
88. What are the clinical signs and treatment of post-castration
89. bleeding?
90. What are the clinical signs of prolapse of the common vaginal
91. shell and spermatic cord?
92. How is the medical work carried out in case of loss of general
93. tunica vaginalis and spermatic cord?
94. What are the causes and clinical signs of scrotal cellulitis?
95. How is scrotal phlegmon treated?
96. What are the causes and clinical signs of funiculitis?
97. What are the methods of treating funiculitis?
98. What is the incidence of leg diseases in animals?
99. What is the economic damage caused by leg diseases?

100. What do the terms protraction, retraction, cycle of movement,
101. step?
102. What is the activity of muscles, fascia and bones in statics and dynamics
103. animal limbs?
104. How are the muscles of the body involved in the movement of animals?
105. What are the causes and symptoms of hanging lameness?
106. What are the causes and symptoms of intermittent claudication?
107. What are the causes and symptoms of "leaning" lameness?
108. What are the causes and symptoms of mixed lameness?
109. What are the causes and symptoms of spar lameness?
110. What are the clinical signs of necrosis and rupture of the Achilles
111. tendons?
112. How is Achilles tendon rupture treated?
113. What are the clinical signs of arthrosis at the Belgilari kasalligining clinics?
114. How many degrees of bovine arthrosis are there?
115. How is the treatment and prevention of bovine arthrosis carried out?
116. What is the concept of veterinary orthopedics?
117. What is the economic damage from hoof diseases?
118. What is the structure of the hoof?
119. What do you know about the growth and physical properties of the hoof?
120. What do long sharp hooves look like and how are they corrected?

# Oral Questions for 2 PCs (120)

1. What is the purpose and objectives of the subject?
2. What are the advances made in veterinary surgery?
3. What does the concept of a complex of treatment and prevention of surgical diseases mean?
4. What does the concept of etiology, pathogenesis, semiotics and diagnosis of a disease mean?
5. What injuries (injuries) occur in animals.
6. What is the name and essence of the first phase of the wound process?
7. What is the name and essence of the second phase of the wound process?
8. What is the name and essence of the third stage of the wound process?
9. What are the 3 main areas of wound healing?
10. What is the importance of healing over primary healing?
11. What is the course of the process in the first hours after the completion of surgery and clean wounds?
12. What changes in the healing process occur in the first 6 hours?
13. What changes occur in the wound after 1–2 days?
14. What changes occur in the wound after 4-7 days?
15. What is the role of leukocytes, lymphocytes, macrophages, polyblasts and fibroblasts in primary wound healing?
16. What are the causes of primary wound healing?
17. What is the structure and significance of a wound scab?
18. What wounds heal under a scab?
19. What types of granulation tissue do you know?
20. What are the principles of granulation tissue protection?
21. What does the term trauma mean?
22. What is the classification of injuries?
23. What are the types of injuries?
24. How does trauma affect the body?
25. What are the methods of preventing technological injuries?
26. What does mechanical antiseptic mean?
27. What is the order and types of primary surgical treatment?
28. What are the ways to cut and expand the wound?

29. What substances are used to identify dead tissue in a wound?
30. How do antiseptic and bacteriostatic agents work in the treatment of wounds? What are the indications for the imposition of secondary sutures on wounds?
31. What is the essence of the concept of physical antiseptics in the treatment of wounds?
32. What are the indications for the use of hypertonic solutions in the treatment of wounds?
33. What are the indications for the application of hygroscopic powder in wound healing?
34. What types of drainage do you know?
35. What is the essence of the concept of chemical antiseptics in the treatment of wounds?
36. What is the essence of the concept of enzyme therapy for wounds?
37. What are the indications for the use of alkalization and oxidative therapy in the treatment of wounds?
38. What is the essence of the concept of biological antiseptics?
39. What are the types, clinical signs, methods of hematoma treatment?
40. What types of biological antiseptics are used to treat wounds?
41. What are the types of bleeding with bruises
42. What are the causes and changes in tissue stretching?
43. What are the causes and changes in tissue rupture?
44. What is the procedure for treating bruises?
45. What is the essence of the concept of burn?
46. What are the causes of thermal burns?
47. What are the degrees and characteristics of burns?
48. What is the clinic for burns?
49. What is the pathogenesis of the development of burns?
50. What are the causes of chemical burns?
51. How are chemical burns treated?
52. What are the causes of thermochemical burns?
53. How is the comprehensive treatment of burns carried out?
54. What is the essence of the concept of frostbite?
55. What is the essence of the concepts of chills and general freezing?
56. What are the degrees of frostbite?
57. What are the principles of treating frostbite in the pre-reactive period?
58. What are the principles of treatment of frostbite during the reactive period
59. What is the essence of the concepts of chills and general freezing?
60. What are the degrees of frostbite?
61. What are the principles of treating frostbite in the pre-reactive period?
62. What are the principles of treatment for frostbite during the reactive period?
63. What are the reasons for the development of phlegmon in the area of the withers?
64. What is the course and clinical signs of phlegmon in the withers?
65. What are the principles of treatment of phlegmon in the withers area?
66. What are the causes and clinical signs of necrotic processes in the area of the withers?
67. What are the principles of treatment of necrotic processes in the area of the withers?
68. What are the causes and characteristics of chest wall injuries?
69. What are the causes of pneumothorax?
70. What are the course and clinical signs of pneumothorax?
71. What are the principles of pneumothorax treatment?
72. What are the causes and clinical signs of hemothorax?
73. What are the principles of hemothorax treatment?
74. What are the etiology, clinical signs and methods of treatment of abdominal wall wounds?
75. What are the clinical signs and methods of treatment for hematomas of the abdominal wall?
76. What are the etiology and clinical signs of abdominal wall lymphoextravasates?
77. How is the treatment of lymphoextravasates of the abdominal wall carried out?
78. What are the etiology and clinical signs of peritonitis?

79. How is peritonitis treated?
80. What kind of hernia disease and what types of hernias do you know?
81. What is the etiology of hernias?
82. What are the clinic and methods of hernia treatment?
83. What are the causes and clinical signs of balanoposthitis?
84. What are the degrees of development of balanoposthitis?
85. How is balanoposthitis treated?
86. What are the clinical signs and treatments for phimosis?
87. What are the clinical signs and treatments for paraphimosis?
88. What are the clinical signs and treatment of post-castration
89. bleeding?
90. What are the clinical signs of prolapse of the common vaginal
91. shell and spermatic cord?
92. How is the medical work carried out in case of loss of general
93. tunica vaginalis and spermatic cord?
94. What are the causes and clinical signs of scrotal cellulitis?
95. How is scrotal phlegmon treated?
96. What are the causes and clinical signs of funiculitis?
97. What are the methods of treating funiculitis?
98. What is the incidence of leg diseases in animals?
99. What is the economic damage caused by leg diseases?
100. What do the terms protraction, retraction, cycle of movement,
101. step?
102. What is the activity of muscles, fascia and bones in statics and dynamics
103. animal limbs?
104. How are the muscles of the body involved in the movement of animals?
105. What are the causes and symptoms of hanging lameness?
106. What are the causes and symptoms of intermittent claudication?
107. What are the causes and symptoms of "leaning" lameness?
108. What are the causes and symptoms of mixed lameness?
109. What are the causes and symptoms of spar lameness?
110. What are the clinical signs of necrosis and rupture of the Achilles
111. tendons?
112. How is Achilles tendon rupture treated?
113. What are the clinical signs of arthrosis at the Belgilari kasalligining clinics?
114. How many degrees of bovine arthrosis are there?
115. How is the treatment and prevention of bovine arthrosis carried out?
116. What is the concept of veterinary orthopedics?
117. What is the economic damage from hoof diseases?
118. What is the structure of the hoof?
119. What do you know about the growth and physical properties of the hoof?
120. What do long sharp hooves look like and how are they corrected?

# Oral questions for IR (300)

1. What kind of hernia disease and what types of hernias do you know?
2. What is the etiology of hernias?
3. What are the clinic and methods of hernia treatment?
4. What are the causes and clinical signs of balanoposthitis?
5. What are the degrees of development of balanoposthitis?
6. How is balanoposthitis treated?
7. What are the clinical signs and treatments for phimosis?
8. What are the clinical signs and treatments for paraphimosis?
9. What are the clinical signs and treatment of post-castration

10. bleeding?
11. What are the clinical signs of prolapse of the common vaginal
12. shell and spermatic cord?
13. How is the medical work carried out in case of loss of general
14.the tunica vaginalis and spermatic cord?
15. What are the causes and clinical signs of scrotal cellulitis?
16. How is scrotal phlegmon treated?
17. What are the causes and clinical signs of funiculitis?
18. What are the treatments for funiculitis?
19. What is the incidence of leg diseases in animals?
20. What is the economic damage caused by leg diseases?
21. What do the terms protraction, retraction, cycle of movement,
22. step?
23. What is the activity of muscles, fascia and bones in statics and dynamics
24. animal limbs?
25. How are the muscles of the body involved in the movement of animals?
26. What are the causes and symptoms of hanging lameness?
27. What are the causes and symptoms of intermittent claudication?
28. What are the causes and symptoms of leaning lameness?
29. What are the causes and symptoms of mixed lameness?
30. What are the causes and symptoms of spar lameness?
31. What are the clinical signs of necrosis and rupture of the Achilles
32. tendons?
33. How is Achilles tendon rupture treated?
34. What are the clinical signs of arthrosis at the Belgilari kasalligining clinics?
35. How many degrees of bovine arthrosis are there?
36. How is the treatment and prevention of bovine arthrosis carried out?
37. What is the concept of veterinary orthopedics?
38. What is the economic damage from hoof diseases?
39. What is the structure of the hoof?
40. What do you know about the growth and physical properties of the hoof?
41. What do long, sharp hooves look like and how are they corrected?
42. What do flat hooves look like and how are they corrected?
43. What do crooked hooves look like and how are they corrected?
44. What do obtuse hooves look like and how are they corrected?
45. What are the etiopathogenesis and clinical signs of hoof wounds?
46. What treatments are available for hoof wounds?
47. How is a hoof measured?
48. How are the hooves of horses, cattle, sheep and pigs cleaned and trimmed?
49. How is the attachment of the horseshoe to the hoof carried out?
50. What complications can be caused by improper shoeing?
51. What are the causes and clinical signs of rheumatic inflammation of the hooves
52. How is rheumatic inflammation of the hooves treated?
53. What are the pathogenesis and clinical signs of pulmonary cartilage necrosis
54. How is the treatment of lateral cartilage necrosis carried out?
55. What are the pathogenesis and clinical signs of purulent inflammation of the hoof joint
56. How is the treatment of purulent inflammation of the hoof joint carried out?
57. What are the clinical signs and treatment of hoof jashur
58. What are the pathogenesis and treatment of finger necrobacteriosis
59. What are the anatomy and physiology of the eye?
60. What methods of eye examination do you know?
61. What factors cause conjunctivitis?

62. What is the importance of lysozyme in tears?
63. What are the clinical signs of acute catarrhal conjunctivitis?
64. What does the concept of blepharospasm mean?
65. How is acute catarrhal conjunctivitis treated?
66. For what purpose are astringents used?
67. What are the clinical signs of superficial and deep purulent conjunctivitis?
68. How is the treatment of superficial and deep purulent conjunctivitis carried out?
69. What are the causes and symptoms of follicular conjunctivitis?
70. How is follicular conjunctivitis treated?
71. What does the concept of keratitis mean?
72. What are the symptoms of superficial catarrhal keratitis?
73. How is superficial catarrhal keratitis treated?
74. What are the symptoms of superficial purulent keratitis?
75. How is superficial purulent keratitis treated?
76. What is a wound toilet made of?
77. Sterilize the dressing and describe the procedure
78. What dressings are used during operations?
79. Describe the ways to prepare hands before surgery?
80. The order and methods of preparation of the operating field?
81. Describe the technique of preparing solutions for animal anesthesia?
82. Technique of anesthesia?
83. What substances are used for cattle anesthesia?
84. Describe the methods of local anesthesia?
85. What is surgery?
86. How are transactions classified?
87. What are the ways of tissue separation?
88. What tools are used to sever tissue?
89. What are the main types of bleeding?
90. Tell us about the ways to stop bleeding?
91. What are infusions, injections and punctures?
92. What tools are used for these operations?
93. Rules for performing intradermal and subcutaneous injections, intravenous infusions in animals?
94. Methods for amputation of horns in cattle
95. Technique of horn nerve blockade.
96. What is desmurgy and for what purposes are bandages used?
97. What are the types of dressings
98. How to properly apply bandage and adhesive bandages?
99. For what purpose are animals castrated?
100. What are the ways of male castration?
101. In what ways and how the castration of bulls and stallions is carried out
102. What is the preparation of an animal for castration and how to keep it after the operation
103. What complications are possible during male castration?
104. For what purpose and how is the castration of pigs carried out?
105. Show me the technique of making a cotton-gauze swab?
106. How are gilts prepared for castration?
107. What are the types of novocaine therapy?
108. Technique for different types of novocaine blockades?
109. Ways to use cold and heat during the treatment of surgical diseases?
110. Methods of paraffin therapy and ozokerite therapy?
111. What is a surgical infection and how does it manifest itself?
112. What are the types of surgical infection?

113. In what forms does purulent infection appear?
114. What is a wound and how are wounds classified?
115. What is surgical debridement and how is it performed?
116. What treatment is recommended for aseptic and freshly infected wounds?
117. What are the possible complications during wound healing?
118. What is a surgical debridement of a wound and how is it carried out?
119. Technique of holding a wound toilet.
120. The main types of dressings
121. What causes umbilical hernias?
122. What methods of operations are recommended for umbilical hernias?
123. Postoperative treatment of animals?
124. What is rectal prolapse manifested in?
125. What are the treatments for rectal prolapse?
126. How is the operation carried out in the absence of the anus?
127. How should an animal be examined when diagnosing limb diseases?
128. What diseases are most common in the limb area?
129. What is the economic damage manifested in diseases of the extremities?
130. What are the main types and degrees of lameness?
131. What is the characteristic of lameness of a leaning limb?
132. In what diseases does hanging limb lameness occur?
133. Name the types of fractures and their morphological features?
134. What are the periods of fracture healing?
135. How are bone fractures treated?
136. Massive tail damage in piglets and gobies
137. Prophylactic caudotomy. In which animals is it carried out and why?
138. What are the features of the structure of hooves and hooves
139. What determines the strength of the hoofed horn?
140. What is the prevention of diseases of the hooves and hooves?
141. How are hoof diseases diagnosed and treated?
142. What do you know the features of diseases of the hoof of cattle, goats, sheep, pigs
143. What is purulent podarthritis, its causes and methods of treatment ??
144. How are hooves and hooves trimmed?
145. What is the purpose of shoeing horses?
146. What are the main operations while shoeing horses
147. What should be considered when assessing the quality of the shoe?
148. How is the study of the eyes carried out and what instruments are used for this?
149. How is the instillation and rinsing of the eyes carried out?
150. What injections are used for eye diseases?
151. How are eye ointments used for eye diseases?
152. Postoperative treatment of animals?
153. Postoperative treatment of animals?
154. The role of macro- and microorganisms in the development of surgical infection.
155. Classification of surgical infection and the main principles of its prevention
156. The main forms of purulent infection: (abscess, phlegmon, their clinical signs and features)
157. The main forms of purulent infection: (abscess, phlegmon, their clinical signs and features)
158. What are the clinical signs of superficial and deep purulent conjunctivitis?
159. What are the clinical signs of acute catarrhal conjunctivitis?
160. How is acute catarrhal conjunctivitis treated?
161. What does the concept of keratitis mean?
162. Concepts about trauma and traumatism. Classification
163. Economic damage caused by damage (trauma)
164. Features of the course of inflammation processes in different species of animals

165. Basic rules and methods of treating inflammation
166. Features of the course of inflammation processes in different animal species
167. General reaction of the body in trauma.
168. Local reaction of the body in case of injuries. Periods and stages of development of inflammation.
169. Types and stages of inflammation
170. What does stress mean, what are its classification, etiopathogenesis, main signs?
171. What are the phases of inflammation, their characteristics
172. What promotes suppuration and intensifies the inflammatory response
173. What are the clinical signs of inflammatory edema?
174. What is the fundamental difference between abscess and phlegmon?
175. What are the stages of development of acute purulent inflammation, their characteristics and practical significance?
176. What role does phagocytosis play in the fight against an infection?
177. What are the outcomes of acute purulent and chronic inflammation?
178. What are the reasons contributing to the generalization of the infection?
179. What are the principles of treatment in the acute course of aseptic inflammation?
180. What are the principles of treatment for chronic aseptic inflammation?
181. What are the principles of treatment for acute purulent inflammatory processes (abscess, phlegmon)?
182. What is meant by pathogenetic therapy?
183. What methods of pathogenetic therapy do you know?
184. Causes of collapse, what are its clinical signs, treatment?
185. What are the signs of aseptic and acute purulent inflammation?
186. What is the modern concept of inflammation as a local manifestation of the general protective-adaptive reaction of the body?
187. What are the reasons contributing to the generalization of the infection?
188. What is the concept of surgical infection?
189. The role of macro- and microorganisms in the development of surgical infection.
190. Classification of surgical infection and the main principles of its prevention?
191. The main forms of purulent infection: (abscess, phlegmon, their clinical signs and features).
192. What does the concept of surgical infection mean?
193. What types of surgical infection do you know?
194. What are the features of a surgical infection?
195. What are the mechanisms that prevent the development and generalization of the infection and the development of infection?
196. What are the stages of development of a surgical infection?
197. What does the concept of microflora mean?
198. What does the concept of infectious mean?
199. What does the concept of contamination mean?
200. On what grounds to differentiate purulent, putrefactive anaerobic, "dormant" and specific surgical infections?
201. What pathogens cause purulent inflammation. clinical signs? Describe them?
202. What pathogens cause purulent inflammation. Describe them?
203. What types of abscesses exist?
204. What is the classification of phlegmon?
205. What are the properties of phlegmon?
206. Causative agents of anaerobic infection and their features?
207. The main forms of anaerobic infection (gas abscess, gas gangrene, gas phlegmon, malignant edema, putrefactive infection).
208. Treatment and principles of prevention of anaerobic infection
209. Specific surgical infection: tetanus, necrobacillosis, actinomycosis and actinobacillosis.

210. How do you represent anaerobic infection?
211. What microbes cause putrefactive and anaerobic infections?
212. What are the features of the development of anaerobic and putrefactive infection?
213. What are the clinical signs of gangrene?
214. What are the clinical signs of gas phlegmon?
215. What is the causative agent of actinomycosis?
216. What are the treatments for anaerobic infection?
217. What are the clinical signs and development of actinomycosis?
218. What are the clinical signs and treatment of necrobacteriosis?
219. What are the clinical signs and treatment of tetanus?
220. What are the clinical signs and treatment of actinobacillosis?
221. Purulent-resorptive fever. Etiology and conditions influencing its development?
222. Types of sepsis?
223. Complex treatment of sepsis?
224. What is the pathogenesis, prognosis, treatment and prevention of purulent-reserving fever and wound exhaustion?
225. What can a belated surgical intervention or untimely diagnosis of purulent resorptive fever lead to?
226. What is surgical sepsis?
227. What types of surgical sepsis do you know?
228. What is the pathogenesis, clinical manifestation, prevention, principles of treatment of surgical sepsis?
229. How is the complex of antiseptic therapy characterized?
230. What are the differential diagnostic signs of purulent-resorptive fever and sepsis?
231. What are the principles of prevention of surgical infection?
232. The concept of a wound and wound disease?
233. Clinical signs of wounds?
234. Classification, clinical signs and morphological characteristics of wounds?
235. What is the essence of the concept of a wound?
236. What elements does the wound consist of?
237. What are the etiology and pathogenesis of wound disease?
238. How does wound clinic manifest itself?
239. What types of wounds do you know?
240. Briefly about the biology of the wound process?
241. Wound healing by primary intention?
242. Wound healing by primary intention?
243. Secondary tension wound healing?
244. Healing of wounds under a scab?
245. What is the name and essence of the first phase of the wound process?
246. What is the name and essence of the second phase of the wound process?
247. What is the name and essence of the first stage of the wound process?
248. What is the name and essence of the second stage of the wound process?
249. What is the name and essence of the third stage of the wound process?
250. What are the 3 main directions of wound healing?
251. What is the importance of healing for primary healing?
252. What is the course of the process in the first hours after the completion of the surgical intervention and clean wounds?
253. What changes in the healing process occur in the first 6 hours?
254. What changes occur in the wound after 1–2 days?
255. What changes occur in the wound in 4-7 days?
256. What is the role of leukocytes, lymphocytes, macrophages, polyblasts and fibroblasts in primary wound healing?

257. What are the causes of primary wound healing?
258. What is the structure and significance of a wound scab?
259. What wounds heal under a scab?
260. What types of granulation tissue do you know?
261. What are the principles of protecting granulation tissue?
262. Mechanical antiseptic?
263. Physical antiseptic?
264. Chemical antiseptic?
265. Biological antiseptic?
266. What does mechanical antiseptic mean?
267. What is the wound toilet made of?
268. What is the order and types of primary surgical treatment?
269. What are the ways to cut and expand the wound?
270. What substances are used to identify dead tissue in a wound?
271. What are the indications for the imposition of secondary sutures on wounds?
272. What is the essence of the concept of physical antiseptics in
healing wounds?
273. What are the indications for the use of hypertonic solutions in the treatment of wounds?
274. What are the indications for the application of hygroscopic powder in the treatment of wounds?
275. What types of drainage do you know?
276. What is the essence of the concept of chemical antiseptics in the treatment of wounds?
277. How do antiseptic and bacteriostatic agents work in the treatment of wounds?
278. What is the essence of the concept of enzyme therapy of wounds?
279. What are the indications for the use of alkalization and oxidative therapy in the treatment of wounds?
280. What is the essence of the concept of biological antiseptics?
281. What types of biological antiseptics are used to treat wounds?
282. Anatomical and physiological features of the skin?
283. Types, degrees and clinic of bruises?
284. Hematomas. Clinic and treatment methods?
285. Lymphoextravasate. Clinic and treatment methods?
286. What factors can lead to bruises?
287. What types of bleeding are there in case of bruises?
288. What are the causes and changes in tissue stretching?
289. What can a belated surgical intervention or untimely diagnosis of purulent resorptive fever lead to?
290. What is surgical sepsis?
291. What types of surgical sepsis do you know?
292. What is the pathogenesis, clinical manifestation, prevention, principles of treatment of surgical sepsis?
293. How is the complex of antiseptic therapy characterized?
294. What are the differential diagnostic signs of purulent-resorptive fever and sepsis?
295. What are the principles of prevention of surgical infection?
296. The concept of a wound and wound disease?
297. Clinical signs of wounds?
298. What is the essence of the concept of enzyme therapy of wounds?
299. What are the indications for the use of alkalization and oxidative therapy in the treatment of wounds?
300. What is the essence of the concept of biological antiseptics?

# Written Questions for 1 PC (150)

1. The concept of fixation and its purpose, prevention of complications during fixation.
2. Fixation of animals using improvised means
3. Organization of surgical work. The device and equipment of the operating room, dressing room and hospital for sick animals.
4. The concept of injections, infusions and punctures. The tools used in this
5. The concept of veterinary surgery. Connection with other subjects.
6. Types of seams and application technique.
7. General reaction of the body to injury; Shock, collapse, fainting. (Etiology, clinic, principles of treatment).
8. Local reaction of the body to injury. Inflammation: classification, etiology, phases and stages of inflammation, specific features of inflammation.
9. Edema, infiltrates, proliferations. Clinic, differential diagnosis, treatment.
10. Principles of treatment of aseptic (acute and chronic) and purulent inflammation. Outcomes of inflammation.
11. Pathogenetic therapy (characteristics, pathogenesis and types).
12. Tissue therapy, pyrogen therapy and drug sleep. Mechanism of action, indications, contraindications.
13. Physiotherapy (types, mechanism of action, indications, contraindications).
14. Classification of surgical infection. Aerobic purulent infection. Abscess, phlegmon.
15. Anaerobic infection, gas abscess, gas gangrene, gas phlegmon, malignant edema, putrefactive infection.
16. General surgical infection. Purulent-resorptive fever, sepsis. Treatment principles for sepsis.
17. Open mechanical damage (wounds). Types and symptoms of wounds.
18. Bleeding: types, clinic, methods of stopping and compensatory measures.
19. Blood transfusion. Indications, blood groups, determination of compatibility, prevention of shock, doses.
20. Biology of the wound process. Phases, pathogenesis.
21. Wound healing by primary and secondary intention, types of wound healing.
22. The value of granulation tissue. Formation of granules. The causes of pathological granulations and their difference from normal granulation.
23. Principles of wound treatment. Open and closed methods.
24. What is the purpose and objectives of the subject?
25. What are the advances made in veterinary surgery?
26. What does the concept of a complex of treatment and prevention of surgical diseases mean?
27. What does the concept of etiology, pathogenesis, semiotics and diagnosis of a disease mean?
28. What injuries (injuries) occur in animals.
29. What is the name and essence of the first phase of the wound process?
30. What is the name and essence of the second phase of the wound process?
31. What is the name and essence of the third stage of the wound process?
32. What are the 3 main areas of wound healing?
33. What is the importance of healing over primary healing?
34. What is the course of the process in the first hours after the completion of the surgery and clean wounds?
35. What changes in the healing process occur in the first 6 hours?
36. What changes occur in the wound after 1–2 days?
37. What changes occur in the wound in 4-7 days?
38. What is the role of leukocytes, lymphocytes, macrophages, polyblasts and fibroblasts in primary wound healing?
39. What are the causes of primary wound healing?
40. What is the structure and significance of a wound scab?
41. What wounds heal under a scab?

42. What types of granulation tissue do you know?
43. What are the principles of granulation tissue protection?
44. What does the term trauma mean?
45. What is the classification of injuries?
46. What are the types of injuries?
47. How does trauma affect the body?
48. What are the methods of preventing technological injuries?
49. What does mechanical antiseptic mean?
50. What is the order and types of primary surgical treatment?
51. What are the ways to cut and expand the wound?
52. What substances are used to identify dead tissue in a wound?
53. How do antiseptic and bacteriostatic agents work in the treatment of wounds? What are the indications for the imposition of secondary sutures on wounds?
54. What is the essence of the concept of physical antiseptics in the treatment of wounds?
55. What are the indications for the use of hypertonic solutions in the treatment of wounds?
56. What are the indications for the application of hygroscopic powder in wound healing?
57. What types of drainage do you know?
58. What is the essence of the concept of chemical antiseptics in the treatment of wounds?
59. What is the essence of the concept of enzyme therapy for wounds?
60. What are the indications for the use of alkalization and oxidative therapy in the treatment of wounds?
61. What is the essence of the concept of biological antiseptics?
62. What are the types, clinical signs, methods of hematoma treatment?
63. What types of biological antiseptics are used to treat wounds?
64. What are the types of bleeding with bruises
65. What are the causes and changes in tissue stretching?
66. What are the causes and changes in tissue rupture?
67. What is the procedure for treating bruises?
68. What is the essence of the concept of burn?
69. What are the causes of thermal burns?
70. What are the degrees and characteristics of burns?
71. What is the clinic for burns?
72. What is the pathogenesis of the development of burns?
73. What are the causes of chemical burns?
74. How are chemical burns treated?
75. What are the causes of thermochemical burns?
76. How Impressive Is there a comprehensive treatment for burns?
77. What is the essence of the concept of frostbite?
78. What is the essence of the concepts of chills and general freezing?
79. What are the degrees of frostbite?
80. What are the principles of treating frostbite in the pre-reactive period?
81. What are the principles of treatment of frostbite during the reactive period
82. What is the essence of the concepts of chills and general freezing?
83. What are the degrees of frostbite?
84. What are the principles of treatment for frostbite in the pre-reactive period?
85. What are the principles of treatment for frostbite during the reactive period?
86. What are the reasons for the development of phlegmon in the area of the withers?
87. What is the course and clinical signs of phlegmon in the area of the withers?
88. What are the principles of treatment of phlegmon in the withers area?
89. What are the causes and clinical signs of necrotic processes in the area of the withers?
90. What are the principles of treatment of necrotic processes in the area of the withers?
91. What are the causes and characteristics of chest wall injuries?

92. What are the causes of pneumothorax?
93. What are the course and clinical signs of pneumothorax?
94. What are the principles of pneumothorax treatment?
95. What are the causes and clinical signs of hemothorax?
96. What are the principles of hemothorax treatment?
97. What are the etiology, clinical signs and methods of treatment of abdominal wall wounds?
98. What are the clinical signs and methods of treatment for hematomas of the abdominal wall?
99. What are the etiology and clinical signs of abdominal wall lymphoextravasates?
100. How is the treatment of abdominal wall lymphoextravasates carried out?
101. What are the etiology and clinical signs of peritonitis?
102. How is peritonitis treated?
103. What kind of hernia disease and what types of hernias do you know?
104. What is the etiology of hernias?
105. What are the clinic and methods of hernia treatment?
106. What are the causes and clinical signs of balanoposthitis?
107. What are the degrees of development of balanoposthitis?
108. How is balanoposthitis treated?
109. What are the clinical signs and treatments for phimosis?
110. What are the clinical signs and treatments for paraphimosis?
111. What are the clinical signs and treatment of post-castration
112. bleeding?
113. What are the clinical signs of prolapse of the common vaginal
114. shell and spermatic cord?
115. How is the medical work carried out in case of loss of general
116. tunica vaginalis and spermatic cord?
117. What are the causes and clinical signs of scrotal cellulitis?
118. How is scrotal phlegmon treated?
119. What are the causes and clinical signs of funiculitis?
120. What are the methods of treating funiculitis?
121. What is the incidence of leg diseases in animals?
122. What is the economic damage caused by leg diseases?
123. What do the terms protraction, retraction, cycle of movement,
124. step?
125. What is the activity of muscles, fascia and bones in statics and dynamics
126. animal limbs?
127. How are the muscles of the body involved in the movement of animals?
128. What are the causes and symptoms of "hanging" lameness?
129. What are the causes and symptoms of intermittent claudication?
130. What are the causes and symptoms of "leaning" lameness?
131. What are the causes and symptoms of mixed lameness?
132. What are the causes and symptoms of spar lameness?
133. What are the clinical signs of necrosis and rupture of the Achilles
134. tendons?
135. How is Achilles tendon rupture treated?
136. What are the clinical signs of arthrosis at the Belgilari kasalligining clinics?
137. How many degrees of bovine arthrosis are there?
138. How is the treatment and prevention of bovine arthrosis carried out?
139. What is the concept of veterinary orthopedics?
140. What is the economic damage from hoof diseases?
141. What is the structure of the hoof?
142. What do you know about the growth and physical properties of the hoof?
143. What do long sharp hooves look like and how are they corrected?

144. The value of granulation tissue. Formation of granules. The causes of pathological granulations and their difference from normal granulation.
145. Principles of wound treatment. Open and closed methods.
146. Closed mechanical damage. Compression, stretching, rupture, concussion - etiology, pathogenesis, clinical picture, treatment.
147. Burns. The degree of the burn, pathogenesis, clinical picture and treatment.
148. Frostbite. Degrees, pathogenesis, clinic, treatment
149. Pustular skin diseases. Folliculitis, boil, carbuncle.
150. Bursitis in the pelvic limb

# Written Questions for 2 Pcs (150)

1. Prevention of surgical infection
2. Injuries to the head (soft and bone tissue).
3.. Bleeding from the nose (etiology, differential diagnosis, treatment).
4. Sinusitis in the head area (etiology, clinical picture and treatment).
5. Paralysis of the facial and trigeminal nerves (etiology, clinical picture, treatment).
6. Purulent otitis media (etiology, clinic and treatment).
7. Eczema and dermatitis of the auricle.
8. Actinomycosis (causative agent, pathogenesis, clinical picture, treatment).
9. Gingivitis.
10. Alveolar periodontitis.
11. Anomalies of the dental occlusion.
12. Dental caries (etiology, clinic, complications, treatment).
13. Extraction, resection, teeth straightening.
14. Diverticulum and esophageal wounds.
15. Phlebitis (etiology, pathogenesis, clinic, treatment)
16. Bursitis of the occipital region (etiology, pathogenesis, clinical picture, treatment).
17. Non-penetrating and penetrating wounds of the chest wall and possible complications.
18. Injuries to the bones of the neck and chest.
19. Wounds of the abdominal wall and possible complications.
20. Traumatic reticuloperitonitis and traumatic peritonitis (etiology, clinical picture, treatment).
21. Mechanical obstruction of the gastrointestinal tract (occlusion of the omyel, rennet bezoars, ileus).
22. Displacement of the abomasum.
23. Hernias in farm animals (etiology, classification, surgical treatment).
24. Caesarean section in farm animals.
25. Prolapse and rupture of the rectum (etiology, clinical picture, treatment).
26. Tumors and stones of the bladder, diseases of the urethra.
27. Traumatic injuries of the prepuce and the penis (open and closed).
28. Postitis (etiology, classification, clinic, treatment).
29. Phimosis and paraphimosis (etiology, pathogenesis, clinical picture, possible complications, prognosis, treatment).
30. Bleeding as a post-castration complication (etiology, clinical picture, treatment).
31. Abdominal prolapse as a post-castration complication.
32. Inflammatory edema and phlegmon of the scrotum as a post-castration complication.
33. Inflammation of the spermatic cord as a post-castration complication.
34. Cracks and fractures of the dorsal and lumbar vertebrae (etiology, clinical picture, prognosis, treatment).
35. Fractures of the sacrum and pelvic bones (etiology, clinical picture, prognosis, treatment).
36. Spondylitis, spondyloarthritis and spondylosis.
37. Osteochondrosis in the chest and lower back.
38. Diseases of the tail (etiology, clinical picture, possible complications, treatment and prevention).

39. Statics and dynamics of the thoracic limb.
40. Statics and dynamics of the pelvic limb
41. Lameness and its diagnosis. The concept of lameness of the hanging and supporting limbs. Three degrees of lameness.
42. The procedure and methods for the diagnosis of limb diseases.
43. Special techniques for the study of individual anatomical parts of the extremities (hooves, shuttle block, joints, bones, tendon ligamentous apparatus, nerves).
44. Tears of the muscles on the thoracic extremity (caudal, extraosseous, subscapularis, biceps, triceps).
45. Fractures of the bones of the shoulder region.
46. Diseases of the shoulder joint (trauma, aseptic, purulent and deforming arthritis).
47. Rheumatic inflammation of the shoulder joint.
48. Bursitis on the chest limb.
49. Paralysis of the nerves of the thoracic extremity (brachial plexus, radial, ulnar, prescapular).
50. Contusions and injuries of the elbow joint.
51. Fractures of the radius and ulna.
52. Phlegmon of the forearm.
53. Wounds and bruises of the wrist joint.
54. Contracture of the carpal joint.
55. Diseases of the flexor tendons of the fingers.
56. Injuries, arthritis, contractures, sprains and dislocations of the first and second phalanx.
57. Phlegmon of the distal part of the limb.
58. General characteristics of diseases of the surface structure of the hoof.
59. General characteristics of diseases of the deep structure of the hoof.
60. Defects of the horn shoe.
61. Diseases of the sole and frog.
62. Aseptic and purulent inflammation of the base of the hoof skin.
63. Septic arthritis of the hoof joint.
64. Anatomical and physiological characteristics of hooves and hooves in agricultural animals.
65. Violation of the innervation of the pelvic limb.
66. Sprains and dislocations of the hip joint.
67. Dislocation and fracture of the knee cap.
68. Fractures of the tubular bones of the pelvic limb.
69. Tears of muscles and tendons of the pelvic limb.
70. Is it being driven?
71. Wounds, synovitis and deforming inflammation.
72. Aseptic and purulent arthritis of the tarsal joint.
73. Deforming osteoarthritis and osteoarthritis of the tarsal joint.
74. Ossifying periarthritis and paraarticular fibrositis of the tarsal joint.
75. Bursitis in the pelvic limb
76. Conjunctivitis. Classification, clinic, treatment „Corneal opacity.
77. Massive keratoconjunctivitis. Differential diagnosis, treatment, prevention.
78. Diseases of the bone orbit and periorbitis. Retrobulbar phlegmon.
79. Diseases of the lens, vitreous body and retina.
80. Blepharitis, classification, etiology, clinic and treatment.
81. Operations in the area of the eyes in animals.
82. What does mechanical antiseptic mean?
83. What is the wound toilet made of?
84. What is the order and types of primary surgical treatment?
85. What are the ways to cut and expand the wound?
86. What substances are used to identify dead tissue in a wound?
87. What are the indications for the imposition of secondary sutures on wounds?

88. What is the essence of the concept of physical antiseptics in the treatment of wounds?
89. What are the indications for the use of hypertonic solutions in the treatment of wounds?
90. What types of drainage do you know?
91. What is the essence of the concept of chemical antiseptics in the treatment of wounds?
92. How do antiseptic and bacteriostatic agents work in the treatment of wounds?
93. What is the essence of the concept of enzyme therapy of wounds?
94. What are the indications for the use of alkalization and oxidative therapy in the treatment of wounds?
95. What is the essence of the concept of biological antiseptics?
96. What types of biological antiseptics are used to treat wounds?
97. Anatomical and physiological features of the skin.

98. Types, degrees and clinic of bruises. Types, degrees and clinic of bruises?
99. Hematomas. Clinic and treatment methods
100. Lymphoextravasate. Clinic and methods of treatment.
101. What factors can lead to bruises?
102. What types of bleeding are there for bruises?
103. What are the causes and changes in tissue stretching?
104. What are the causes and changes in tissue rupture? What is the procedure for treating bruises?
105. What are the types, clinical signs, methods of hematoma treatment? What are the types, clinical signs, methods of treatment of lymphoextravasates?
106. Clinic of wet and dry necrosis, their differential diagnosis and treatment methods.?
107. Gangrene. this is?
108. Classification, clinic, treatment and prevention of ulcers Classification, clinic, treatment and prevention of ulcers
109. Classification, clinic, treatment and prevention of fistulas.
110. What are the concepts of necrosis and necrobiosis?
111. What are the reasons for the development of necrosis? What are the reasons for the development of necrosis? What are the reasons for the development of necrosis?
112. What do the concepts and essence of aseptic and infectious necrosis mean?
113. What is the essence of the pathogenesis of wet and dry necrosis?
114. Classification of ulcers?
115. Ways to heal ulcers?
116. Symptoms, etiology and characteristics of the course of ulcers?
117. What types of fistulas exist?
118. What are the ways of fistula healing?
119. The concept of a burn?
120. Degree of burns, treatment and prevention
121. Thermal burns. Pathogenesis, treatment and prevention
122. What is the essence of the concept of burn?
123. What are the causes of thermal burns?
124. What are the degrees and characteristics of burns? What are the degrees and characteristics of burns?
125. What is the clinic for burns?
126. What is the pathogenesis of the development of burns? What is the pathogenesis of the development of burns?
127. What are the causes of chemical burns?
128. How are chemical burns treated?
129. What are the causes of thermochemical burns ?.
130. The value of granulation tissue. Formation of granules. Causes of pathological granulations and their difference from normal granulation

131. Ostitis it?
132. Is it serous periostitis?
133. Is it necrosis and caries of bones?
134. Classification of bone fractures
135. Treatment of bone fractures
136. What is the structure of the bone?
137. What is periostitis and what are its types?
138. What is the treatment for serous periostitis?
139. What is the concept of ostitachy species?
140. How is the procedure for the treatment of fibrous periostitis carried out?
141. What is pathogenesis?
142. What is meant by necrosomikaries of bones?
143. What types of fractures exist?
144. How does the healing of fractures occur?
145. How is conservative treatment of fractures carried out?
146. What are the methods of operative treatment of fractures?
147. What are the types of dressings for fractures?
148. What are the types of osteosynthesis?
149. How is the use of ultrasound for fractures carried out?
150. Classification of joint diseases

# Written questions for IC (500)

1. Sterilize the dressing and describe the procedure
2. Describe how to prepare your hands before surgery?
3. Procedure and methods of preparation of the operating field?
4. Describe the technique for preparing solutions for animal anesthesia?
5. Technique of anesthesia?
6. What substances are used for cattle anesthesia?
7. Describe the methods of local anesthesia?
8. What is surgery?
9. How are transactions classified?
10. What are the ways of tissue separation?
11. What tools are used to sever tissue?
12. What are the main types of bleeding?
13. Tell us about the ways to stop bleeding?
14. What are infusions, injections and punctures?
15. What tools are used for these operations?
16. Rules for performing intradermal and subcutaneous injections, intravenous infusions in animals?
17. Neurohumoral and general reaction of the body to injury; Shock, collapse, fainting. (Etiology, clinic, principles of treatment).
18. Edema, infiltrates, proliferations. Clinic, differential diagnosis, treatment.
19. Principles of treatment of aseptic (acute and chronic) and purulent inflammation. Outcomes of inflammation.
20. Pathogenetic therapy (characteristics, pathogenesis and types).
21. Tissue therapy, pyrogen therapy and drug sleep. Mechanism of action, indications, contraindications.
22. Physiotherapy (types, mechanism of action, indications, contraindications).
23. Classification of surgical infection. Aerobic purulent infection. Abscess, phlegmon.
24. Anaerobic infection, gas abscess, gas gangrene, gas phlegmon, malignant edema, putrefactive infection.
25. General surgical infection. Purulent-resorptive fever, sepsis. Treatment principles for sepsis.
26. Open mechanical damage (wounds). Types and symptoms of wounds.

27. Bleeding: types, clinic, methods of stopping and compensatory measures.
28. Blood transfusion. Indications, blood groups, determination of compatibility, prevention of shock, doses.
29. Biology of the wound process. Phases, pathogenesis.
30. Wound healing by primary and secondary intention, types of wound healing.
31. Principles of wound treatment. Open and closed methods.
32. Closed mechanical damage. Compression, stretching, rupture, concussion - etiology, pathogenesis, clinical picture, treatment.
33. Burns. The degree of the burn, pathogenesis, clinical picture and treatment.
34. Frostbite. Degrees, pathogenesis, clinic, treatment
35. Pustular skin diseases. Folliculitis, boil, carbuncle.
36. Eczema. Classification etiology, pathogenesis, clinic treatment.
37. Dermatitis. Classification, etiology, pathogenesis, clinical picture, treatment.
38. Arteritis and phlebitis. Etiology, pathogenesis, clinic, treatment.
39. Neuritis. Etiology, pathogenesis, clinical picture, treatment.
40. Paresis and paralysis of the nerves. Etiology, clinic, treatment.
41. Myositis and myopatosis. Etiology, pathogenesis, clinic, treatment.
42. Tendinitis and tendovaginitis. Classification, etiopathogenesis, clinical picture, treatment.
43. Bursitis. Etiology, pathogenesis, clinic, treatment
44. Periostitis and osteitis. Etiology, classification, clinic, treatment
45. Bone fractures. Etiology, clinic, methods of treatment.
46. Diseases of the joints. Classification, etiology, pathogenesis, diagnosis, treatment.
47. What are the causes and changes in tissue rupture?
48. What are the causes and changes in tissue rupture?
49. What are the types, clinical signs, methods of hematoma treatment?
50. What are the types, clinical signs, methods of treatment of lymphoextravasates?
51. Clinic of wet and dry necrosis, their differential diagnosis and treatment methods ?.
52. Is it gangrene?
53. Classification, clinic, treatment and prevention of ulcers.
54. Classification, clinic, treatment and prevention of fistulas?
55. What are the concepts of necrosis and necrobiosis?
56. What are the reasons for the development of necrosis?
57. What do the concepts and essence of aseptic and infectious necrosis mean?
58. What is the essence of the pathogenesis of wet and dry necrosis?
59. Classification of ulcers?
60. Ways to heal ulcers?
61. Symptoms, etiology and characteristics of the course of ulcers?
62. What types of fistulas exist?
63. What are the ways of fistula healing?
64. What is the concept of a burn?
65. What is the name and essence of the first phase of the wound process?
66. What is the name and essence of the first stage of the wound process?
67. Healing of wounds by secondary intention.
68. Healing of wounds under a scab.
69. Healing of wounds by primary intention
70. Secondary tension wound healing
71. What is the name and essence of the first stage of the wound process?
72. What is the name and essence of the second stage of the wound process
73. What is the name and essence of the third stage of the wound process
74. What are the 3 main directions of wound healing?
75. What is the course of the process in the first hours after the completion of the surgical intervention and clean wounds?

76. What changes in the healing process occur in the first 6 hours?
77. What changes occur in the wound after 1–2 days?
78. What changes occur in the wound in 4-7 days?
79. What is the role of leukocytes, lymphocytes, macrophages, polyblasts and fibroblasts in primary wound healing?
80. Whatprimary wound healing
81. What is the structure and meaning of a wound scab?
82. What wounds heal under a scab?
83. What types of granulation tissue do you know?
84. What are the principles of granulation tissue protection?
85. Physical antiseptic.
86. Mechanical antiseptic
87. Chemical antiseptic
88. Biological antiseptic
89. What does mechanical antiseptic mean?
90. What is the wound toilet made of?
91. What is the order and types of primary surgical treatment?
92. What are the ways to cut and expand the wound?
93. What substances are used to identify dead tissue in a wound?
94. What are the indications for the imposition of secondary sutures on wounds?
95. What is the essence of the concept of physical antiseptics in the treatment of wounds?
96. What are the indications for the use of hypertonic solutions in the treatment of wounds?
97. What types of drainage do you know?
98. What is the essence of the concept of chemical antiseptics in the treatment of wounds?
99. How do antiseptic and bacteriostatic agents work in the treatment of wounds?
100. What is the essence of the concept of enzyme therapy for wounds?
101. What are the indications for the use of alkalization and oxidative therapy in the treatment of wounds?
102. What factors can lead to bruises?
103. What types of bleeding are there in case of bruises?
104. Prevention of surgical infection
105. Injuries to the head (soft and bone tissue).
106. Bleeding from the nose (etiology, differential diagnosis, treatment).
107. Sinusitis in the head area (etiology, clinical picture and treatment).
108. Paralysis of the facial and trigeminal nerves (etiology, clinical picture, treatment).
109. Purulent otitis media (etiology, clinical picture and treatment).
110. Eczema and dermatitis of the auricle.
111. Actinomycosis (causative agent, pathogenesis, clinical picture, treatment).
112. Gingivitis.
113. Alveolar periodontitis.
114. Anomalies of the dentition.
115. Dental caries (etiology, clinic, complications, treatment).
116. Extraction, resection, alignment of teeth.
117. Diverticulum and wounds of the esophagus.
118. Phlebitis (etiology, pathogenesis, clinical picture, treatment)
119. Bursitis of the occipital region (etiology, pathogenesis, clinical picture, treatment).
120. Non-penetrating and penetrating wounds of the chest wall and possible complications.
121. Injuries to the bones of the neck and chest.
122. Wounds of the abdominal wall and possible complications.
123. Traumatic reticuloperitonitis and traumatic peritonitis (etiology, clinical picture, treatment).
124. Mechanical obstruction of the gastrointestinal tract (occlusion of the booklet, rennet bezoars, ileus).

125. Displacement of the abomasum.
126. Hernias in farm animals (etiology, classification, surgical treatment).
127. Caesarean section in farm animals.
128. Prolapse and rupture of the rectum (etiology, clinical picture, treatment).
129. Tumors and stones of the bladder, diseases of the urethra.
130. Traumatic injuries of the prepuce and the penis (open and closed).
131. Postitis (etiology, classification, clinic, treatment).
132. Phimosis and paraphimosis (etiology, pathogenesis, clinical picture, possible complications, prognosis, treatment).
133. Bleeding as a post-castration complication (etiology, clinical picture, treatment).
134. Abdominal prolapse as a post-castration complication.
135. Inflammatory edema and phlegmon of the scrotum as a post-castration complication.
136. Inflammation of the spermatic cord as a post-castration complication.
137. Cracks and fractures of the dorsal and lumbar vertebrae (etiology, clinical picture, prognosis, treatment).
138. Fractures of the sacrum and pelvic bones (etiology, clinical picture, prognosis, treatment).
139. Spondylitis, spondyloarthritis and spondylosis.
140. Osteochondrosis in the chest and lower back.
141. Diseases of the tail (etiology, clinical picture, possible complications, treatment and prevention).
142. Statics and dynamics of the thoracic limb.
143. Statics and dynamics of the pelvic limb
144. Lameness and its diagnosis. The concept of lameness of the hanging and supporting limbs. Three degrees of lameness.
145. The procedure and methods for the diagnosis of limb diseases.
146. Special techniques for the study of individual anatomical sections of the extremities (hooves, shuttle block, joints, bones, tendon ligamentous apparatus, nerves).
147. Tears of the muscles on the thoracic extremity (caudal, extraosseous, subscapularis, biceps, triceps).
148. Fractures of the bones of the shoulder region.
149. Diseases of the shoulder joint (trauma, aseptic, purulent and deforming arthritis).
150. Rheumatic inflammation of the shoulder joint.
151. Bursitis on the chest limb.
152. Paralysis of the nerves of the thoracic extremity (brachial plexus, radial, ulnar, prescapular).
153. Contusions and injuries of the elbow joint.
154. Fractures of the radius and ulna.
155. Phlegmon of the forearm.
156. Wounds and bruises of the wrist joint.
157. Contracture of the carpal joint.
158. Diseases of the flexor tendons of the fingers.
159. Injuries, arthritis, contractures, sprains and dislocations of the first and second phalanx.
160. Phlegmon of the distal part of the limb.
161. General characteristics of diseases of the surface structure of the hoof.
162. General characteristics of diseases of the deep structure of the hoof.
163. Defects of the horn shoe.
164. Diseases of the sole and frog.
165. Aseptic and purulent inflammation of the base of the hoof skin.
166. Septic arthritis of the hoof joint.
167. Anatomical and physiological characteristics of hooves and hooves in agricultural animals.
168. Violation of the innervation of the pelvic limb.
169. Sprain and dislocation of the hip joint.
170. Dislocation and fracture of the knee cap.

171. Fractures of the tubular bones of the pelvic limb.
172. Ruptures of muscles and tendons of the pelvic limb.
173. Persecuted.
174. Wounds, synovitis and deforming inflammation.
175. Aseptic and purulent arthritis of the tarsal joint.
176. Deforming osteoarthritis and osteoarthritis of the tarsal joint.
177. Ossifying periarthritis and paraarticular fibrositis of the tarsal joint.
178. Bursitis in the pelvic limb
179. Organization of forging and hoof care.
180. Hoof deformities and ways to correct them.
181. Characteristics of purulent-necrotic diseases of the fingers of cattle (classification, etiology, principles of treatment, prevention).
182. Injuries to the withers (superficial and deep injuries).
183. Bursitis at the withers.
184. Diffuhot edema and lymphoextravasate in the withers.
185. Anatomophysiological features of the organ of vision in animals. Treatment principles.
186. Methods of research of animals with eye diseases. Novocaine blockade.
187. Conjunctivitis. Classification, clinic, treatment „Corneal opacity.
188. Massive keratoconjunctivitis. Differential diagnosis, treatment, prevention.
189. Diseases of the bone orbit and periorbitis. Retrobulbar phlegmon.
190. Diseases of the lens, vitreous body and retina.
191. Blepharitis, classification, etiology, clinic and treatment.
192. Operations in the area of the eyes in animals.
193. What does mechanical antiseptic mean?
194. What is a wound toilet made of?
195. What is the order and types of primary surgical treatment?
196. What are the ways to cut and expand the wound?
197. What substances are used to identify dead tissue in a wound?
198. What are the indications for the imposition of secondary sutures on wounds?
199. What is the essence of the concept of physical antiseptics in the treatment of wounds?
200. What are the indications for the use of hypertonic solutions in the treatment of wounds?
201. What types of drainage do you know?
202. What is the essence of the concept of chemical antiseptics in the treatment of wounds?
203. How do antiseptic and bacteriostatic agents work in the treatment of wounds?
204. What is the essence of the concept of enzyme therapy of wounds?
205. What are the indications for the use of alkalization and oxidative therapy in the treatment of wounds?
206. What is the essence of the concept of biological antiseptics?
207. What types of biological antiseptics are used to treat wounds?
208. Anatomical and physiological features of the skin.

209. Types, degrees and clinic of bruises Types, degrees and clinic of bruises?
210. Hematomas. Clinic and treatment methods
211. Lymphoextravasate. Clinic and methods of treatment.
212. What factors can lead to bruises?
213. What types of bleeding are there in case of bruises?
214. What are the causes and changes in tissue stretching?
215. What are the causes and changes in tissue rupture? What is the procedure for treating bruises?
216. What are the types, clinical signs, methods of hematoma treatment? What are the types, clinical signs, methods of treatment of lymphoextravasates?
217. Clinic of wet and dry necrosis, their differential diagnosis and treatment methods.?

218. Gangrene. this is?
219. Classification, clinic, treatment and prevention of ulcers Classification, clinic, treatment and prevention of ulcers
220. Classification, clinic, treatment and prevention of fistulas.
221. What are the concepts of necrosis and necrobiosis?
222. What are the reasons for the development of necrosis? What are the reasons for the development of necrosis? What are the reasons for the development of necrosis?
223. What do the concepts and essence of aseptic and infectious necrosis mean?
224. What is the essence of the pathogenesis of wet and dry necrosis?
225. Classification of ulcers?
226. Ways to heal ulcers?
227. Symptoms, etiology and characteristics of the course of ulcers?
228. What types of fistulas exist?
229. What are the ways of fistula healing?
230. The concept of a burn?
231. Degree of burns, treatment and prevention
232. Thermal burns. Pathogenesis, treatment and prevention
233. What is the essence of the concept of burn?
234. What are the causes of thermal burns?
235. What are the degrees and characteristics of burns? What are the degrees and characteristics of burns?
236. What is the clinic for burns?
237. What is the pathogenesis of the development of burns? What is the pathogenesis of the development of burns?
238. What are the causes of chemical burns?
239. How are chemical burns treated?
240. What are the causes of thermochemical burns ?.
241. The value of granulation tissue. Formation of granules. Causes of pathological granulations and their difference from normal granulation
242. Ostitis it?
243. Is it serous periostitis?
244. Is it necrosis and caries of bones?
245. Classification of bone fractures
246. Treatment of bone fractures
247. What is the structure of the bone?
248. What is periostitis and what are its types?
249. What is the treatment for serous periostitis?
250. What is the concept of ostitachy species?
251. How is the procedure for the treatment of fibrous periostitis carried out?
252. What is pathogenesis?
253. What is meant by necrosomicaries of the bones?
254. What types of fractures exist?
255. How does the healing of fractures occur?
256. How is conservative treatment of fractures carried out?
257. What are the methods of operative treatment of fractures?
258. What are the types of dressings for fractures?
259. What are the types of osteosynthesis?
260. How is the use of ultrasound for fractures carried out?
261. Classification of joint diseases?
262. Contusions, sprains and dislocations of the joints. Hemarthrosis?
263. Purulent synovitis and arthritis. Treatment and prevention?
264. What are the types of joint diseases?

265. What are the causes, symptoms and types of joint sprains?
266. What are the symptoms, types and methods of treatment for aseptic arthritis?
267. What is the cause and clinic of hemarthrosis, what complications arise with this pathology?
268. What are the etiology, pathogenesis and clinic of purulent synovitis?
269. What are the etiology, pathogenesis, clinical signs of purulent arthritis?
270. How is purulent arthritis treated?
271. What are the etiology, pathogenesis, clinical signs of panarthritis?
272. What are the etiology, pathogenesis, clinical signs of capsular phlegmon?
273. What are the etiology, pathogenesis, clinical signs of paraarticular phlegmon?
274. Classification, etiology, development and clinical manifestations of tendon diseases?
275. The principles of treatment and prevention of tendon diseases?
276. Diseases of the bursa?
277. What are the types of tendon diseases?
278. What are the etiology and clinic of tendon wounds?
279. What are the etiology and clinic of tendon sprains?
280. What are the etiology and clinic of tendon ruptures?
281. What are the etiology, pathogenesis and clinic of tendinitis?
282. What are the etiology, pathogenesis and clinic of tendovaginitis?
283. How are wounds, sprains and tendon ruptures treated?
284. How is aseptic tendonitis treated?
285. How is purulent tendinitis treated?
286. How is aseptic tendovaginitis treated?
287. How is the treatment of purulent tendovaginitis carried out?
288. What are the etiology, pathogenesis and clinic of bursitis?
289. How is bursitis treated?
290. Injuries and bruises in the head area?
291. Paralysis of the facial and trigeminal nerves?
292. Kovylnaya Bosickness?
293. Is it actinomycosis?
294. Wounds of the esophagus. Esophageal diverticulum?
295. What are the etiology, clinical signs and treatment of head wounds?
296. What are the etiology, clinical signs and treatment of head bruises?
297. What are the etiology, clinical signs of the facial and trigeminal nerves?
298. How is the treatment of paralysis of the facial and trigeminal nerve carried out?
299. What are the etiology, clinical signs of feather grass disease?
300. What are the etiology and causative agents of actinomycosis?
301. What are the clinical signs and treatment of actinomycosis?
302. What are the causes of esophageal wounds?
303. How is the treatment of esophageal wounds carried out?
304. What are the etiology, clinical signs and treatment of esophageal diverticulum?
305. Necrotic processes and phlegmon in the area of the withers?
306. Chest wall wounds?
307. Pneumothorax is it?
308. Is it hemothorax?
309. What are the reasons for the development of phlegmon in the area of the withers?
310. What is the course and clinical signs of phlegmon in the area of the withers?
311. What are the principles of treatment of phlegmon in the area of the withers?
312. What are the causes and clinical signs of necrotic processes in the area of the withers?
313. What are the principles of treatment of necrotic processes in the area of the withers?
314. What are the causes and characteristics of chest wall injuries?
315. What are the causes of pneumothorax?
316. What are the course and clinical signs of pneumothorax?

317. What are the principles of pneumothorax treatment?
318. What are the causes and clinical signs of hemothorax?
319. What are the principles of hemothorax treatment?
320. Wounds, hematoma, lymphoextravasate of the abdominal wall. Peritonitis?
321. The concept of hernias, their types, clinic and methods of treatment?
322. What are the etiology, clinical signs and methods of treatment of abdominal wall wounds?
323. What are the clinical signs and methods of treatment for hematomas of the abdominal wall?
324. What are the etiology and clinical signs of abdominal wall lymphoextravasates?
325. How is the treatment of lymphoextravasates of the abdominal wall carried out?
326. What are the etiology and clinical signs of peritonitis?
327. How is peritonitis treated?
328. What kind of hernia disease and what types of hernias do you know?
329. What is the etiology of hernias?
330. What are the clinic and methods of hernia treatment?
331. Is it balanoposthitis?
332. Phimosis. Is it paraphimosis?
333. Post-castration complications: bleeding, prolapse of the omentum, common vaginal membrane and spermatic cord.
334. Is it a phlegmon of a scrotum?
335. Funiculars are they?
336. Post-castration complications in rams?
337. What are the causes and clinical signs of balanoposthitis?
338. What are the degrees of development of balanoposthitis?
339. How is balanoposthitis treated?
340. What are the clinical signs and methods of phimosis treatment?
341. What are the clinical signs and methods of treatment of paraphimosis?
342. What are the clinical signs and treatment of post-castration bleeding?
343. What are the clinical signs of prolapse of the common vaginal membrane and spermatic cord?
344. How is the medical work carried out in case of prolapse of the common vaginal membrane and spermatic cord?
345. What are the causes and clinical signs of scrotal cellulitis?
346. How is scrotal phlegmon treatment carried out?
347. What are the causes and clinical signs of funiculitis?
348. What are the methods of treating funiculitis?
349. Conditions and factors causing limb diseases in productive animals, economic damage caused by them?
350. Statics and dynamics of organs of motion?
351. Types of lameness?
352. Achilles tendon necrosis and rupture in fattening bulls?
353. Osteoarthritis in cattle?
354. What is the incidence of leg diseases in animals?
355. What is the economic damage caused by leg diseases?
356. What do the terms protraction, retraction, cycle of movement, step mean?
357. What is the activity of muscles, fascia and bones in the statics and dynamics of the limbs of animals?
358. How are the muscles of the body involved in the movement of animals?
359. What are the causes and symptoms of hanging lameness?
360. What are the causes and symptoms of intermittent claudication?
361. What are the causes and symptoms of leaning lameness?
362. What are the causes and symptoms of mixed lameness?
363. What are the causes and symptoms of spar lameness?

364. What are the clinical signs of necrosis and rupture of the Achilles tendon?
365. How is Achilles tendon rupture treated?
366. What are the clinical signs of arthrosis at the Belgilari kasalligining clinics?
367. How many degrees of bovine arthrosis are there?
368. How is the treatment and prevention of bovine arthrosis carried out?
369. The concept of orthopedics. Economic damage from diseases of the fingers and hooves.
370. Anatomy and physiology of the fingers.
371. Deformed hooves and their treatment?
372. Shoeing farm animals?
373. Complications due to improper shoeing?
374. What is the concept of veterinary orthopedics?
375. What is the structure of the hoof?
376. What do you know about the growth and physical properties of the hoof?
377. What do long sharp hooves look like and how are they corrected?
378. What do flat hooves look like and how are they corrected?
379. What do crooked hooves look like and how are they corrected?
380. What do obtuse hooves look like and how are they corrected?
381. What are the etiopathogenesis and clinical signs of hoof wounds?
382. What methods of treating hoof wounds are there?
383. How is hoof measurement carried out?
384. How are the hooves of horses, cattle, sheep and pigs cleaned and trimmed?
385. How is the attachment of the horseshoe to the hoof carried out?
386. What complications can be caused by improper shoeing?
387. How is the attachment of the horseshoe to the hoof carried out?
388. Rheumatic inflammation of the hooves?
389. Pelvic cartilage necrosis?
390. Purulent inflammation of the hoof joint?
391. Complications of necrobacillosis and foot and mouth diseasev?
392. What are the causes of clinical signs of rheumatic inflammation?
393. How is rheumatic inflammation treated?
394. What are the pathogenesis and clinical signs of pulmonary cartilage necrosis
395. How is the treatment of lateral cartilage necrosis carried out?
396. What are the pathogenesis and clinical signs of suppurative inflammation of the hoof joint
397. How is the treatment of purulent inflammation of the hoof joint carried out?
398. What are the clinical signs of the treatment of hoof sash?
399. What are the pathogenesis of the necrobacteriosis of fingers?
400. The concept of ophthalmology. What is the incidence of eye diseases?
401. Anatomy and physiology of the eye.
402. Methods of examination of eyes
403. Is it conjunctivitis?
404. Is it keratitis?
405. What are the anatomy and physiology of the eye?
406. What methods of examination of eyes do you know?
407. What factors cause conjunctivitis?
408. What is the importance of lysozyme in tears?
409. What are the clinical signs of acute catarrhal conjunctivitis?
410. What does the concept of blepharospasm mean?
411. How is the treatment of acute catarrhal conjunctivitis carried out?
412. For what purpose are astringent preparations used?
413. What are the clinical signs of superficial and deep purulent conjunctivitis?
414. How is the treatment of superficial and deep purulent conjunctivitis carried out?
415. What are the causes and symptoms of follicular conjunctivitis?

416. What are the causes and symptoms of follicular conjunctivitis?
417. What does the concept of keratitis mean?
418. What are the symptoms of superficial catarrhal keratitis?
419. How is the treatment of superficial catarrhal keratitis carried out?
420. How is superficial catarrhal keratitis treated?
421. What are the symptoms of superficial purulent keratitis?
422. How is the treatment of superficial purulent keratitis carried out?
423. The concept of castration. Bloody and bloodless ways of castration.
424. Dermatitis.
425. Economic efficiency of male castration depending on the period and method of castration.
426. Osteomyelitis.
427. Technique of suturing for vaginal prolapse in a cow.
428. Bloodless ways of castration.
429. Bleeding and ways to stop it.
430. Is this a boil?
431. Stages of applying a plaster cast.?
432. Tissue joining, tools for tissue joining. Types of seams.?
433. Bone fractures?
434. Technique of introducing medicinal substances tracheally?
435. Antiseptics and its types?
436. Eczema.
437. Castration of bulls (types, technique).
438. Is it corneal inflammation?
439. Methods of umbilical hernia surgery
440. The concept of fixation and its purpose, prevention of complications during fixation?
441. Treatment of tumors (malignant and benign).
442. Technique of primary surgical treatment of wounds?
443. Concept of anesthesia and its types?
444. To carry out a rectum resection?
445. Preparing an animal for surgery, keeping and feeding after surgery?
446. Inflammation of the prepuce?
447. The use of warming procedures in surgical diseases?
448. Treatment of wounds: operating, fresh infected, purulent.?
449. Inguinal hernia?
450. Is it sepsis?
451. Tendon sprains and ruptures?
452. What is lameness and its types?
453. Castration of rams?
454. Phlebitis and thrombophlebitis?
455. Treatment of mucous membranes before surgery.?
456. Paresis and paralysis of nerves?
457. Types of wound healing?
458. Castration of boars?
459. The role and objectives of veterinary surgery in increasing the productivity of animals?
460. Prevention of horn formation in calves?
461. Wounds to the sole and crumb?
462. To puncture the scar?
463. Is this an abscess?
464. Purulent inflammation of the hoof joint (bursitis)?
465. Phlegmon?
466. Biology of the wound process?
467. Anaerobic infection?

468. Types of sepsis?
469. Complex treatment of sepsis?
470. What is the pathogenesis, prognosis, treatment and prevention of purulent-reserving fever and wound exhaustion?
471. What can a belated surgical intervention or untimely diagnosis of purulent resorptive fever lead to?
472. What is surgical sepsis?
473. What types of surgical sepsis do you know?
474. What is the pathogenesis, clinical manifestation, prevention, principles of treatment of surgical sepsis?
475. How is the complex of antiseptic therapy characterized?
476. What are the differential diagnostic signs of purulent-resorptive fever and sepsis?
477. What are the principles of prevention of surgical infection?
478. The concept of a wound and wound disease?
479. Clinical signs of wounds?
480. What is the essence of the concept of enzyme therapy of wounds?
481. What are the indications for the use of alkalization and oxidative therapy in the treatment of wounds?
482. What is the essence of the concept of biological antiseptics?
483. What types of biological antiseptics are used to treat wounds?
484. Anatomical and physiological features of the skin?
485. Types, degrees and clinic of bruises?
486. Hematomas. Clinic and treatment methods?
487. Lymphoextravasate. Clinic and treatment methods?
488. What factors can lead to bruises?
489. What types of bleeding are there in case of bruises?
490. What are the causes and changes in tissue stretching?
491. What are the indications for the use of hypertonic solutions in the treatment of wounds?
492. What are the indications for the application of hygroscopic powder in the treatment of wounds?
493. What types of drainage do you know?
494. What is the essence of the concept of chemical antiseptics in the treatment of wounds?
495. How do antiseptic and bacteriostatic agents work in the treatment of wounds?
496. Methods of diagnosis for wounds in the head area?
497. What do flat hooves look like and how are they corrected?
498. What do crooked hooves look like and how are they corrected?
499. What obtuse hooves look like and how they are corrected
500. What are the etiopathogenesis and clinical signs of hoof wounds?

# Test questions for 1 pc (200)

**1.What does the word surgery mean?**
A. handmade
B. action
C. handicraft
D. cut

**2. Who among the scientists of Central Asia contributed to the development of surgical science?**
A. Ulugbek
B. Ahmad Donish
C. Ali Kushchi
D. Abu Ali ibn Sino

**3. In what year was the asepsis method proposed?**
A. 1861
B.1891
C. 1905
D. 1878

**4. In what year was the antiseptic method proposed?**
A. 1812
B. 1952
C. 1901
D.1867

**5. Factors causing physical injury:**
A. action of sharp and blunt objects
B. action of light
C. action of strong acids and alkalis
D. the action of high and low temperatures, rays and electric current

**6. What is meant by trauma?**
A. damage to organs and tissues
B. tissue damage
C. organ damage
D. damage to the nervous system

**7. What is the name of damage caused by a traumatic factor directly in the place of impact or near it?**
A. acute and chronic injuries
B. complex injuries
C. direct and indirect injuries
D. monotrauma and polytrauma

**8. When do sports injuries mainly occur?**
A. in case of unsatisfactory preparation of the horse and rider
B. in case of incorrect installation of obstacles
C. in case of improper saddling
D. in case of improper shoe shoeing

**9. What changes are observed in organs and tissues during injury?**

A. morphological
B. morpho-functional
C. biochemical
D. functional

**10. When does monotrauma occur?**
A. traumatizing animals of the same species
B. traumatizing animals of the same breed
C. injury to organs of one system
D. injury to some organ

**11. When does physical injury occur?**
A. when exposed to high and low temperatures, rays, radiation, electric current and lightning
B. when exposed to alkalis and acids
C. under the influence of viruses, pathogenic microbes
D. in violation of the adaptive properties of the animal

**12. How does chemical injury occur?**
A. when exposed to high and low temperatures, rays, radiation,
electric current and lightning
B. under the influence of viruses, pathogenic microbes
C. when exposed to alkalis and acids
D. in violation of the adaptive properties of the animal

**13. When does biological trauma occur?**
A. when exposed to high and low temperatures, rays, radiation, electrical
B. under the influence of viruses, pathogenic microbes, plant poisons
C. current and lightning
D. when exposed to alkalis and acids
E. in violation of the adaptive properties of the animal

**14. When does psychological trauma occur?**
A. in case of violation of adaptive properties in livestock as a result of violation of livestock technology
B. with loss of consciousness from exposure to alkalis and acids
C. in case of loss of consciousness from exposure to high and low temperatures, rays, radiation, electric current and lightning
D. in case of loss of consciousness from exposure to viruses, pathogenic microbes, plant poisons

**15. What is meant by the concept of the etiology of the disease?**
A. external and internal causes causing the development of a surgical disease
B. signs of a surgical disease
C. external and internal causes of surgical disease
D. consequences of a surgical disease

**16. What is meant by the concept of disease pathogenesis?**
A. external and internal causes causing the development of a surgical disease
B. the mechanism of development of the disease based on objective laws
C. signs of a surgical disease
D. consequences of a surgical disease

**17. What is meant by the concept of the semiotics of disease?**
A. the mechanism of development of the disease based on objective laws

B. external and internal causes causing the development of a surgical disease
C. general clinical signs, regularities of the course and specific features of the disease
D. signs of a surgical disease

**18. What are the types of injuries, depending on the strength of the acting factor and the time of exposure?**
A. monotrauma and polytrauma
B. complex
C. direct and indirect
D. acute and chronic

**19. What are the types of injuries depending on injury to one or more organs?**
A. acute and chronic
B. monotrauma VA polytrauma
C. direct and indirect
D. complex

**20. What are the types of injuries depending on the impact of two or more traumatic factors?**
A. acute and chronic injuries
B. monotrauma and polytrauma
C. complex injuries
D. direct and indirect injuries
**21. Industrial and technological injuries occur in ...**
A. farms with a high degree of mechanization and automation
B. farms with a high degree of mechanization
C.In farms with a high degree of automation
D. farms producing products
**22. What is the result of non-observance of the rules and failure to create conditions for obtaining semen from bulls?**
A. industrial and technological injury
B. genital trauma
C. operational injury
D. pedigree injury
**23. How much production can a cow with damaged hooves lose?**
A. 10-20%
B. 20-30%
C. 15-25%
D. 70-80%

**24. What are the reasons for the shock?**
A. mechanical, operating, blood transfusion, gynecological
B. violation of the conditions of feeding and maintenance
C. metabolic disorders
D. action of foreign bodies
**25. What is the sequence of the shock phases?**
A. paralytic, erectile, torpid
B. erectile, torpid, paralytic
C. torpid, paralytic, erectile
D. erectile, paralytic, torpid
**26. In what cases does shock lead to the death of an animal?**
A. lowering blood pressure

B. stomach ulcer
C. development of paresis and paralysis
D. violation of the chemistry of blood and tissues

**27. What should be the focus of shock treatment?**
A. restoration of hemodynamics, reduction of intoxication
B. restoration of the activity of the gastrointestinal tract, raising blood pressure, excretion of pus
C. normalization of the nervous system
D. restoration of working capacity, removal of dead tissue, exudate removal

**28. What is meant by collapse?**
A. a sharp decrease in the activity of the cardiovascular system
B. loss of consciousness
C. a sharp decrease in the activity of the nervous system
D. increased blood pressure

**29. What is meant by inflammation?**
A. response of the body
B. protective adaptive reaction of the body
C. healing and recovery processes
D. allergic reaction of the body

**30. What is the correct characteristic of normmergic inflammation?**
A. predominance of degeneration processes over regeneration
B. equality of regeneration and degeneration
C. the predominance of regeneration processes over degeneration
D. intensification of the inflammatory process in the tissues

**31. When does hyperergic inflammation appear?**
A. in violation of the adaptive trophic activity of the nervous system
B. with an adequate response of the body to damage
C. with a weak reaction of the body to irritation
D. with large blood loss

**32. How does hyporegic inflammation manifest itself?**
A. the function of the nervous system is impaired
B. equality of degeneration and regeneration is observed
C. the nervous system is strong
D. the body responds poorly to inflammation.

**33. What factors cause aseptic inflammation?**
A. biochemical, radiation, biological
B. metabolic disorders
C. mechanical, physical, chemical
D. genetic

**34. What methods of treatment are used for acute aseptic inflammation in the first 12-24 hours?**
A. drying dressings, warming compresses, minin lamp
B. paraffin applications
C. local hypothermia and light pressure bandages
D. drugs that lower the function of blood and lymph vessels

**35. Pathogenetic therapy is aimed at ...**
A. normalization of impaired body functions, stimulation of protective, adaptive and regenerative mechanisms
B. stimulation of protective, adaptive and regenerative mechanisms
C. stimulation of the regenerative mechanisms of the body
D. the use of novocaine blockades to normalize impaired body functions

**36. Which method of therapy provides the best resorption of proliferations?**
A. cellular
B. organ
C. systemic
D. tissue

**37. For what purpose is thermocauterization used?**
A. moxibustion with the aim of stopping bleeding
B. moxibustion for the purpose of treatment
C. moxibustion for the purpose of warming
D. for the purpose of applying a compress

**38. What is the sequence of the layers of the warming compress?**
A. retention, heat retention, moisture proof, damp
B. heat-retaining, retention, moisture-proof, damp
C. Moisture-proof, Retaining, Warm-Retaining, Wet
D. Moist, Retaining, Heat Retaining, Moisture Proof

**39. Who proposed the method of epipleural novocaine blockade in inflammation?**
A. Tikhonin I. Ya.
B. Shakurov M.Sh.
C. Mosin
D. Plakhotin M.V.

**40. Who proposed the method of perirenal novocaine blockade for inflammation in cattle?**
A. Mosin V.V.
B. Shakurov M.Sh.
C. Plakhotin M.V.
D. Se

**41. Who suggested the method of novocaine blockade of the thoracic visceral nerves?**
A. Mosin V.V.
B. Plakhotin M.V.
C. Shakurov M.Sh.
D. Senkin M.M

**42. What is meant by heterohemotherapy?**
A. taking blood from a vein in an animal and administering it to an animal of another species
B. taking blood from a vein from an animal and introducing it subcutaneously
C. taking blood from an animal's vein and administering it to an animal of the same species
D. blood transfusion between animals of the same species

**43. What is meant by homochemotherapy?**
A. taking blood from a vein in an animal and introducing it subcutaneously
B. taking blood from an animal's vein and administering it to an animal of another species
C. taking blood from an animal's vein and administering it to an animal of the same species
D. blood transfusion between animals of the same species

**44. By whose method are tissue preparations prepared?**
A. Ibn-Sino
B. K. I. Shakalov
C. V. P. Filatov, N.I. Krause,
D. M. V. Plakhotin

**45. Who proposed lysates for inflammation?**

A. Ibn-Sino
B. K. I. Shakalov
C. M. V. Plakhotin
D. M. P. Tushnov

**46. What is tissue therapy aimed at?**
A. to warm up the animal's body
B. to stimulate and normalize the body of the animal
C. on the activation of the animal's body
D. to reduce inflammation

**47. What is meant by autohemotherapy?**
A. taking blood from a vein in an animal and introducing it subcutaneously
B. taking blood from an animal's vein and administering it to an animal of another species
C. taking blood from an animal's vein and administering it to an animal of the same species
D. blood transfusion between animals of the same species

**48. What factors cause infectious inflammation?**
A. mechanical and physical
B. chemical and genetic
C. biological
D. biological and molecular

**49. Which scientist gave the most complete concept of a surgical infection?**
A. M. V. Plakhotin
B. N.I. Pirogov
C. G. Abishev
D. M. Rufanov

**50. The causative agents of surgical infections are ...**
A. microbe and virus
B. virus and fungus
C. bacteria, viruses and fungus
D. fungus and pus

**51. Contamination is ...**
A. Contamination of wounds with microbes from the external environment
B. the association of microbes is relatively unchanged and adapted to the wound environment
C. microbes that secrete tissue thinning enzymes
D. microflora

**52. Anaerobic or facultative anaerobic infection is ...**
A. Proteus vulgaris, spore-forming bacilli, Escherichia coli and others
B. coccal infection and colibacillus and Pseudomonas aeruginosa
C. spore-forming bacilli, E. coli and staphylococci
D. streptococci, diplococci, Escherichia coli and Pseudomonas aeruginosa

**53. What is the difference between turpentine abscess?**
A. has a large number of microbes
B. purulent microflora develops
C. has serous fluid in the cavity
D. has no germs

**54. Purulent surgical infection is ...**
A. fungus, purulent sticks, clostridium
B. staphylococcus, streptococcus, diplococcus, Escherichia coli
C. gas gangrene
D. spore-forming bacilli, E. coli and staphylococci

**55. A specific surgical infection is ...**
A. staphylococcus, streptococcus, diplococcus, Escherichia coli
B. gas gangrene
C. tetanus, brucellosis, tuberculosis, actinomycosis, necrobacteriosis, botryomycosis
D. spore-forming bacilli, E. coli and staphylococci

**56. How many stages does the principle of prevention of surgical infection consist of?**
A. 4
B. 6
C. 5
D. 3

**57. What are the forms of aerobic infection?**
A. carbuncle
B. furuncle and gangrene
C. hot and cold abscess
D. abscess and phlegmon

**58. Necrobacteriosis is ...**
A. one of the main properties of microbes that causes disease
B. damage to the fingers of animals with necrobacteriosis sticks
C. necrobacteriosis rods adapted to the hoof environment
D. contamination of wounds and open injuries by infection

**59. What types of sepsis are there in terms of localization and nature of development?**
A. postoperative, decubitus, after paralysis and paresis
B. postpartum and post-paralysis
C. odontogenic, myogenic, arthrogenic, ungular, postpartum
D. decubitus and odontogenic

**60. What scientist classified sepsis?**
A. Plakhotin M.V.
B. Abishev G.
C. Pirogov N.I.
D. Rufanov M.nkin M.M.

**61. What exudate accumulates in the first phase of infectious inflammation in cows?**
A. serous-purulent
B. fibrinous-purulent
C. fibrinous
D. purulent

**62. Sepsis is ...**
A. difficult to recover infectious-toxic process
B. non-stopping purulent process
C. development of microbes in the body
D. isolation of dead tissue from wounds

**63. What microbes cause anaerobic infection?**
A. aerobes and anaerobes
B. coccal infections
C. anaerobic and bacilli
D. facultative anaerobes and staphylococci

**64. How long after the action of toxins and enzymes is vascular paralysis observed in gas gangrene?**
A. after 2-4 hours
B. after 2-4 hours
C. after 24–48 hours
D. after 12-18 hours

**65. What happens when blood clots appear in blood vessels with gas gangrene?**
A. during the breakdown of proteins, glycogen and carbohydrates, gases are not formed
B. serous fluid is formed during the breakdown of proteins, glycogen and carbohydrates
C. ketonuria is formed during the breakdown of proteins, glycogen and carbohydrates
D. gases are formed during the breakdown of proteins, glycogen and carbohydrates

**66. What types of animals have gas gangrene?**
A. KRS
B. all kinds of animals
C. dogs
D. pigs

**67. What exudate is released when opening a gas phlegmon?**
A. bloody exudate
B. serous exudate
C. serous fibrinous exudate
D. purulent-foamy cloudy liquid

**68. Which of these microorganisms is the causative agent of tetanus?**
A. b.colli
B. b. tetani
C. b.putrificus
D. b.proteus

**69. Which of these infections is a specific surgical infection?**
A. brucellosis, actinomycosis
B. purulent infection
C. anaerobic infection
D. aerobic infection

**70. An abscess is .....**
A. tissue necrosis
B. cavity filled with serous fluid
C. limited cavity filled with purulent fluid
D. inflammation of the hair follicle

**71. The wound according to M.V. Plakhotin is ...?**
A. open damage to the skin, mucous membranes and deep tissues

B. mechanical damage to the skin without compromising the integrity of the skin
C. closed bone injuries
D. joint damage

**72. Clinical signs of wounds are ...**
A. pain, bleeding, increased local temperature
B. pain, dysfunction, dehiscence, and bleeding
C. increase in general temperature, dehiscence of the edges of the wound, bleeding,
D. pain, preservation of functions, dehiscence of the wound edges

**73. What is meant by damage?**
A. mechanical tissue damage while maintaining the integrity of the skin
B. open tissue damage
C. morpho-functional tissue changes
D. vascular damage while maintaining the integrity of the skin

**74. What kind of bleeding is usually typical for bruised skin?**
A. ecchymosis
B. limited hemorrhage
C. suffusion
D. hematoma

**75. What kind of bleeding occurs with subcutaneous injury?**
A. Suffusion
B. ecchymosis
C. hematoma
D. limited hemorrhage

**76. What kind of bleeding occurs when the tissue is damaged?**
A. hematoma
B. limited hemorrhage
C. spilled suffusion
D. ecchymosis

**77. What is the name of the accumulation of blood in the newly formed cavity after injury?**
A. limited hemorrhage
B. ecchymosis
C. suffusion
D. hematoma

**78. What is the name of the violation of the anatomical integrity of soft tissues and organs?**
A. stretching
B. vibration
C. break
D. squeezing

**79. What are the typical clinical signs of hematoma?**
A. hot swelling and fluctuation on palpation
B. fluctuating and painless swelling
C. painful swelling and fluctuation on palpation
D. localized hot swelling

**80. What are the origin of hematomas?**

A. arterial, venous, displaced, pulsating
B. arterial, venous, displaced, lymphatic
C. arterial, venous, displaced, serous
D. arterial, venous, displaced, pulsating and lymphatic

**81. Localization is subcutaneous, subfascial, intermuscular, intraorgan, intracranial, intraperitoneal and intraarticular - this is ...**
A. lymphoextravasate
B. hematoma
C. necrosis
D. ulcer

**82. What procedures are prohibited during the treatment of lymphoectravazate?**
A. novokine blockade
B. application of hot and cold methods
C. use of antibiotics
D. the imposition of a rigid bandage

**83. What lymphoextravasates are distinguished?**
A. superficial and medium
B. limited and unlimited
C. deep and superficial
D. limited and superficial

**84. What is the speed of ulcer healing connected with?**
A. with the state of the nervous and endocrine systems
B. with the morphological state of tissues
C. with the protective and adaptive forces of the body
D. with the size and location of the ulcer

**85. Which ulcer is growing rapidly?**
A. ordinary
B. atonic
C. progressive
D. idiopathic

**86. What is the focus of attention in the treatment of wet gangrene?**
A. removal of dead tissue
B. development of granulation tissue
C. transfer of wet gangrene to dry
D. use of drugs

**87. What ulcers appear after abscess and phlegomny?**
A. fungal
B. decubital
C. callous
D. ordinary

**88. What is the name of pressure ulcers?**
A. ordinary
B. fungous
C. decubital
D. atonic

**89. What ulcers take a long time to heal?**
A. Decubital
B. atonic
C. conventional
D. fungous

**90. What are the types of burns?**
A. thermal, chemical, thermo-chemical
B. thermal, chemical
C. thermal, chemical, thermo-chemical, radiation
D. thermal, chemical, physical

**91. How many degrees of tissue burns are observed according to Kreibich?**
A. 3
B. 4
C. 2
D. 5

**92. How many levels of tissue burns are observed according to BM Olivkov?**
A. 5
B. 4
C. 2
D. 3

**93. What clinical signs are typical for a first-degree burn?**
A. severe pain, redness, the appearance of small blisters
B. hyperemia, the appearance of serous vesicles, ulcers
C. coatsulation skin necrosis, the appearance of vesicles
D. coagulation necrosis of the skin

**94. What clinical signs are typical for a second degree burn?**
A. hyperemia, the appearance of serous vesicles, ulcers
B. coatsulation necrosis of the skin, the appearance of vesicles
C. coagulation necrosis of the skin
D. severe pain, redness, the appearance of small blisters

**95. What clinical signs are typical for third degree burns?**
A. hyperemia, the appearance of serous vesicles, ulcers
B. coatsulation necrosis of the skin, the appearance of vesicles
C. coagulation necrosis of the skin
D. severe pain, redness, the appearance of small blisters

**96. In what species of animals do not appear bubbles and edema of subcutaneous tissues during a burn?**
A. in cattle and pigs
B. in horses and dogs
C. in horses and cattle
D. in pigs and dogs

**97. What percentage is the burn surface of the head region compared to the burn of the entire torso?**

A. 8%
B. 6%
C. 12 %
D. 10%

**98. What percentage is the surface of a burn on the neck, chest and abdomen compared to a burn on the entire torso?**
A. 18%
B. 20%
C.21 %
D. 22%

**99. Causes of chemical burns?**
A. acids, alkalis, lime, heavy metals
B. high temperature
C. hot water and steam
D. rays

**100. Ostitis is ...**
A. inflammation of the periosteum
B. bone marrow inflammation
C. bone inflammation
D. bone necrosis

**101. Periostitis is ...**
A. bone inflammation
B. inflammation of the periosteum
C. bone marrow inflammation
D. bone necrosis

**102. Bone necrosis is ...?**
A. bone inflammation
B. bone marrow inflammation
C. inflammation of the periosteum
D. bone necrosis

**103. What are the clinical signs of purulent periostitis?**
A. tubercles appear on the surface of the damaged bone
B. a fistula appears on the surface of the damaged bone
C. under the periosteum, abscesses develop and a fistula appears
D. serous fluid appears under the periosteum

**104. Karies is ...**
A. rejection of dead bone tissue
B. granular molecular decomposition of bone
C. dental disease
D. dental and gum disease

**105. What are the types of bone necrosis in terms of localization?**
A. complete and general
B. superficial and cortical
C. complete and cortical
D. superficial and general

**106. What pathology is caused by purulent inflammation of bones, physical and chemical influences and circulatory disorders?**
A. bone abscess
B. softening of bones
C. bone destruction
D. bone necrosis

**107. Note the conservative treatment of bone fractures**
A. osteosynthesis
B. intramedular osteosynthesis
C. the imposition of skeleton and splint dressings
D. wire anchoring

**108. What does a distraction splint consist of?**
A. made of metal knitting needles, nails, bandages
B. stainless steel plates
C. braces, bone graft
D. made of metal spokes and plates

**109. Specify the method of ostiosynthesis**
A. Fastening with metal pins
B. the imposition of skeletal dressings
C. the imposition of a shear bandage
D. reposition

**110. What periostitis differs in distribution?**
A. unlimited, diffuse, numerous
B. limited, diffuse, numerous
C. unlimited, diffuse
D. limited, numerous

**111. What periostitis differ according to the clinical course?**
A. semi-acute and chronic
B. acute and chronic
C. primary and secondary
D. lightning fast and sharp

**112. What periostitis develops after severe trauma?**
A. purulent ossification
B. ichyrous and ossifying
C. serous fibrinous
D. fibrinous and ossifying

**113. What fractures differ in origin?**
A. congenital and acquired, traumatic, pathological
B. traumatic, pathological
C. congenital and acquired
D. primary and secondary

**114. How are fractures classified according to the anatomical features of the bones?**
A. epiphyseal, diaphyseal, metaphyseal and division of the diaphysis

B. epiphyseal, diaphyseal, metaphyseal
C. tubular, flat
D. transverse, vertical and horizontal

**115. Due to what is the healing of bone fractures?**
A. due to the formation of corns of the periosteum
B. due to the formation of callus
C. due to the formation of bone marrow
D. due to the formation of a bone root

**116. Indicate correctly the primary calluses of the bones.**
A. mediosteal, endosteal, paraosteal, intermediate
B. endosteal, paraostal, intermediate
C. periosteal, endosteal, paraostal, intermediate
D. periosteal, endosteal

**117. What wire is used for bone surgery?**
A. alumina and nickel
B. molybdenum or copper
C. flat
D. steel

**118. What is the meaning of the word ostiosynthesis?**
A. joining broken bones with a plaster or skeleton bandage
B. connection of bone fragments by the bloody method
C. joining shattered bones by the bloodless method
D. joining bones with a graft

**119. What is the name of the damage to the joints?**
A. Artrit
B. contusio articuli
C. laminit
D. bursit

**120. What is the name of a hemorrhage inside the joint?**
A. arthrosis
B. thrombophlebitis
C. hemarthrosis
D. hematoma

**121. How are joint dislocations classified?**
A. traumatic and common
B. congenital and acquired
C. normal
D. pathological

**122. Synovitis is ...**
A. inflammation of the capsule membrane of the joint
B. accumulation of synovial fluid
C. inflammation of the cartilage of the joints
D. joint inflammation

**123. Arthritis is ...**
A. pathology of joints without an inflammatory process

B. inflammation of the joint tissues
C. joint damage
D. inflammation of the synovial sac of joints

**124. Tendenitis is ...**
A. inflammation of the tendon sheath
B. inflammation of the joint tissues
C. tendon sprain
D. tendon inflammation

**125. Tenosynovitis is ...**
A. inflammation of the joint tissues
B. inflammation of the tendon sheath
C. tendon sprain
D. tendon inflammation

**126. Arthrosis is ...**
A. inflammation of the tendon sheath
B. inflammation of the joint tissues
C. joint pathology without inflammation
D. tendon inflammation

**127. Indicate chronic non-exudative joint pathologies.**
A. osteoarthritis, arthrosis
B. rheumatism, arthritis
C. arthrosis, arthritis
D. dislocation of joints, arthritis, arthrosis

**128. What pathology develops during rupture of blood vessels and tendon fibers?**
A. panarthritis
B. purulent synovitis
C. hemarthrosis
D. tendinitis and tendovaginitis

**130. What is the name of the tendon inflammation?**
A. tendovaginitis
B. tendinitis
C. alaminite
D. bursitis

**131. What causes lead to acute aseptic tendinitis?**
A. rupture, crushing, caries and stretching
B. contusion, stretching, squeezing
C. hematoma, lymphoextravasate
D. stretching, fracture, rupture

**132. What is the function of the tendon sheath?**
A. covering the tendon part of the muscle makes it easier to work
B. wetting the tendon part of the muscle contributes to its contraction
C. provides movement of the tendon part of the leg
D. provides movement of the muscles of the leg and prevents bleeding

**133. What is the task of the synovial fluid?**

A. increases muscle friction
B. normalizes muscle friction
C. reduces friction of muscles, improves their movement
D. does not change the friction of the muscles

**134. In which part of the flexor muscles of the finger are sprains and tears more common?**
A. Dorsalnaya
B. distal
C. ventral
D. caudal

**135. What changes are observed in an animal with a bilateral rupture of the Achilles tendon?**
A. the animal lies
B. the animal limps when walking
C. the animal lies with its legs extended
D. the animal assumes the pose of a sitting dog

**136. What is the flexor tendon called?**
A. extensor
B. abductor
C. flexor
D. adductor

**137. For how many days is a joint dislocation considered fresh?**
A. 1 day
B. 3 days
C. 2 days
D. 4-5 days

**138. Which joint has the greatest freedom of movement?**
A. knee joint
B. carpal
C. pelvic joint
D. hoof joint

**139. The causes of closed traumatic acute and chronic aseptic diseases of the joints are ...**
A. cut, lacerated, crushed, bruised, penetrating wounds
B. bruises, sprains, dislocations, hemarthrosis, synovitis, fibrositis
C. brucellosis, rheumatism, paratyphosis
D. osteoarthritis, osteoarthritis

**140. What are the joint wounds?**
A. sprains, dislocations, hemarthrosis, synovitis, fibrosis, contractures
B. cut, torn, crushed, bruised, penetrating
C. osteoarthritis, osteoarthritis
D. brucellosis, rheumatism, paratyphoid fever

**141. What is meant by aseptic synovitis?**
A. aseptic inflammation of the synovial membrane of the joint
B. inflammation of the bones of the joint
C. inflammation of the synovial fluid of the joint
D. inflammation of the cartilage covering the bones of the joint

**142. What is meant by hemarthrosis?**
A. outpouring of blood from the damaged joint capsule into the joint cavity
B. inflammation of the synovial membrane of the joint
C. inflammation of all elements of the joint
D. damage to the periarticular tissues

**143. What is meant by purulent arthritis?**
A. inflammation of the synovial membrane of the joint
B. inflammation of all elements of the joint
C. outflow into the joint cavity of blood from the damaged joint capsule
D. damage to the periarticular tissues

**144. What is meant by purulent synovitis?**
A. outpouring of blood from the damaged joint capsule into the joint cavity
B. purulent inflammation of the synovial membrane of the joint
C. purulent inflammation of all elements of the joint
D. damage to the periarticular tissues

**145. What is meant by panarthritis?**
A. outpouring of blood from the damaged joint capsule into the joint cavity
B. purulent inflammation of the synovial membrane of the joint
C. purulent inflammation of all elements of the joint
D. purulent inflammation of all elements of the joint and surrounding tissues

**146. What is meant by periarthritis?**
A. inflammation of the bones that make up the joint
B. inflammation of the synovial membrane of the joint
C. inflammation of the tissues around the joint
D. inflammation of the cartilage covering the bones of the joint

**147. What is the percentage of extension and tear of the common extensor digitorum in horses?**
A. 3.7%
B. 2.2%
C. 4.2%
D. 2.8%

**148. What is the percentage of bone fractures in horses?**
A. 33.6
B. 44.8
C. 24.6
D. 32.5

**149. What is the name of purulent inflammation of all elements of the joint and the surrounding tissues of the joint?**
A. joint abscess
B. phlegmon of the joint
C. panarthritis
D. arthrosis of the joint

**150. Methods of making a diagnosis for wounds in the head area:**
A. The presence of a wound, the degree of damage to the tissues of the head is established by examination, palpation and revision; depth and direction are determined with a surgical probe.
B. The diagnosis is based solely on the use of surgical instruments.
C. For an accurate diagnosis, an examination of the wound is sufficient.
D. In the presence of a surgical wound, immediately proceed to the operation.

**151. What is meant by shock?**
A. decrease in the activity of the nervous system after a short strong excitement
B. loss of consciousness
C. a sharp decrease in the activity of the cardiovascular system
D. a sharp decrease in the activity of the nervous system

**152. A purulent wound was drained with a tampon with a hypertonic solution of sodium chloride. What kind of antiseptic is used?**
A. physical;
B. biological;
C. mechanical;
D. chemical

**153. What determines the degree of wound gaping?**
A. damage to the nerve trunks;
B. the direction of the elastic fibers of the skin.
C. damage to the fascia;
D. damage to muscles and tendons

**154. The most common causes of wounds in the head area:**
A. gunshot wounds;
B. the onset of a purulent process;
C. in case of falls and other mechanical damage.
D. human injury

**155. Describe the appearance of the forehead / nose wound:**
A. are characterized by profuse bleeding and swelling; dehiscence is often moderate
B. is accompanied by a foamy-red discharge.
C. there are paralysis with muscle atrophy
D. due to significant tension of the skin gape, the intensity of bleeding depends on damage to blood vessels and bones

**156. Describe the appearance of the wound in the area of the tissues of the lips, chewing area and intermaxillary space:**
A. there are paralysis with muscle atrophy
B. accompanied by a foamy-red discharge
C. are characterized by profuse bleeding and swelling, dehiscence is often moderate.
D. due to significant tension of the skin gape, the intensity of bleeding depends on damage to blood vessels and bones}

**157. Describe the appearance of the wound with a penetrating wound of the nasal cavity**
A. accompanied by a foamy red discharge

B. due to significant tension of the skin gape, the intensity of bleeding depends on damage to blood vessels and bones
C. there are paralysis with muscle atrophy
D. are characterized by profuse bleeding and swelling, dehiscence is more often moderate

**158. What changes can be observed with injuries of the brain and nerve trunks?**
A. are characterized by profuse bleeding and swelling, dehiscence is often moderate
B. there are paralysis with muscle atrophy
C. the process is accompanied by a foamy red discharge
D. due to significant tension of the skin gape, the intensity of bleeding depends on damage to blood vessels and bones

**159. What are the most important reasons for the rapid healing of wounds in the head area, in comparison with other parts of the body;**
A. This is explained by the low mobility of the tissues themselves, good vascularization and poor development of subcutaneous tissue.
B. This is explained by the lesser influence of mechanical factors;
C. Since the regeneration process proceeds faster in the head area;
D. The animal does not have the ability to lick wounds.

**160. What complication often occurs when the salivary glands and their ducts are damaged?**
A. phlegmon is formed,
B. an abscess is formed
C. the salivary gland is unable to perform its function
D. by
**161. Which joint in animals, despite its firm fixation, is more prone to stretching than other joints?**
A. carpal joint
B. knee joint
C. Putty joint
D. joints of intervertebral discs

**162. Describe the most complete picture of the manifestation of clinical signs in stretching the fetal joint:**
A. They are in direct proportion to the strength of mechanical action and the degree of tissue stretching: with weak and moderate stretching, the pathological process is most often limited to aseptic inflammation of the joint ligaments and adjacent para-articular tissues; the joint, as such, is usually not involved in the process. In a clinically sick animal, after joint damage, mild to moderate mixed lameness, painful, hot swelling of the joint appears. At rest, the animal tries not to burden the diseased limb, keeps it in a relaxed state
B. With severe damage, a sharp pain and swelling soon appear in the joint area, reaching its maximum 20 ... 30 hours after injury
C. The anatomical contours of the joint are smoothed, and with significant intra-articular hemorrhage, its capsule is tense. In the case of minor damage, clinical signs may be manifested by a slight swelling of the joint area, mild lameness and moderate pain.
D. With significant hemorrhage into the joint cavity immediately after the injury, the animal develops lameness, which increases during the first 2 ... 3 hours as the hemorrhage into the joint continues

**163. Actions taken by the doctor in case of significant stretching of the joint with suspected rupture of the ligamentous apparatus or capsule:**

A. subacute and chronic cases, rubbing of absorbable ointments and pinpoint moxibustion are shown.
B. first of all, it is necessary to make the earliest possible reduction of the displaced articular ends of the bones into the correct anatomical and physiological position and apply a fixing plaster cast
C. Medication is usually used, basically the same as for wounds of the wrist joint
D. impose an immobilizing plaster cast. In the absence of sharp pain and lameness, that is, after the disappearance of acute inflammatory phenomena, passive and active (wiring) movements are prescribed.

**164. Technique of arthrotomy in the anterior diverticulum.**
A. For lateral arthrotomy, an incision is made from the lateral or medial surface of the joint between the bone and the middle interosseous muscle at the level of the upper edge of the sesamoid bones. First, the skin with loose fiber is dissected and the digital vein is exposed, then, 2 ... 3 mm away from the vein anteriorly, the joint capsule is pierced with a pointed scalpel. Immediately through the incision, the contents of the articular cavity begin to stand out. The surgical wound of the joint capsule is expanded downward to 3 ... 4 cm. It is not recommended to expand the wound upward, as this often damages the branch of the digital vein.
B. To do this, after fixing the animal in a supine position, preparing the operating field and infiltration anesthesia, dissect the tissues from the dorsal surface of the joint, including its capsule, 2 cm away from the midline to the inner (outer) surface (on the thoracic limb, the lateral tendon interferes with the outer digital extensor). The incision length of 7 cm ensures the drainage of exudate from the joint cavity.
C. The tendon sheath, filled with purulent exudate, is opened in its lower part and thereby provide the necessary drainage outward. Formed in the cavity of the tendon sheath adhesions and areas of dead tissue are excised
D. Such operations are not performed.

**165. The most common causes of dislocation of the fetlock**
A. incised wounds in the fetal joint
B. gunshot wounds in the fetal joint
C. blows, jolts, falls, jumping when taking obstacles, sliding, pinching a limb, etc.
D. congenital malformations of the fetlock

**166. The characteristic signs of joint dislocation are:**
A. lameness, accompanied by a complete absence of active movements in the damaged joint, a change in the length of the diseased limb, i.e. shortening or lengthening, depending on the tension in the displacement of the articular ends of the bone
B. only painful swelling of the joint is observed.
C. On palpation in the places of greatest protrusion of the articular diverticula, a pronounced fluctuation is found. When the exudate contains a large amount of sweated fibrin, you can listen to crepitant sounds, reminiscent of the crunch of melted snow.

D. The animal has a weak or moderate degree of mixed lameness.

**167. Name the main clinical sign in chronic synovitis.**
A. lameness, accompanied by a complete absence of active movements in the damaged joint
B. significant painless or slightly painful fluctuating swelling of the affected joint. Lameness in most cases is absent or mild.
C. On palpation in the places of the greatest protrusion of the articular diverticula, a pronounced fluctuation is found.
D. The animal has a weak or moderate degree of mixed lameness.

**168. Typical clinical signs for contracture of the joint of the first phalanx:**
A. excessive flattening and curvature of it, as well as the butt positioning of the put.
B. lameness, accompanied by a complete absence of active movements in the damaged joint
C. The animal has a mild or moderate mixed lameness.
D. significant painless or slightly painful fluctuating swelling of the affected joint

**169. Name the most effective method of treating purulent tendovaginitis:**
A. use conservative methods
B. use surgical treatment as early as possible
C. apply drug treatment
D. use physical methods}

**170. Characteristic signs of deforming arthritis:**
A. lameness, accompanied by a complete absence of active movements
B. significant painless or slightly painful fluctuating swelling of the affected joint
C. a sick animal has moderately pronounced lameness, more often a leaning limb, and progressive stiffness of the fetlock
D. excessive flattening and curvature of it

**171. What wounds in the chest area are the most dangerous for the life of an animal?**
A. wounds penetrating into the chest cavity
B. superficial wounds
C. cut wounds
D. bite wounds

**172. General signs of penetrating wounds into the chest cavity:**
A. nosebleeds, increased body temperature
B. short-term anxiety of the animal is observed
C. oral bleeding, fever
D. there is a short-term anxiety of the animal, increasing depression, heart weakness, shortness of breath, sweating, muscle tremors, etc.

**173. Symptoms of chest bursitis:**
A. Heart weakness, shortness of breath, sweating, muscle tremors
B. In the area of the handle of the sternum, a limited swelling of a fluctuating consistency is found
C. soreness, swelling and crepitus
D. Fever, swelling in the affected area

**174. Treatment of open pneumothorax:**
A. the wound is immediately closed with a hermetic bandage or sutures are applied to the pleura and partially to the skin; intravenously inject 200 li of a 10% solution of calcium chloride, 300 ml of a 20% glucose solution or transfuse blood, give 30-40 g of streptocide inside, apply autohemotherapy. When blood or exudate accumulates in the chest cavity, a puncture of the corresponding pleural cavity is performed in order to remove fluid.
B. carry out the treatment of the wound, suture, intravenously inject 200 li of a 10% solution of calcium chloride
C. bring the edges of the wound together with a plaster, apply an immobilizing bandage
D. make a puncture of the corresponding pleural cavity

**175. List the conservative methods of treatment of bursitis of the sternum:**
A. intravenously injected 300 ml of 20% glucose solution

B. warm procedures, rubbing in absorbable ointments
C. massage the area of the sternum, rubbing in irritating ointments
D. cold procedures, rubbing in antiseptic ointments

**176. Symptoms of a chronic abscess of the shoulder-head muscle**
A. In the area of the shoulder-head muscle, a dense, painless or slightly painful motionless swelling is found, which basically breaks up the connective tissue, in the depths of which a purulent focus (cavity) is localized. Sometimes the tumor softens with the formation of purulent fistulas.
B. In the area of the shoulder-head muscle, a soft, painful mobile swelling is found, which basically breaks up the connective tissue, in the depths of which a purulent focus (cavity) is localized. Sometimes the tumor softens with the formation of purulent fistulas.
C. Phlegmon is formed in the affected area, body temperature rises, tremors in the muscles are observed
D. A tumor is formed with an increase in local temperature and soreness.

**177. Symptoms of rib fracture:**
A. There is no pain, there is swelling and an increase in local temperature
B. There is no swelling, the body temperature rises, there is no pain
C. Soreness, swelling and crepitus, and in violation of the pleura - frothy bleeding from the nasal cavity. Subcutaneous emphysema is sometimes noted.
D. soreness and absence of edema

**178. Types of bursitis of the sternum**
A. hemorrhagic
B. fibrinous, purulent
C. hemorrhagic, serous
D. serous, purulent

**179. Causes of the shoulder-head muscle abscess:**
A. Tearing of the tissues of the head muscle
B. Introduction of a fungal infection into the wound
C. The introduction of a purulent infection (staphylococci, streptococci) into the thickness of tissues or into the lymph node of the shoulder-head muscle
D. Insertion into the thickness of tissues or into the lymph node of the shoulder-head muscle of a viral infection

**180. In what species of animals is chronic abscess of the brachial muscle more common?**
A. in horses, mules and donkeys
B. at bulls-producers
C. in dogs and cats
D. in cows, rams
**181. List the most common causes of rectal prolapse**
A. invasive diseases
B. intussusception of the intestine, mechanical damage to the anus
C. is usually observed with diarrhea, constipation, bladder stones, severe prenatal attempts, and other diseases in which the animal needs to push hard.
D. severe pregnancy in females, febrile conditions

**182. What suture is applied to the anus when the prolapsed rectum is repositioned?**
A. nodal
B. Z-shaped

C. purse string
D. 8-shaped

**183. List the indications for conducting a rumenotomy:**
A. lack of peristaltic movements
B. traumatic pericarditis
C. traumatic reticulitis and reticulopericarditis, rumen overflow with solid feed
D. all answers are correct

**184. On what day is the purse-string suture removed after rectal prolapse surgery?**
A. 2-3
B. 11-15
C. 6-7
D. 20-25

**185. What method of treatment is used for scrotal hernia?**
A. Medication
B. Operational
C. Physical methods are used
D. The animal is culled

**186. Name the main cause of an umbilical hernia**
A. congenital malformations
B. purulent processes
C. increased intraperitoneal pressure
D. traumatic injuries

**187. Clinical manifestations of non-penetrating wounds of the abdominal wall:**
A. possible damage to the abdominal organs
B. the omentum or intestines may fall out
C. soreness, gaping of the wound and bleeding are noted at the beginning of the wound process.
D. edema, diffuse hemorrhages, increased body temperature

**188. What solution is used to flush the prolapsed rectum before reduction?**
A. warm saline
B. correct answers b), c).
C. 0.25% solution of potassium permanganate
D. iodine solution

**189. What position of the body should be best given to the animal when performing a scrotal hernia operation?**
A. dorsal
B. lateral
C. the animal is operated in a standing position
D. there is no correct answer

**190. Stages of preparation of the surgeon's hands:**
A. rinsing with running water, leather tanning
B. the use of surgical gloves is sufficient
C. correct answers c, b
D. mechanical cleaning, leather tanning, treatment with antiseptic solutions

**191. Castration is**
A. partial surgical removal of the gonads in males and females.
B. decrease in the productivity of animals by the drug method
C. surgical removal of the gonads in males and females.
D. correct answers b, c

**192. What is the optimal age for the castration of animals**
A. 8-10 months
B. 1-2 months
C. 14-18 months
D. 24-25 months

**193. What are the operative methods of castration**
A. closed way, mixed way
B. Closed way, Open way
C. method of exposure to temperatures
D. chemical method

**194. What anesthesia is recommended for castration?**
A. general anesthesia with a combination of local anesthesia
B. local anesthesia
C. it is possible to carry out the operation without anesthesia
D. novocaine blockade

**195. For what reason is it recommended to castrate animals with cryptorchidism?**
A. being in unnatural conditions (in the abdominal cavity or inguinal canal), the testis is prone to degeneration into a neoplasm.
B. the animal becomes more aggressive
C. from an animal, you can get offspring with developmental anomalies
D. all answers are correct

**196. What and the fastest way of castration?**
A. Closed method
B. Open and closed method
C. Open way
D. there is no difference between the ways

**197. What is the danger of early castration of animals?**
A. early castration, on the contrary, has a beneficial effect on the body
B. inhibits the physiological development of animals
C. leads to depletion of the body
D. worsens the constitution of the animal

**198. The most reliable method of castration is**
A. drug castration
B. physical castration
C. mechanical castration
D. surgical castration

**199. What should you pay attention to after the castration of animals?**
A. should pay attention to weight and prevent obesity
B. monitor the absence of sexual reflexes

C. pay attention to the behavior of the animal
D. castration cannot have an effect on the body as a whole

**200. By what percentage, on average, should the calorie content of food be reduced in castrated animals?**
A. by 10%
B. by 50%
C. by 30%
D. should not decrease

# Test Questions for 2 PCs (200)

**1. Methods of making a diagnosis for wounds in the head area:**
A. The presence of a wound, the degree of damage to the tissues of the head is established by examination, palpation and revision; depth and direction are determined with a surgical probe. In some cases, fluoroscopy is performed, especially with penetrating wounds of the frontal and maxillary sinuses.
B. The diagnosis is based solely on the use of surgical instruments.
C. For an accurate diagnosis, an examination of the wound is sufficient.
D. In the presence of a surgical wound, immediately proceed to the operation.

**2. The purulent wound was drained with a tampon with a hypertonic solution of sodium chloride. What kind of antiseptic is used?**
A. biological;
B. physical
C. mechanical;
D. chemical

**3. What determines the degree of gaping of the wound?**
A. the direction of the elastic fibers of the skin.
B. damage to the nerve trunks;
C. damage to the fascia;
D. damage to muscles and tendons

**4. What are the causes of head injuries?**
A. As a result of damage to objects, improper transportation, storage, feeding and stamping
B. Harmful effects of things, improper transportation, storage, feeding
C. Damage to objects, improper transport, storage, feeding, stamping and settling
D. Harmful effects of things

**5. What determines the clinical signs of head injuries?**
A. The size of the object to be damaged
B. strength, time and location of injury
C. joint elasticity and object size
D. from a specific area of the head

**6. How are lip ulcers treated?**
A. Sutures and bandages are applied according to the method of I.E. Povazhenko
B. Sutures and bandages are applied according to the method of M.V. Plakhotina
C. Sutures and bandages are applied according to the method of K.I. Shakalova
D. Sutures and bandages are applied according to the method of B.D. Narzieva

**7. What can develop with repeated trauma to the skull?**
A. ossifying periostitis
B. exostosis

C. ossifying periostitis, lymphoidulitis and exostosis
D. ossification of periostitis and exostosis

**8. How is depression treated?**

A. foot and body massage, Kodikov's camphor serum is administered intravenously
B. injections of camphor oil and caffeine, foot and body massage, plaxotin fluid is injected intravenously
C. injection of camphor oil and caffeine, foot and body massage, intravenous serum Kodikov with camphor
D. antibiotic injections, foot and body massage, intravenous delivery of Kodikov serum with camphor

**9. How is a skull fracture treated?**

A. bone fragments are removed surgically
B. Bone fragments are surgically transplanted
C. a plasterboard is applied
D. glued board is applied

**10. The facial nerve is the nerve that controls which organs?**

A. muscles of the ear, squash, lips and cheeks
B. muscles of the eyes, lips and cheeks
C. muscles of the ear, squash, lips, nose
D. facial muscles

**12. How many pairs of nerves are there in the facial nerve?**

A. VII pairs of nerves
B. V pairs of nerves
C. VI pairs of nerves
D. II pairs of nerves

**13. Which animal has the most common facial nerve palsy?**

A. in cattle
B. In dogs
C. In horses
D. in dogs and pigs

**14. What types of facial nerve palsy are there?**

A. one-sided and two-sided
B. central, peripheral
C. central, peripheral, unilateral and bilateral, upper and lower
D. central, peripheral, unilateral and bilateral

**15. What are the complications of inflammation of the salivary glands, inner, middle and outer ear?**

A. facial nerve palsy
B. trigeminal neuralgia
C. tetraplegia
D. paraplegia

**16. What is observed with paralysis of the cheekbones of the facial nerve?**

A. paralysis of the upper lip and nasal rhinostenosis develops
B. atrophy of innervated muscles
C. upper ear and eyelids in normal condition
D. the consequences of the disease will be bad

**17. What happens when the dorsal cheek nerve is damaged?**

A. ear and eyelids are in normal condition
B. paralysis of the upper lip and nasal rhinostenosis develops
C. The consequences of the disease will be bad
D. there is atrophy of the innervating muscles

**18. What is observed with all types of paralysis of the facial nerve and its branches?**

A. atrophy of the innervated muscle
B. paralysis of the upper lip and nasal rhinostenosis develops
C. ear and eyelids are in normal condition
D. the consequences of the disease will be bad

**19. What medicine is given to paralyzed muscles?**
A. vitamin V6 for multiple points
B. vitamin V12 for multiple points
C. vitamin V1 for multiple points
D. multi-point vitamin PP

**20. In what infectious diseases does trigeminal neuralgia develop?**
A. rabies, plague of dogs
B. brucellosis, semolina
C. semolina
D. rabies, semolina

**21. What is revealed with actinomyoma?**
A. Druze
B. fibrin
C. collagen fibers
D. blood

**22. What areas of the esophagus are mainly damaged?**
A. mucous membrane
B. chest
C. serous membrane
D. muscle layer

**23. Can ulcers of the esophagus be on the outside?**
A. possibly
B. impossible
C. in some cases
D. outside only

**24. What method is used to diagnose damage to the esophagus?**
A. x-ray
B. ultrasound
C. palpation
D. auscultation

**25. The esophageal diverticulum is ...**
A. 2-sided bulge of the esophagus wall
B. 1-sided bulge of the esophageal wall
C. Damage to the esophageal wall
D. obstruction of the esophagus

**26. Where is the esophageal diverticulum in horses?**
A. in the chest area
B. in the stomach
C. on the neck
D. right

**27. Is there pain in spinal cord necrosis?**
A. the pain is severe
B. No pain
C. Intermittent pain
D. constant or intermittent pain

**28. What is the basis for the treatment of purulent-necrotic processes in the wound area?**

A. Surgical removal of dead tissue and opening of purulent ducts
B. opening channels in an operational way
C. drainage
D. use of novocaine blockade

**29. What incisions are used in the operation of purulent-necrotic processes in the wound area?**

A. angular, vertical, sagittal
B. scaly - vertical, sagittal and lateral
C. angular, vertical, sagittal and medial
D. scaly - angular, vertical, sagittal

**30. Why is desmotomy of the cervix performed in case of purulent-necrotic processes in the pelvic area?**

A. helps to rupture the necrotic process faster
B. prevents the spread of necrotic process
C. facilitates the discharge of pus.
D. for stitching the torn ligament

**31. Phlegmon can develop in case of infectious diseases?**

A. brucellosis, paratyphoid
B. brucellosis, semolina
C. semolina, tuberculosis
D. rabies, semolina

**32. Does pus form in the anaerobic phlegmon of the abdomen?**

A. no pus
B. pus is formed
C. thick pus is formed
D. liquid pus is formed

**33. Pneumothorax is ...**

A. accumulation of air between the pleural sheets
B. Inflammation of the lungs
C. Joint inflammation
D. Periosteal rupture

**34. With valvular pneumothorax ...**

A. part of the pleura or muscle layer forms the valve
B. After injury, air stops flowing
C. Air enters and leaves the chest cavity during breathing
D. The valve is formed in the lungs

**35. With closed pneumothorax ...**

A. enters the chest cavity during removal and appears again
B. the valve is formed in the lungs
C. after injury, the flow of air into the pleural cavity ceases to flow
D. air enters and leaves the chest cavity during breathing

**36. With open pneumothorax ...**

A. part of the pleura or muscle layer forms the valve
B. air enters and leaves the chest cavity during breathing
C. after injury, the supply of air to the pleural cavity stops
D. air enters and leaves the chest cavity during breathing

**37. What is observed with pneumothorax?**

A. pleurisy develops, with percussion of the chest wall, a tympanic sound is heard
B. pleurisy does not develop, with percussion an atypical sound is heard
C. pleurisy develops, with bloating, a drum sound is heard
D. pleurisy develops, with percussion of the maxillary sinus, a clear sound is heard

**38. What kind of bandage is used for pneumothorax?**

A. 4-layer
B. 3-layer
C. occlusive
D. light bandage

**39. Hemothorax is ...**

A. accumulation of air in the pleural cavity
B. accumulation of gas in the pleural space
C. accumulation of fluid in the pleural cavity
D. accumulation of blood in the pleural cavity

**40. What can be done to replace blood loss from hemothorax?**

A. reinfusion
B. infuse hemodez
C. transfuse fresh blood
D. transfuse plasma

**41. What is peritonitis?**

A. chest wall perforation
B. inflammation of the peritoneum
C. rupture of the periosteum
D. joint inflammation

**42. What novocaine blockade is performed in the treatment of peritonitis?**

A. blockade of the abdominal nerve according to M.V. Plakhotin
B. blockade of the thoracic nerve according to M.Sh. Shakurov
C. blockade of the abdominal nerve according to V.V. Mosin
D. intestinal nerve block according to B.A. Suliev

**43. What is used to prevent adhesions in peritonitis?**

A. proteolytic enzymes, oxygen and antihistamines
B. sulfonamides, oxygen, antihistamines
C. antibiotics, oxygen, and antihistamines
D. hydrogen peroxide and antihistamines

**44. What is an abdominal hernia?**

A. internal organs fall out under the skin as a result of a violation of the integrity of the peritoneum and yellow fascia
B. internal organs fall out under the skin and the parietal layer of the peritoneum
C. abdominal bulge
D. internal organs falling under the skin

**45. What does the hernia ring consist of?**

A. muscles of the ruptured abdominal wall
B. fascia of the ruptured abdominal wall
C. tissue natural rupture of the abdominal wall
D. muscle, fascia, adipose tissue

**46. What disease is called prolapse?**

A. cracked or cracked abdominal wall
B. muscles and fascia
C. damage to muscles, fascia, adipose tissue
D. violation of the integrity of the peritoneum and yellow fascia

**47. Can vitamin deficiency and malnutrition lead to the development of hernias?**

A. Impossible
B. possibly
C. can only be found in horses
D. only in dogs

**48. In what animals is umbilical hernia most common?**

A. in dogs and piglets

B. only in calves
C. only in pigs
D. in dogs

**49. What organs is the visual analyzer divided into?**
A. eyelid, optic nerve, temporal muscle
B. protection, eyelids, optic nerve
C. eyelids, protective equipment, organ of movement
D. eyelid, upper and lower eyelid, optic nerve

**50. What is eye protection?**
A. temporal bone, periorbitis, upper eyelid, lacrimal apparatus, muscle layer, fatty layer of the eye
B. eyeball, periorbitis, eyelids, conjunctiva, lacrimal apparatus, subcutaneous fat
C. eyelid, optic nerve, muscles that move the eyelid, layer of fat under the eye, lacrimal pparatus
D. conjunctiva, nasopharyngeal canal, fibrous layer of the eye, outer layer of the eyelid, optic nerve

**51. What do you mean by the orbit of the eye?**
A. the bony part of the eyeball, which protects muscles and nerves
B. upper part of the eyelid
C. middle part of the century
D. perverts the eyes and temporal lobe

**52. What is periorbita?**
A. a cone-shaped napkin that wraps around the eyelids
B. layer of fascia surrounding the eyelid
C. the bone that protects the eyelids
D. conical bag with a fibrous-elastic membrane located in the eyelids, muscles, nerves and intraorbital fatty body

**53. What is the function of the periorbital?**
A. refracts visible light
B. surrounds the nerves, muscles, fat and blood vessels leading to the orbit
C. surrounds the optic nerve
D. receives rays of light

**54. How many and with what muscles do the eyelids move?**
A. 6 correct
B. 3 straight lines, 3 curves
C. 4 straight lines, 2 curves
D. 6 curves

**55. How old are farm animals?**
A. 2
B. 4
C. 3
D. 5

**56. What are the eyelids made of?**
A. top, bottom and third
B. middle, bottom and second
C. low, medium and high
D. second, top and bottom

**57. What are the components of the lacrimal apparatus?**
A. lacrimal duct, lacrimal gland, nostrils
B. nose and mouth openings, lacrimal glands, lacrimal sac
C. lacrimal gland, lacrimal sac, lacrimal canal

D. lacrimal canal, nasolacrimal canal, lacrimal gland
**58. What is the basis for the discharge of tears?**
A. exudate
B. lysozyme
C. lymphatic fluid
D. blood plasma fluid
**59. Where is the eyelid located?**
A. near the conjunctiva
B. before the third century
C. between third eyelid and conjunctiva
D. behind the lower and upper eyelids
**60. What is in the retrobulbar space of the eyeball?**
A. Muscles, Fatty Body and Nerves
B. fascia, fat and fiber layer
C. superficial and deep fascia, muscle layer
D. fat, special fascia and nerves
**61. What is the outer fibrous layer of the eyeball?**
A. intestinal film, conjunctiva
B. layer of the sclera and desemetes
C. horny film, white film
D. conjunctival and scleral layer
**62. What are the layers of the eyelids?**
A. upper, lower and intermediate
B. medium, medium and superficial
C. superficial, outer and bottom
D. outer, middle and inner
**63. What is the name of the outer layer of the eyelid?**
A. fibrous membrane
B. mesh membrane
C. vascular membrane
D. connecting membrane
**64. What is the name of the middle layer of the century?**
A. fiber
B. vascular membrane
C. irritating membrane
D. mesh membrane
**65. What is the name of the inner layer of the eyelid?**
A. fiber
B. vascular membrane
C. mesh membrane
D. fibrous membrane
**66. What contributes to the expansion and contraction of the pupil?**
A. atmospheric pressure
B. light
C. cornea of the eye
D. fibrous membrane of the eye
**67. What is the shape of the herbivore's pupil?**
A. horizontal
B. vertical
C. oval
D. curve
**68. What kind of animals have an oval pupil?**

A. in cattle
B. in birds
C. in horses
D. in dogs and cats

**69. What organ is used to refract light and capture images on the retina?**
A. retina
B. cornea of the eye
C. ciliary body
D. eyeball

**70. What part of the eye is examined with a keratoscope?**
A. conjunctiva
B. vascular layer of the eye
C. cornea
D. white membrane of the eye

**71. When will the head wounds start?**
A. in case of traumatic action of objects, improper transportation, maintenance, feeding
B. in case of traumatic action of objects, keeping, feeding
C. in case of traumatic action of objects, saddling
D. in case of traumatic action of objects

**72. What are the clinical signs associated with wounds in the head area?**
A. the size of the traumatic object
B. elasticity of the tissue and the size of the traumatic object
C. by force, time and place of influence
D. a certain area of the head

**73. What complications are observed besides the well-known ones for wounds in the head area?**
A. signs of concussion
B. severe bleeding
C. paralysis of the facial and trigeminal nerves
D. squint

**74. What exudate is released during penetrating wounds into the nasal cavity?**
A. serous-catarrhal
B. foamy - reddish
C. serous fibrinous
D. serous-purulent

**75. What methods of treatment are used for injured lips?**
A. sutures and a bandage are applied according to the method of M.V. Plakhotin
B. sutures and a bandage are applied according to the method of K.I.Shakalov
C. sutures and a bandage are applied according to the method of B.D. Narziev
D. sutures and a bandage are applied according to the method of I.E. Povazhenko

**76. What can develop with repeated bruises of the bones of the skull?**
A. ossifying periostitis and exostosis
B. ossifying periostitis
C. exostosis
D. ossifying periostitis, lymphoidulitis and exostoses

**77. How is depression treated?**
A. massage of legs and body, Kadykov's camphor serum is injected intravenously
B. injections of camphor oil and moya vacaffeine, foot and body massage, Plahotin fluid is injected intravenously

C. antibiotic injections, foot and body massage, Kadykov's camphor serum is injected intravenously
D. injections of camphor oil and moya vakofein, massage of the legs and body, intravenous injection of Kadykov's camphor serum

**78. What is the treatment for head fractures?**
A. bone fragments are transplanted using surgery
B. bone fragments are removed using surgery
C. a plaster cast is applied
D. an adhesive bandage is applied

**79. The motor nerve of which organs is the facial nerve?**
A. muscles of the ear, eyelids, lips and cheeks
B. muscles of the eyeball, lips and cheeks
C. muscles of the ear, eyelids, lips, cheeks of the nasal cavity
D. facial muscles

**80. What pair of cranial nerves is the facial nerve?**
A. Vpara
B. VIIpara
C. VIpara
D. Iipara

**81. In what animals is facial nerve paralysis most common?**
A. KRS
B. Dogs
C. horses
D. dogs and pigs

**82. What are the types of paralysis of the facial nerve?**
A. upper and lower
B. central, peripheral
C. central, peripheral, bilateral
D. central, peripheral, unilateral and bilateral

**83. What complications are observed with inflammation of the parotid saliva, outer, middle and inner ear?**
A. trigeminal paralysis
B. tetraplegia
C. facial nerve palsy
D. paraplegia

**84. What is observed with paralysis of the facial nerve?**
A. auricles and eyelids maintain their normal position
B. paralysis of the upper lip and rhinostenosis
C. atrophy of the corresponding muscles
D. prognosis is very bad

**85. What is observed when the buccal dorsal nerve is damaged?**
A. auricles and eyelids maintain their normal position
B. paralysis of the upper lip and rhinostenosis
C. prognosis is very poor
D. atrophy of the corresponding muscles

**86. What is observed with general paralysis of the facial nerve and its branches?**
A. paralysis of the upper lip and rhinostenosis
B. auricles and eyelids are in a normal position
C. atrophy of the corresponding muscles
D. prognosis is very bad

**87. What drug is injected into the paralyzed muscles?**
A. ~ itamine B6
B. ~ vitamin B1
C. vitamin B12
D. ~ vitamin PP

**88. In what infectious diseases does trigeminal paralysis develop?**
A. brucellosis, glanders
B. sap
C. rabies, plague of dogs
D. rabies, glanders

**89. What is found in the pus from actinomyoma?**
A. fibrin
B. collagen fibers
C. Druze
D. blood

**90. In what part of the esophagus are wounds most common?**
A. chest area
B. serous membrane
C. mucous membrane
D. muscular layer

**91. Can there be a wound on the outside of the esophagus?**
A. can't
B. can
C. can sometimes
D. the wound is observed only from the outside

**92. What method is used to detect injuries to the thoracic part of the esophagus?**
A. ultrasound
B. palpation
C. auscultation
D. x-ray

**93. A diverticulum of the esophagus is ...**
A. bilateral protrusion of the esophageal wall
B. unilateral protrusion of the esophagus wall
C. wound of the wall of the esophagus
D. blockage of the esophagus

**94. What are the signs of esophageal diverticulum in cattle?**
A. drooling, flatulence
B. signs of vomiting
C. painful, pear-shaped swelling

D. cessation of breathing

**95. Usually in what area of the esophagus in horses is the diverticulum observed?**
A. abdominal
B. cervical
C. chest area
D. on the right side

**96. How are fistulas located in the withers in horses?**
A. the fistulous canal passes into the muscle
B. the fistulous canal surrounds the muscles
C. the fistulous canal passes through the muscles and descends along the blood vessels and Nerves
D. have a tortuous canal, which, bypassing the muscle layers, descends along the blood vessels and nerves.

**97. Is there pain in old fistulas?**
A. not observed
B. there is severe soreness
C. there is a very strong soreness
D. there is a constant and sharp soreness

**98. Is there pain in necrosis of the spinous process of the vertebra?**
A. not observed
B. is observed sometimes
C. there is severe soreness
D. is observed all the time or sometimes}

**99. What exudate is released during necrosis of the nuchal ligament?**
A. thick and yellowish
B. mucopurulent
C. liquid mixed with blood
D. serous}

**100. What exudate is released from the fistula in case of purulent bursitis?**
A. thick and yellowish
B. mucopurulent
C. in large quantities, liquid with an admixture of blood
D. fibrinous

**101. What exudate is released during the disintegration of spinous processes?**
A. thick and yellowish
B. mucopurulent
C. in large quantities, liquid with an admixture of blood
D. serous

**102. What is the basis for the treatment of purulent - necrotic processes in the area of the withers?**
A. removal of dead tissue and excision of purulent canals
B. operatively excision of purulent canals
C. drainage
D. use of novocaine blockade

**103. What incisions are used for purulent - necrotic processes in the area of the withers?**
A. angular, vertical, sagittal
B. angular - vertical, sagittal and lateral
C. patchwork - angular, vertical, sagittal
D. patchwork - angular, vertical, sagittal and medial

**104. What is the use of ligamentum nuchal desmotomy in purulent-necrotic processes in the withers area?**
A. prevents the spread of the necrotic process
B. promotes the opening of the necrotic process
C. facilitates the drain of pus
D. to connect the torn ligament

**105. In what infectious diseases can withers phlegmon develop?**
A. brucellosis, paratyphoid
B. brucellosis, glanders
C. glanders, tuberculosis
D. rabies, glanders

**106. Is pus formed during anaerobic phlegmon of the withers?**
A. is formed
B. thick pus is formed
C. is not formed
D. liquid pus is formed

**107. Pneumothorax is ...**
A. accumulation of air in the pleural cavity
B. lung swelling
C. joint inflammation
D. destruction of the periosteum

**108. What happens with a closed pneumothorax?**
A. after injury, air enters the chest cavity and freely comes out back
B. a valve is formed in the lung
C. a valve is formed in the wound canal of the chest wall with a part of the pleura or muscle layer
D. after injury, the flow of air into the pleural cavity stops

**109. What happens with open pneumothorax?**
A. a valve is formed in the wound canal of the chest wall by a part of the pleura or by the muscle layer
B. after injury, air enters the chest cavity and freely comes out back
C. after injury, the flow of air into the pleural cavity stops
D. a valve is formed in the lung

**110. What signs are observed in pneumothorax?**
A. pleurisy develops, with percussion a tympanic sound is heard
B. pleurisy develops, with percussion you can hear a tympanic sound
C. bronchitis develops, with percussion a tympanic sound is heard
D. pleurisy develops, with auscultation sounds of friction are heard

**111. What kind of bandage is applied for pneumothorax?**
A. 4-layer

B. 3-layer
C. occlusive
D. light 1 ply

**112. What is hemothorax?**
A. accumulation of gas in the pleural cavity
B. accumulation of air in the pleural cavity
C. accumulation of exudate in the pleural cavity
D. accumulation of blood in the pleural cavity

**113. What is being done to replace blood in hemothorax**
A. hemodez is injected intravenously
B. is reinfused
C. fresh blood is injected intravenously
D. plasma is injected intravenously

**114. What is peritonitis?**
A. penetrating wound of the chest wall
B. disintegration of the periosteum
C. inflammation of the peritoneum
D. joint inflammation

**115. How can limited peritonitis result?**
A. the formation of metastases
B. dissolve or encapsulate and then break open
C. encapsulate with the development of an anaerobic infection
D. dissolve or encapsulate

**116. What method of novocaine blockade is used for peritonitis?**
A. celiac nerve blockade according to V.V. Mosin
B. blockade of celiac nerves according to M.V. Plakhotin
C. blockade of pectoral nerves according to M.Sh. Shakurov
D. blockade of abdominal nerves according to D.Kh. Narziev

**117. What means are used to prevent adhesions in peritonitis?**
A. sulfonamides, oxygen and antihistamines
B. antibiotics, oxygen and antihistamines
C. proteolytic enzymes, oxygen, and antihistamines
D. proteolytic enzymes, hydrogen peroxide and antihistamines

**118. What is an abdominal hernia?**
A. prolapse of internal organs as a result of rupture of the peritoneum and yellow fascia
B. prolapse of internal organs together with the parietal layer of the peritoneum
C. protrusion of the abdominal wall
D. prolapse of internal organs under the skin

**119. What forms the hernial ring?**
A. abdominal muscles
B. natural slits or ruptured abdominal wall
C. fascia of the abdominal wall
D. muscles, fascia, adipose tissue

**120. What is prolapse?**
A. prolapse of internal organs under the skin as a result of rupture of the peritoneum and yellow fascia
B. prolapse of internal organs under the skin through natural crevices
C. rupture of muscles and fascia
D. wound of muscles, fascia, adipose tissue

**121. Can vitamin deficiency and improper feeding be the reasons for the development of hernias?**
A. can't
B. can
C. can only be found in calves
D. can only be in puppies

**122. What animals often have an umbilical hernia?**
A. in pigs and dogs
B. in calves
C. in pigs
D. in dogs

**123. What scientist divided ulcerative bolonoposthitis in bulls into 3 clinical stages?**
A. M. Rufanov
B. M. L. Abishev
C. A.P. Plakhotin
D. I. Chernenko

**124. What methods of anesthesia should be carried out in the treatment of prepuce diseases?**
A. conductive, circular, caudal
B. paralumbar, paravertebral
C. sacral, conductive, infiltration
D. infiltration, lumbar

**125. What is the name of male castration?**
A. orchidectomy
B. ovariectomy
C. enucleation
D. vasectomy

**126. What is the name of the castration of females?**
A. orchidectomy
B. enucleation
C. ovariectomy
D. vasectomy

**127. Can vitamin deficiency and improper feeding be the reasons for the development of hernias?**
A. can't
B. can
C. can only be found in calves
D. can only be in puppies

**128. What animals often have an umbilical hernia?**
A. in pigs and dogs
B. in calves
C. in pigs
D. in dogs

**129. What scientist divided ulcerative bolonoposthitis in bulls into 3 clinical stages?**
A. M. Rufanov
B. M. L. Abishev
C. I. Chernenko
D. A.P. Plakhotin

**130. What methods of anesthesia should be carried out in the treatment of prepuce diseases?**
A. conductive, circular, caudal
B. paralumbar, paravertebral
C. infiltration, lumbar
D. sacral, conductive, infiltration

**131. What does the term orchidectomy mean?**
A. male castration
B. castration of cryptorchids
C. removal of the eyeball
D. vessel removal

**132. Ovariectomy What is the name of female castration?**
A. castration of cryptorchids
B. castration of females
C. removal of the eyeball
D. vessel removal

**133. Indicate the methods of castration of animals.**
A. surgical, chemical, hormonal, radioactive
B. bloody and bloodless, osteosynthesis, radiation, biological
C. elastration, percutaneous
D. open, closed

**134. Castration is ...**
A. artificial temporary stop of the function of the sex glands
B. artificial stop of the function of the sex glands
C. removal of genitals
D. decreased function of the sex glands

**135. What is the name of the inflammation of the glans penis?**
A. posts
B. balanitis
C. funiculitis
D. orchitis

**136. What does the term post mean?**
A. inflammation of the glans penis
B. inflammation of the body of the penis
C. inflammation of the sex gland

D. inflammation of the prepuce

**137. What instruments are used to castrate stallions?**
A. Tongs Zandaiemasculator
B. Emasculator and Piana clamp
C. Pian Clamp and Müller Pliers
D. Müller's Zandaicleschis

**138. With the help of what methods is a cesarean section performed?**
A. laparotomy ienterotomy
B. hysterotomy isophagotomy
C. laparotomy and hysterotomy
D. introtomy and isophagotomy

**139. What is the general name of tumors found on the genital organ of males?**
A. lipoma
B. venereal tumor
C. myoma
D. adenoma

**140. What should be done to remove urine in case of high amputation of the penis?**
A. a catheter is inserted into the urinary canal
B. the mucous membrane of the urogenital canal is sewn to the edges of the wound
C. urethrostomy is not performed
D. urethrostomy is performed

**141. When is the castration method called open?**
A. when opening the scrotum and muscular-elastic membrane
B. when opening the scrotum and common vaginal membrane
C. when opening the scrotum and special vaginal membrane
D. when opening the scrotum and fascia

**142. What suture is applied during cystotomy in large animals?**
A. Schmiden
B. Circular
C. not superimposed
D. Lambert

**143. When is acropostitis observed?**
A. with a long and narrow preputial sac
B. with a long and narrow preputial sac
C. with a narrow preputial sac
D. with the existence of a preputial sac

**144. What types of tumors are most often found on the genitals of young stallions?**
A. fibroma, venereal, fibropapilloma, fibrosarcoma
B. melanosarcoma, adenoma and carcinoma
C. carcinoma, lipoma and melanosarcoma
D. fibropapilloma, fibroma, fibrosarcoma, melanosarcoma and carcinoma

**145. What is the name of the muscle that tightens the fascia?**
A. rotator

B. extensor
C. tensor
D. adductor

**146. What is the name of the muscle that rotates the limb outward or inward?**
A. extensor
B. rotator
C. adductor
D. tensor

**147. What are the causes of limb disease?**
A. improper hoof trimming, violation of conditions of keeping, feeding and exploitation
B. lack of exercise, untimely vaccination and conditions of detention
C. correct or late trimming of hooves, housing and feeding conditions, lack of exercise
D. feed poisoning, actinomycosis

**148. What is called a cycle of movement?**
A. complete movement of one limb
B. simultaneous movement of all four limbs
C. complete movement of all four limbs
D. lump of two limbs

**149. What is the name of the complete movement of one limb?**
A. step
B. movement cycle
C. lameness
D. stance phase

**150. What is called a step?**
A. complete movement of the four limbs
B. complete movement of one limb
C. simultaneous movement of all four limbs
D. lump of two limbs

**151. What are the 3 main shock absorbers on the limbs of animals?**
A. knee and hock and hip joints
B. fascia, bursa, tendon sheaths
C. carpal, hock and hip joints
D. proximal, middle and distal

**152. What part of the limb serves as a distal shock absorber?**
A. elbow
B. shin
C. hoof
D. thigh

**153. What percentage are purulent arthritis in relation to all diseases of the extremities?**
A. 10.3%
B. 14%
C. 16%
D. 15.2%

**154. For how long should an animal be allowed to rest in case of a partial rupture of the Achilles tendon?**
A. 4-6 weeks
B. 10-15 days
C. 2-3 weeks
D. 10-20 days

**155. How many main types of lameness are observed in animals?**
A. 5
B. 4
C. 6
D. 3

**156. What are the main types of lameness observed in animals?**
A. hanging lameness, relying lameness, mixed lameness
B. leaning lameness, mixed lameness of ichlromism when testing for a wedge
C. lameness with a wedge test, hanging lame and leaning lameness,
D. tensor and rotator lameness, lameness with a wedge test

**157. Under what pathology is an animal's gait "swinging" observed?**
A. with mixed lameness
B. with adduction lameness
C. with abduction lameness
D. with spar of the tarsal joint

**158. When is lameness observed with a free limb position (hanging lameness)?**
A. with severe soreness of the muscles involved in the support of the limb
B. with severe soreness of the muscles involved in the support and removal of the limb
C. with severe soreness of the muscles leading the limb to the trunk
D. with severe soreness of muscles and other anatomical elements involved in the removal of the limb

**159. When there is lameness of a leaning limb (leaning lameness)**
A. with severe muscle soreness of other anatomical elements involved in supporting the limb
B. with severe muscle soreness of other anatomical elements involved in the removal and support of the limb
C. with severe muscle soreness of other anatomical elements of the limb
D. with severe soreness of the muscles leading the limb to the body

**160. When is mixed lameness observed?**
A. with severe soreness of the muscles leading the limb to the trunk
B. with severe soreness of the muscles of other anatomical elements involved in the support of the limb
C. with severe soreness of the muscles of other anatomical elements involved in the removal and support of the limb
D. with severe soreness of the motor muscles

**161. When is intermittent claudication observed?**
A. with the defeat of the 4th finger
B. with the support of the extension of the limb
C. with brake and femoral artery embolism
D. when bringing the limb to the body

**162. How many degrees of lameness exist depending on the severity of dysfunction of the diseased limb?**
A. 6
B. 3
C. 5
D. 2

**163. At what degree of lameness are arrhythmic movement and incomplete support on the diseased limb observed?**
A. at degree 3
B. at degree 2
C. at 1 degree
D. at degree 4

**164. What signs are observed with lameness of the 2nd degree?**
A. the animal rests slightly on the diseased limb and basically keeps it in an elevated position
B. the animal does not fully step on the diseased limb and moves it with great care
C. the animal rests on a sick limb for less time than on a healthy one, and when walking, the lameness disappears
D. there are no characteristic clinical signs

**165. How is the method of passive movements applied in case of limb diseases?**
A. the joints are forced to bend to the end
B. healthy limbs rise forward, thereby transferring the weight of the body to the pelvic limbs
C. flexion, extension, adduction and abduction of the diseased limb are forcibly performed
D. puncture of joints in motion

**166. Why do horses step over their hind limbs from time to time?**
A. to give rest to the triceps muscle of the shoulder
B. to give rest to the muscles that fix the kneecap
C. to give rest to the quadriceps muscle of the thigh
D. with fatigue of the biceps muscle

**167. What is lameness?**
A. violation of the rhythm of movement as a result of pain in diseases of the limb
B. disturbance of the rhythm of movement as a result of severe pain in the motor muscles
C. fatigue of three- and four-headed thigh muscles
D. reduction in the time of bearing on the injured leg in comparison with the healthy

**168. Violation of the rhythm of movement in the event of pain in the extremities leads to ...**
A. lameness
B. amble
C. dragging your feet
D. running at a gallop

**169. What is observed in deforming arthritis?**
A. with a quick lifting of a healthy limb, the support on the diseased limb will be a little painful
B. with a quick raising of a healthy limb, the support on the diseased limb will be very painful
C. with a quick lifting of the diseased limb, the support on the healthy limb will be very painful
D. when raising the diseased limb, the support on the healthy limb will be painless

**170. What muscles does the Achilles tendon begin with?**

A. from the heel muscle
B. from the middle muscle of the lower leg
C. from the lateral muscle of the lower leg
D. from the posterior muscle of the tibia

**171. What are the causes of spastic paresis?**
A. doing hard work for a long time
B. paralysis of the peroneal nerve
C. rupture of the major and peroneal muscles
D. unknown reason

**172. What does a locomotive apparatus consist of?**
A. joints, tendons and bones
B. tendons, ligaments and parenchymal organs
C. bones, muscles, tendons and ligaments
D. parenchymal organs, bones and muscles

**173. How is radial nerve paralysis investigated?**
A. the area of the tibia is examined
B. an elbow test is carried out
C. the area of the wrist is examined
D. the area of the fibula is examined

**174. What muscles provide fixation of the elbow joint when the animal is at rest?**
A. radial wrist flexor and ulnar wrist extensor
B. radial extensor of the wrist, elbow flexor of the wrist
C. triceps, wrist extensor ulnar
D. radial flexor of the wrist, triceps

**175. Where the horse is guided before shoeing?**
A. on a concrete track
B. on a clay track
C. on an asphalt track
D. on a dirt road

**176. What material are horseshoes made of?**
A. mild steel ST 1 and ST 4
B. mild steel
C. made of iron
D. mild steel ST 2 and ST 3

**177. How far from the wall is the hitching post set to tie the horse during shoeing?**
A. 80-100 cm from the wall
B. 60–70 cm from the wall
C. 110-150 cm from the wall
D. 50-60 cm from the wall

**178. How aggressive bulls are fixed for shoeing?**
A. upright
B. in the supine position
C. related
D. with legs bound

**179. Which of the organs is checked by special methods for "spar"?**
A. heel (hock) joint of the leg
B. wrist
C. pulse check
D. respiratory rate measurement

**180. How many holes for nails are in the horseshoe of heavy trucks?**
A. 5-6
B. 14-15
C. 10-12
D. doesn't matter

**181. What is the weight of a horseshoe for a horse jumping over an obstacle?**
A. 70-75 g
B. 120-150 g
C. 150-200 g
D. 80-120 g

**182. What is the weight of the horseshoe for the front hooves of trotters?**
A. 150-180 g
B. 150-250 g
C. 100-150 g
D. 80-120

**183. What is the ratio of the length of the anterior wall of a normal hoof to the wall of the heel in cattle?**
A. 3 times
B. 2.5 times
C. 2 times
D. are the same

**184. What kind of horseshoes are used for sports horses?**
A. sturdy and with pinches to avoid slipping
B. lightweight and durable
C. with wide anterior clefts.
D. are not at all shoddy

**185. Are there tongs on horseshoes for cattle?**
A. there are but narrow
B. are not
C. not often
D. are always

**186. What happens to the hoof when the legs are wide?**
A. the leg moves along an internal arc
B. the front of the hoof is abraded
C. the heel of the hoof is abraded
D. the white line is wearing off

**187. Which part of the hoof is tested with a Baer wedge?**
A. heel
B. tendons

C. shuttle unit
D. coffin bone

**188. What are the causes of hoof deformity?**
A. poor conditions of detention
B. hereditary and acquired
C. damage
D. disease

**189. What shape can a deformed hoof have?**
A. wrong
B. oval
C. with vertical heel
D. dumb

**190. Distinguishing features of a flat hoof:**
A. the surface of the sole is flush with the wall of the hoof
B. hoof bulge
C. concavity of the arrow
D. concavity of hoof crumb
**191. What are the symptoms of narrow hooves?**
A. the wall of the hoof capsule is compressed
B. the anterior part of the hoof capsule wall is sharpened
C. the arrow of the hoof is damaged
D. the heel portions of the hoof capsule wall are close to each other

**192. How to fix a crooked hoof?**
A. is nailed a semi-moon horseshoe or a round horseshoe with a soft lining
B. a wide horseshoe is nailed
C. a narrow horseshoe is nailed
D. is impossible to fix

**193. How is a steep hoof straightened?**
A. nailed high in front
B. the lunar horseshoe is nailed
C. a horseshoe high from the back is nailed
D. horseshoe is not nailed

**194. Which animal has crumb cartilage on the hooves?**
A. in sheep
B. in pigs
C. in horses
D. in cows

**195. What are the main clinical signs of corolla phlegmon in cattle?**
A. body temperature is high, the swelling is not large, the surface is dense
B. the formed abscesses quickly rupture, a liquid fetid pus forms and flows out.
C. the horny capsule of the hoof comes off
D. the overall body temperature is very high, the upper part of the corolla of the hoof is swollen and soft.

**196. What causes crumb phlegmon?**

A. infected deep crumb wounds
B. complications of foot and mouth disease
C. complication of necrobacteriosis
D. complication of the shuttle bone fracture

**197. In what animals is soft cartilage necrosis found?**
A. in breeding stallions
B. at breeding bulls
C. in breeding cows
D. in breeding pigs

**198. What is meant by aseptic pododermatitis?**
A. Inflammation of the base of the skin of the sole of the hoof
B. inflammation of the base of the skin of the hoof wall
C. inflammation of the shuttle bursa
D. inflammation of the deep flexor

**199. How is aseptic pododermatitis treated?**
A. in the initial period, warm and massage around the hoof, then the introduction of hydrocortisone
B. hooves are trimmed and cleaned, local cold, 0.25% novocaine solution is injected intravenously
C. in the initial period, cold is applied, then pressing dressings, blockade with 0.25% novocaine around the process
D. the process is opened surgically and a novocaine-antibiotic solution is injected inside

**200. What causes rheumatoid arthritis?**
A. long-term use of the animal in harsh conditions
B. some infectious diseases - brucellosis
C. hard blows
D. local infection

# IR Test Questions (500)

**1.What does the word surgery mean?**
A. handmade
B. action
C. handicraft
D. cut

**2. Who among the scientists of Central Asia contributed to the development of surgical science?**
A. Ulugbek
B. Ahmad Donish
C. Ali Kushchi
D. Abu Ali ibn Sino

**3. In what year was the asepsis method proposed?**
A.1861
B.1891
C. 1905
D. 1878

**4. In what year was the antiseptic method proposed?**

A. 1812
B. 1952
C. 1901
D.1867

**5. Factors causing physical injury:**
A. action of sharp and blunt objects
B. action of light
C. action of strong acids and alkalis
D. the action of high and low temperatures, rays and electric current

**6. What is meant by trauma?**
A. damage to organs and tissues
B. tissue damage
C. organ damage
D. damage to the nervous system

**7. What is the name of damage caused by a traumatic factor directly in the place of impact or near it?**
A. acute and chronic injuries
B. complex injuries
C. direct and indirect injuries
D. monotrauma and polytrauma

**8. When do sports injuries mainly occur?**
A. in case of poor preparation of the horse and rider
B. in case of incorrect installation of obstacles
C. in case of improper saddling
D. in case of improper shoe shoeing

**9. What changes are observed in organs and tissues during injury?**
A. morphological
B. morpho-functional
C. biochemical
D. functional

**10. When does monotrauma occur?**
A. when injuring animals of the same species
B. when injuring animals of the same breed
C. in case of injury to organs of one system
D. in case of injury to an organ

**11. When does physical injury occur?**
A. When exposed to high and low temperatures, rays, radiation, electric current and lightning
B. when exposed to alkalis and acids
C. when exposed to viruses, pathogenic microbes
D. in violation of the adaptive properties of the animal

**12. How does chemical injury occur?**
A. when exposed to high and low temperatures, rays, radiation,
electric current and lightning

B. when exposed to viruses, pathogenic microbes
C. when exposed to alkalis and acids
D. in violation of the adaptive properties of the animal

**13. When does biological trauma occur?**
A. when exposed to high and low temperatures, rays, radiation, electrical
B. when exposed to viruses, pathogenic microbes, plant poisons
C. current and lightning
D. when exposed to alkalis and acids
E. in violation of the adaptive properties of the animal

**14. When does psychological trauma occur?**
A. in case of violation of the adaptive properties of an animal due to violation of animal husbandry technology
B. with loss of consciousness from exposure to alkalis and acids
C. in case of loss of consciousness from exposure to high and low temperatures, rays, radiation, electric current and lightning
D. in case of loss of consciousness from exposure to viruses, pathogenic microbes, plant poisons

**15. What is meant by the concept of the etiology of the disease?**
A. external and internal causes causing the development of a surgical disease
B. signs of a surgical disease
C. external and internal causes of surgical disease
D. consequences of a surgical disease

**16. What is meant by the concept of disease pathogenesis?**
A. external and internal causes causing the development of a surgical disease
B. The mechanism of development of the disease based on objective laws
C. signs of a surgical disease
D. consequences of a surgical disease

**17. What is meant by the concept of the semiotics of disease?**
A. the mechanism of development of the disease based on objective laws
B. external and internal causes causing the development of a surgical disease
C.General clinical signs, patterns of the course and specific features of the disease
D. signs of a surgical disease

**18. What are the types of injuries, depending on the strength of the acting factor and the time of exposure?**
A. monotrauma and polytrauma
B. complex
C. direct and indirect
D. acute and chronic

**19. What are the types of injuries depending on injury to one or more organs?**
A. acute and chronic
B. monotrauma va polytrauma
C. direct and indirect
D. complex

**20. What are the types of injuries depending on the impact of two or more traumatic factors?**

A. acute and chronic injuries
B. monotrauma and polytrauma
C. complex injuries
D. direct and indirect injuries

**21. Industrial and technological injuries occur in ...**

A) farms with a high degree of mechanization and automation
B. farms with a high degree of mechanization
C. In farms with a high degree of automation
D. farms producing products

**22. What is the result of non-observance of the rules and failure to create conditions for obtaining semen from bulls?**

A. industrial and technological injury
B. genital trauma
C. operational injury
D. pedigree injury

**23. How much production can a cow with damaged hooves lose?**

A. 10-20%
B. 20-30%
C. 15-25%
D. 70-80%

**24. What are the reasons for the shock?**

A. mechanical, operating, blood transfusion, gynecological
B. violation of the conditions of feeding and maintenance
C. metabolic disorders
D. action of foreign bodies

**25. What is the sequence of the shock phases?**

A. paralytic, erectile, torpid
B. erectile, torpid, paralytic
C. torpid, paralytic, erectile
D. erectile, paralytic, torpid

**26. In what cases does shock lead to the death of an animal?**

A. lowering blood pressure
B. stomach ulcer
C. development of paresis and paralysis
D. violation of the chemistry of blood and tissues

**27. What should be the focus of shock treatment?**

A. restoration of hemodynamics, reduction of intoxication
B. restoration of the activity of the gastrointestinal tract, raising blood pressure, excretion of pus
C. normalization of the nervous system
D. restoration of working capacity, removal of dead tissue, exudate removal

**28. What is meant by collapse?**

A. a sharp decrease in the activity of the cardiovascular system
B. loss of consciousness
C. a sharp decrease in the activity of the nervous system
D. increased blood pressure

**29. What is meant by inflammation?**

A. response of the body
B. protective adaptive reaction of the body
C. healing and recovery processes
D. allergic reaction of the body

**30. What is the correct characteristic of normmergic inflammation?**

A. predominance of degeneration processes over regeneration
B. equality of regeneration and degeneration
C. predominance of regeneration processes over degeneration
D. intensification of the inflammatory process in the tissues

**31. When does hyperergic inflammation appear?**
A. in violation of the adaptive-trophic activity of the nervous system
B. with an adequate response of the body to damage
C. with a weak reaction of the body to irritation
D. with large blood loss

**32. How does hyporegic inflammation manifest itself?**
A. the function of the nervous system is impaired
B. equality of degeneration and regeneration is observed
C. the nervous system is strong
D. the organism responds poorly to inflammation

**33. What factors cause aseptic inflammation?**
A. biochemical, radiation, biological
B. metabolic disorders
C. mechanical, physical, chemical
D. genetic

**34. What methods of treatment are used for acute aseptic inflammation in the first 12-24 hours?**
A. drying dressings, warming compresses, minin lamp
B. paraffin applications
C. local hypothermia and light pressure bandages
D. drugs that lower the function of blood and lymph vessels

**35. Pathogenetic therapy is aimed at ...**
A. normalization of impaired body functions, stimulation of protective, adaptive and regenerative mechanisms
B. stimulation of protective, adaptive and regenerative mechanisms
C. stimulation of the regenerative mechanisms of the body
D. the use of novocaine blockades to normalize impaired body functions

**36. Which method of therapy provides the best resorption of proliferations?**
A. cellular
B. organ
C. systemic
D. tissue

**37. For what purpose is thermocauterization used?**
A. moxibustion to stop bleeding
B. cauterization for the purpose of treatment
C. moxibustion for the purpose of warming
D. for the purpose of applying a compress

**38. What is the sequence of the layers of the warming compress?**
A. retention, heat retention, moisture proof, damp
B. heat-retaining, retention, moisture-proof, damp
C. Moisture-proof, Retaining, Warm-Retaining, Wet
D. Moist, Retaining, Heat Retaining, Moisture Proof

**39. Who proposed the method of epipleural novocaine blockade in inflammation?**

A. Tikhonin I. Ya.
B. Shakurov M.Sh.
C.V. Mosin
D. Plakhotin M.V.

**40. Who proposed the method of perirenal novocaine blockade for inflammation in cattle?**
A. Mosin V.V.
B. Shakurov M.Sh.
C. Plakhotin M.V.
D. Senkin M.M.

**41. Who suggested the method of novocaine blockade of the thoracic visceral nerves?**
A. Mosin V.V.
B. Plakhotin M.V.
C. Shakurov M.Sh.
D. Senkin M.M

**42. What is meant by heterohemotherapy?**
A. taking blood from an animal's vein and administering it to an animal of another species
B. taking blood from a vein from an animal and introducing it subcutaneously
C. taking blood from an animal's vein and administering it to an animal of the same species
D. blood transfusion between animals of the same species

**43. What is meant by homochemotherapy?**
A. taking blood from a vein in an animal and introducing it subcutaneously
B. taking blood from an animal's vein and administering it to an animal of another species
C. taking blood from an animal's vein and administering it to an animal of the same species
D. blood transfusion between animals of the same species

**44. By whose method are tissue preparations prepared?**
A. Ibn-Sino
B. K. I. Shakalov
C.V.P. Filatov, N.I. Krause,
D. M. V. Plakhotin

**45. Who proposed lysates for inflammation?**
A. Ibn-Sino
B. K. I. Shakalov
C. M. V. Plakhotin
D.M. P. Tushnov

**46. What is tissue therapy aimed at?**
A. to warm up the animal's body
B. to stimulate and normalize the body of the animal
C. on the activation of the animal's body
D. to reduce inflammation

**47. What is meant by autohemotherapy?**
A. taking blood from an animal's vein and injecting it subcutaneously itself
B. taking blood from an animal's vein and administering it to an animal of another species
C. taking blood from an animal's vein and administering it to an animal of the same species
D. blood transfusion between animals of the same species

**48. What factors cause infectious inflammation?**
A. mechanical and physical

B. chemical and genetic
C. biological
D. biological and molecular

**49. Which scientist gave the most complete concept of a surgical infection?**
A.M. Plakhotin
B. N.I. Pirogov
C. G. Abishev
D. M. Rufanov

**50. The causative agents of surgical infections are ...**
A. microbe and virus
B. virus and fungus
C. bacteria, viruses and fungus
D. fungus and pus

**51. Contamination is ...**
A. Contamination of wounds with microbes from the external environment
B. the association of microbes is relatively unchanged and adapted to the wound environment
C. microbes that secrete tissue thinning enzymes
D. microflora

**52. Anaerobic or facultative anaerobic infection is ...**
A. Proteus vulgaris, spore-forming bacilli, Escherichia coli and others
B. coccal infection and colibacillus and Pseudomonas aeruginosa
C. spore-forming bacilli, E. coli and staphylococci
D. streptococci, diplococci, Escherichia coli and Pseudomonas aeruginosa
**53. What is the difference between turpentine abscess?**
A. has a large number of microbes
B. purulent microflora develops
C. has serous fluid in the cavity
D. has no germs

**54. Purulent surgical infection is ...**
A. fungus, purulent sticks, clostridium
B. staphylococcus, streptococcus, diplococcus, Escherichia coli
C. gas gangrene
D. spore-forming bacilli, E. coli and staphylococci

**55. A specific surgical infection is ...**
A. staphylococcus, streptococcus, diplococcus, Escherichia coli
B. gas gangrene
C. tetanus, brucellosis, tuberculosis, actinomycosis, necrobacillosis, botryomycosis
D. spore-forming bacilli, E. coli and staphylococci

**56. How many stages does the principle of prevention of surgical infection consist of?**
A. 4
B. 6
C. 5
D. 3

**57. What are the forms of aerobic infection?**

A. carbuncle
B. furuncle and gangrene
C. hot and cold abscess
D. abscess and phlegmon

**58. Necrobacteriosis is ...**
A. one of the main properties of microbes that causes disease
B. damage to the fingers of animals with necrobacteriosis sticks
C. necrobacteriosis rods adapted to the hoof environment
D. contamination of wounds and open injuries by infection

**59. What types of sepsis are there in terms of localization and nature of development?**
A. postoperative, decubitus, after paralysis and paresis
B. postpartum and post-paralysis
C. odontogenic, myogenic, arthrogenic, ungular, postpartum
D. decubitus and odontogenic

**60. What scientist classified sepsis?**
A. Plakhotin M.V.
B. Abishev G.
C. Pirogov N.I.
D. Rufanov M.

**61. What exudate accumulates in the first phase of infectious inflammation in cows?**
A. serous-purulent
B. fibrinous-purulent
C. fibrinous
D. purulent

**62. Sepsis is ...**
A. a difficult-to-recover infectious-toxic process
B. non-stopping purulent process
C. development of microbes in the body
D. isolation of dead tissue from wounds

**63. What microbes cause anaerobic infection?**
A. aerobes and anaerobes
B. coccal infections
C. anaerobe and bacilli
D. facultative anaerobes and staphylococci

**64. How long after the action of toxins and enzymes is vascular paralysis observed in gas gangrene?**
A. after 2-4 hours
B. after 2-4 hours
C. after 24-48 hours
D. after 12-18 hours

**65. What happens when blood clots appear in blood vessels with gas gangrene?**
A. during the breakdown of proteins, glycogen and carbohydrates, gases are not formed
B. serous fluid is formed during the breakdown of proteins, glycogen and carbohydrates
C. ketonuria is formed during the breakdown of proteins, glycogen and carbohydrates
D.Gases are formed during the breakdown of proteins, glycogen and carbohydrates

**66. What types of animals have gas gangrene?**
A. KRS
B. all kinds of animals
C. dogs
D. pigs

**67. What exudate is released when opening a gas phlegmon?**
A. bloody exudate
B. serous exudate
C. serous fibrinous exudate
D. purulent-foamy cloudy liquid

**68. Which of these microorganisms is the causative agent of tetanus?**
A. b.colli
B. b. tetani
C. b.putrificus
D. b.proteus

**69. Which of these infections is a specific surgical infection?**
A. brucellosis, actinomycosis
B. purulent infection
C. anaerobic infection
D. aerobic infection

**70. An abscess is .....**
A. tissue necrosis
B. cavity filled with serous fluid
C. limited cavity filled with purulent fluid
D. inflammation of the hair follicle

**71. The wound according to M.V. Plakhotin is ...?**
A. open damage to the skin, mucous membranes and deep tissues
B. mechanical damage to the skin without compromising the integrity of the skin
C. closed bone injuries
D. joint damage

**72. Clinical signs of wounds are ...**
A. pain, bleeding, increased local temperature
B. pain, dysfunction, dehiscence, and bleeding
C. increase in general temperature, dehiscence of the edges of the wound, bleeding,
D. pain, preservation of functions, dehiscence of the wound edges

**73. What is meant by damage?**
A. mechanical tissue damage while maintaining the integrity of the skin
B. open tissue damage
C. morpho-functional tissue changes
D. vascular damage while maintaining the integrity of the skin

**74. What kind of bleeding is usually typical for bruised skin?**
A. ecchymosis
B. limited hemorrhage
C. suffusion

D. hematoma

**75. What kind of bleeding occurs with subcutaneous injury?**
A. suffusion
B. ecchymosis
C. hematoma
D. limited hemorrhage

**76. What kind of bleeding occurs when the tissue is damaged?**
A. hematoma
B. limited hemorrhage
C. spilled suffusion
D. ecchymosis

**77. What is the name of the accumulation of blood in the newly formed cavity after injury?**
A. limited hemorrhage
B. ecchymosis
C. suffusion
D. hematoma

**78. What is the name of the violation of the anatomical integrity of soft tissues and organs?**
A. stretching
B. vibration
C. gap
D. squeezing

**79. What are the typical clinical signs of hematoma?**
A. hot swelling and fluctuation on palpation
B. fluctuating and painless swelling
C. painful swelling and fluctuation on palpation
D. localized hot swelling

**80. What are the origin of hematomas?**
A. arterial, venous, displaced, pulsating
B. arterial, venous, displaced, lymphatic
C. arterial, venous, displaced, serous
D. arterial, venous, displaced, pulsating and lymphatic

**81.... Localization is subcutaneous, subfascial, intermuscular, intraorgan, intracranial, intraperitoneal and intraarticular - this is ...**
A. lymphoextravasate
B. hematoma
C. necrosis
D. ulcer

**82. What procedures are prohibited during the treatment of lymphoectravazate?**
A. novokine blockade
B. use of hot and cold methods
C. use of antibiotics
D. the imposition of a rigid bandage

**83. What lymphoextravasates are distinguished?**
A. superficial and medium

B. limited and unlimited
C. deep and superficial
D. limited and superficial

**84. What is the speed of ulcer healing connected with?**
A. with the state of the nervous and endocrine systems
B. with the morphological state of tissues
C. with the protective and adaptive forces of the body
D. with the size and location of the ulcer

**85. Which ulcer is growing rapidly?**
A. ordinary
B. atonic
C. progressive
D. idiopathic

**86. What is the focus of attention in the treatment of wet gangrene?**
A. removal of dead tissue
B. development of granulation tissue
C. transfer of wet gangrene to dry
D. use of drugs

**87. What ulcers appear after abscess and phlegomny?**
A. fungal
B. decubital
C. callous
D. ordinary

**88. What is the name of pressure ulcers?**
A. ordinary
B. fungous
C. decubital
D. atonic

**89. What ulcers take a long time to heal?**
A. Decubital
B.atonic
C. conventional
D. fungous

**90. What are the types of burns?**
A. thermal, chemical, thermo-chemical
B. thermal, chemical
C.Thermal, chemical, thermo-chemical, radiation
D. thermal, chemical, physical

**91. How many degrees of tissue burns are observed according to Kreibich?**
A. 3
B. 4
C. 2
D. 5

**92. How many levels of tissue burns are observed according to BM Olivkov?**
A. 5
B.4
C. 2
D. 3

**93. What clinical signs are typical for a first-degree burn?**
A. severe pain, redness, the appearance of small blisters
B. hyperemia, the appearance of serous vesicles, ulcers
C. coatsulation skin necrosis, the appearance of vesicles
D. coagulation necrosis of the skin

**94. What clinical signs are typical for a second degree burn?**
A. hyperemia, the appearance of serous vesicles, ulcers
B. coatsulation necrosis of the skin, the appearance of vesicles
C. coagulation necrosis of the skin
D. severe pain, redness, the appearance of small blisters

**95. What clinical signs are typical for third degree burns?**
A. hyperemia, the appearance of serous vesicles, ulcers
B. coaculatory skin necrosis, the appearance of vesicles
C. coagulation necrosis of the skin
D. severe pain, redness, the appearance of small blisters

**96. In what species of animals do not appear bubbles and edema of subcutaneous tissues during a burn?**
A. in cattle and pigs
B. in horses and dogs
C. in horses and cattle
D. in pigs and dogs

**97. What percentage is the burn surface of the head region compared to the burn of the entire torso?**
A. 8%
B.6%
C. 12 %
D. 10%

**98. What percentage is the surface of a burn in the neck, chest and abdomen compared to a burn of the entire torso?**
A. 18%
B.20%
C. 21 %
D. 22%

**99. Causes of chemical burns?**
A. acids, alkalis, lime, heavy metals
B. high temperature
C. hot water and steam
D. rays

**100. Ostitis is ...**

A. inflammation of the periosteum
B. bone marrow inflammation
C. inflammation of bone tissue
D. bone necrosis

**101. Periostitis is ...**
A. bone inflammation
B. inflammation of the periosteum
C. bone marrow inflammation
D. bone necrosis

**102. Bone necrosis is ...?**
A. bone inflammation
B. bone marrow inflammation
C. inflammation of the periosteum
D. bone necrosis

**103. What are the clinical signs of purulent periostitis?**
A. tubercles appear on the surface of the damaged bone
B. a fistula appears on the surface of the damaged bone
C. under the periosteum, abscesses develop and a fistula appears
D. serous fluid appears under the periosteum

**104. Karies is ...**
A. rejection of dead bone tissue
B. granular molecular decomposition of bone
C. dental disease
D. dental and gum disease

**105. What are the types of bone necrosis in terms of localization?**
A. complete and general
B. superficial and cortical
C. complete and cortical
D. superficial and general

**106. What pathology is caused by purulent inflammation of bones, physical and chemical influences and circulatory disorders?**
A. bone abscess
B. softening of bones
C. bone destruction
D. bone necrosis

**107. Note the conservative treatment of bone fractures**
A. osteosynthesis
B. intramedular osteosynthesis
C. the imposition of skeleton and splint dressings
D. wire anchoring

**108. What does a distraction splint consist of?**
A. made of metal knitting needles, nails, bandages
B. stainless steel plates
C. braces, bone graft
D. made of metal spokes and plates

**109. Specify the method of ostiosynthesis**
A. Fastening with metal pins
B. the imposition of skeletal dressings
C. the imposition of a shear bandage
D. reposition

**110. What periostitis differs in distribution?**
A. unlimited, diffuse, numerous
B. limited, diffuse, numerous
C. unlimited, diffuse
D. limited, numerous

**111. What periostitis differ according to the clinical course?**
A. semi-acute and chronic
B. acute and chronic
C. primary and secondary
D. lightning fast and sharp

**112. What periostitis develops after severe trauma?**
A. purulent ossification
B. ichyrous and ossifying
C. serous fibrinous
D. fibrinous and ossifying

**113. What fractures differ in origin?**
A. congenital and acquired, traumatic, pathological
B. traumatic, pathological
C. congenital and acquired
D. primary and secondary

**114. How are fractures classified according to the anatomical features of the bones?**
A. epiphyseal, diaphyseal, metaphyseal and division of the diaphysis
B. epiphyseal, diaphyseal, metaphyseal
C. tubular, flat
D. transverse, vertical and horizontal

**115. Due to what is the healing of bone fractures?**
A. due to the formation of corns of the periosteum
B. due to the formation of callus
C. due to the formation of bone marrow
D. due to the formation of a bone root

**116. Indicate correctly the primary calluses of the bones.**
A. mediosteal, endosteal, paraosteal, intermediate
B. endosteal, paraostal, intermediate
C. periosteal, endosteal, paraostal, intermediate
D. periosteal, endosteal

**117. What wire is used for bone surgery?**
A. alumina and nickel
B. molybdenum or copper

C. flat
D. steel

**118. What is the meaning of the word ostiosynthesis?**
A. joining broken bones with a plaster or skeleton bandage
B. connection of bone fragments by the bloody method
C. joining shattered bones by the bloodless method
D. joining bones with a graft
**119. What is the name of the damage to the joints?**
A. Artrit
B. contusio articuli
C. laminit
D. bursit

**120. What is the name of a hemorrhage inside the joint?**
A. arthrosis
B. thrombophlebitis
C. hemarthrosis
D. hematoma
**121. How are joint dislocations classified?**
A. traumatic and common
B. congenital and acquired
C. normal
D. pathological

**122. Synovitis is ...**
A. inflammation of the capsule membrane of the joint
B. accumulation of synovial fluid
C. inflammation of the cartilage of the joints
D. joint inflammation

**123. Arthritis is ...**
A. pathology of joints without an inflammatory process
B. inflammation of the joint tissues
C. joint damage
D. inflammation of the synovial sac of joints

**124. Tendenitis is ...**
A. inflammation of the tendon sheath
B. inflammation of the joint tissues
C. tendon sprain
D. tendon inflammation

**125. Tenosynovitis is ...**
A. inflammation of the joint tissues
B. inflammation of the tendon sheath
C. tendon sprain
D. tendon inflammation

**126. Arthrosis is ...**
A. inflammation of the tendon sheath
B. inflammation of the joint tissues

C. joint pathology without inflammation
D. tendon inflammation

**127. Indicate chronic non-exudative joint pathologies.**
A. osteoarthritis, arthrosis
B. rheumatism, arthritis
C. arthrosis, arthritis
D. dislocation of joints, arthritis, arthrosis

**128. What pathology develops during rupture of blood vessels and tendon fibers?**
A. panarthritis
B. purulent synovitis
C. hemarthrosis
D. tendinitis and tendovaginitis

**130. What is the name of the tendon inflammation?**
A. tendovaginitis
B. tendinitis
C. alaminite
D. bursitis

**131. What causes lead to acute aseptic tendinitis?**
A. rupture, crushing, caries and stretching
B. contusion, stretching, squeezing
C. hematoma, lymphoextravasate
D. stretching, fracture, rupture

**132. What is the function of the tendon sheath?**
A. covering the tendon part of the muscle makes it easier to work
B. wetting the tendon part of the muscle contributes to its contraction
C. provides movement of the tendon part of the leg
D. provides movement of the muscles of the leg and prevents bleeding

**133. What is the task of the synovial fluid?**
A. increases muscle friction
B. normalizes muscle friction
C. reduces friction of muscles, improves their movement
D. does not change the friction of the muscles

**134. In which part of the flexor muscles of the finger are sprains and tears more common?**
A. Dorsalnaya
B. distal
C. ventral
D. caudal

**135. What changes are observed in an animal with a bilateral rupture of the Achilles tendon?**
A. the animal lies
B. the animal limps when walking
C. the animal lies with its legs extended
D. the animal assumes the pose of a sitting dog

**136. What is the flexor tendon called?**

A. extensor
B. abductor
C. flexor
D. adductor

**137. For how many days is a joint dislocation considered fresh?**
A. 1 day
B. 3 days
C. 2 days
D. 4-5 days

**138. Which joint has the greatest freedom of movement?**
A. knee joint
B. carpal
C. pelvic joint
D. hoof joint

**139. The causes of closed traumatic acute and chronic aseptic diseases of the joints are ...**
A. cut, lacerated, crushed, bruised, penetrating wounds
B. bruises, sprains, dislocations, hemarthrosis, synovitis, fibrositis
C. brucellosis, rheumatism, paratyphosis
D. osteoarthritis, osteoarthritis

**140. What are the joint wounds?**
A. sprains, dislocations, hemarthrosis, synovitis, fibrosis, contractures
B. cut, torn, crushed, bruised, penetrating
C. osteoarthritis, osteoarthritis
D. brucellosis, rheumatism, paratyphoid fever

**141. What is meant by aseptic synovitis?**
A. aseptic inflammation of the synovial membrane of the joint
B. inflammation of the bones of the joint
C. inflammation of the synovial fluid of the joint
D. inflammation of the cartilage covering the bones of the joint

**142. What is meant by hemarthrosis?**
A. outpouring of blood from the damaged joint capsule into the joint cavity
B. inflammation of the synovial membrane of the joint
C. inflammation of all elements of the joint
D. damage to the periarticular tissues

**143. What is meant by purulent arthritis?**
A. inflammation of the synovial membrane of the joint
B. inflammation of all elements of the joint
C. outflow into the joint cavity of blood from the damaged joint capsule
D. damage to the periarticular tissues

**144. What is meant by purulent synovitis?**
A. outpouring of blood from the damaged joint capsule into the joint cavity
B. purulent inflammation of the synovial membrane of the joint
C. purulent inflammation of all elements of the joint
D. damage to the periarticular tissues

**145. What is meant by panarthritis?**

A. outpouring of blood from the damaged joint capsule into the joint cavity
B. purulent inflammation of the synovial membrane of the joint
C. purulent inflammation of all elements of the joint
D. purulent inflammation of all elements of the joint and surrounding tissues

**146. What is meant by periarthritis?**
A. inflammation of the bones that make up the joint
B. inflammation of the synovial membrane of the joint
C. inflammation of the tissues around the joint
D. inflammation of the cartilage covering the bones of the joint

**147. What is the percentage of extension and tear of the common extensor digitorum in horses?**
A. 3.7%
B. 2.2%
C. 4.2%
D. 2.8%

**148. What is the percentage of bone fractures in horses?**
A. 33.6
B. 44.8
C. 24.6
D. 32.5

**149. What is the name of purulent inflammation of all elements of the joint and the surrounding tissues of the joint?**
A. joint abscess
B. phlegmon of the joint
C. panarthritis
D. arthrosis of the joint

**150. Methods of making a diagnosis for wounds in the head area:**
A. The presence of a wound, the degree of damage to the tissues of the head is established by examination, palpation and revision; depth and direction are determined with a surgical probe.
B. The diagnosis is based solely on the use of surgical instruments.
C. For an accurate diagnosis, an examination of the wound is sufficient.
D. In the presence of a surgical wound, immediately proceed to the operation.

**151. What is meant by shock?**
A. decrease in the activity of the nervous system after a short strong excitement
B. loss of consciousness
C. a sharp decrease in the activity of the cardiovascular system
D. a sharp decrease in the activity of the nervous system

**152. A purulent wound was drained with a tampon with a hypertonic solution of sodium chloride. What kind of antiseptic is used?**
A. physical;
B. biological;

C. mechanical;
D. chemical

**153. What determines the degree of wound gaping?**
A. damage to the nerve trunks;
B. the direction of the elastic fibers of the skin.
C. damage to the fascia;
D. damage to muscles and tendons

**154. The most common causes of wounds in the head area:**
A. gunshot wounds;
B. the onset of a purulent process;
C. in case of falls and other mechanical damage.
D. human injury

**155. Describe the appearance of the forehead / nose wound:**
A. are characterized by profuse bleeding and swelling; dehiscence is often moderate
B. is accompanied by a foamy-red discharge.
C. there are paralysis with muscle atrophy
D. due to significant tension of the skin gape, the intensity of bleeding depends on damage to blood vessels and bones

**156. Describe the appearance of the wound in the area of the tissues of the lips, chewing area and intermaxillary space:**
A. there are paralysis with muscle atrophy
B. accompanied by a foamy-red discharge
C. are characterized by profuse bleeding and swelling, dehiscence is often moderate.
D. due to significant tension of the skin gape, the intensity of bleeding depends on damage to blood vessels and bones}

**157. Describe the appearance of the wound with a penetrating wound of the nasal cavity**
A. accompanied by a foamy red discharge
B. due to significant tension of the skin gape, the intensity of bleeding depends on damage to blood vessels and bones
C. there are paralysis with muscle atrophy
D. are characterized by profuse bleeding and swelling, dehiscence is more often moderate

**158. What changes can be observed with injuries of the brain and nerve trunks?**
A. are characterized by profuse bleeding and swelling, dehiscence is often moderate
B. there are paralysis with muscle atrophy
C. the process is accompanied by a foamy red discharge
D. due to significant tension of the skin gape, the intensity of bleeding depends on damage to blood vessels and bones

**159. What are the most important reasons for the rapid healing of wounds in the head area, in comparison with other parts of the body;**
A. This is explained by the low mobility of the tissues themselves, good vascularization and poor development of subcutaneous tissue.
B. This is explained by the lesser influence of mechanical factors;
C. Since the regeneration process proceeds faster in the head area;
D. The animal does not have the ability to lick wounds.

**160. What complication often occurs when the salivary glands and their ducts are damaged?**
A. phlegmon is formed,
B. an abscess is formed
C. the salivary gland is unable to perform its function
D. by
**161. Which joint in animals, despite its firm fixation, is more prone to stretching than other joints?**
A. carpal joint
B. knee joint
C. Putty joint
D. joints of intervertebral discs

**162. Describe the most complete picture of the manifestation of clinical signs in stretching the fetal joint:**
A. They are in direct proportion to the strength of mechanical action and the degree of tissue stretching: with weak and moderate stretching, the pathological process is most often limited to aseptic inflammation of the joint ligaments and adjacent para-articular tissues; the joint, as such, is usually not involved in the process. In a clinically sick animal, after joint damage, mild to moderate mixed lameness, painful, hot swelling of the joint appears. At rest, the animal tries not to burden the diseased limb, keeps it in a relaxed state
B. With severe damage, a sharp pain and swelling soon appear in the joint area, reaching its maximum 20 ... 30 hours after injury
C. The anatomical contours of the joint are smoothed, and with significant intra-articular hemorrhage, its capsule is tense. In the case of minor damage, clinical signs may be manifested by a slight swelling of the joint area, mild lameness and moderate pain.
D. With significant hemorrhage into the joint cavity immediately after the injury, the animal develops lameness, which increases during the first 2 ... 3 hours as the hemorrhage into the joint continues

**163. Actions taken by the doctor in case of significant stretching of the joint with suspected rupture of the ligamentous apparatus or capsule:**
A. subacute and chronic cases, rubbing of absorbable ointments and pinpoint moxibustion are shown.
B. first of all, it is necessary to make the earliest possible reduction of the displaced articular ends of the bones into the correct anatomical and physiological position and apply a fixing plaster cast
C. Medication is usually used, basically the same as for wounds of the wrist joint
D. impose an immobilizing plaster cast. In the absence of sharp pain and lameness, that is, after the disappearance of acute inflammatory phenomena, passive and active (wiring) movements are prescribed.

**164. Technique of arthrotomy in the anterior diverticulum.**
A. For lateral arthrotomy, an incision is made from the lateral or medial surface of the joint between the bone and the middle interosseous muscle at the level of the upper edge of the sesamoid bones. First, the skin with loose fiber is dissected and the digital vein is exposed, then, 2 ... 3 mm away from the vein anteriorly, the joint capsule is pierced with a pointed scalpel. Immediately through the incision, the contents of the articular cavity begin to stand out. The surgical wound of the joint capsule is expanded downward to 3 ... 4 cm. It is not recommended to expand the wound upward, as this often damages the branch of the digital vein.
B. To do this, after fixing the animal in a supine position, preparing the operating field and infiltration anesthesia, dissect the tissues from the dorsal surface of the joint, including its

capsule, 2 cm away from the midline to the inner (outer) surface (on the thoracic limb, the lateral tendon interferes with the outer digital extensor). The incision length of 7 cm ensures the drainage of exudate from the joint cavity.
C. The tendon sheath, filled with purulent exudate, is opened in its lower part and thereby provide the necessary drainage outward. Formed in the cavity of the tendon sheath adhesions and areas of dead tissue are excised
D. Such operations are not performed.

**165. The most common causes of dislocation of the fetlock**
A. incised wounds in the fetal joint
B. gunshot wounds in the fetal joint
C. blows, jolts, falls, jumping when taking obstacles, sliding, pinching a limb, etc.
D. congenital malformations of the fetlock

**166. The characteristic signs of joint dislocation are:**
A. lameness, accompanied by a complete absence of active movements in the damaged joint, a change in the length of the diseased limb, i.e. shortening or lengthening, depending on the tension in the displacement of the articular ends of the bone
B. only painful swelling of the joint is observed.
C. On palpation in the places of greatest protrusion of the articular diverticula, a pronounced fluctuation is found. When the exudate contains a large amount of sweated fibrin, you can listen to crepitant sounds, reminiscent of the crunch of melted snow.

D. The animal has a weak or moderate degree of mixed lameness.

**167. Name the main clinical sign in chronic synovitis.**
A. lameness, accompanied by a complete absence of active movements in the damaged joint
B. significant painless or slightly painful fluctuating swelling of the affected joint. Lameness in most cases is absent or mild.
C. On palpation in the places of the greatest protrusion of the articular diverticula, a pronounced fluctuation is found.
D. The animal has a weak or moderate degree of mixed lameness.

**168. Typical clinical signs for contracture of the joint of the first phalanx:**
A. excessive flattening and curvature of it, as well as the butt positioning of the put.
B. lameness, accompanied by a complete absence of active movements in the damaged joint
C. The animal has a mild or moderate mixed lameness.
D. significant painless or slightly painful fluctuating swelling of the affected joint

**169. Name the most effective method of treating purulent tendovaginitis:**
A. use conservative methods
B. use surgical treatment as early as possible
C. apply drug treatment
D. use physical methods}

**170. Characteristic signs of deforming arthritis:**
A. lameness, accompanied by a complete absence of active movements
B. significant painless or slightly painful fluctuating swelling of the affected joint
C. a sick animal has moderately pronounced lameness, more often a leaning limb, and progressive stiffness of the fetlock
D. excessive flattening and curvature of it
**171. What wounds in the chest area are the most dangerous for the life of an animal?**

A. wounds penetrating into the chest cavity
B. superficial wounds
C. cut wounds
D. bite wounds

**172. General signs of penetrating wounds into the chest cavity:**
A. nosebleeds, increased body temperature
B. short-term anxiety of the animal is observed
C. oral bleeding, fever
D. there is a short-term anxiety of the animal, increasing depression, heart weakness, shortness of breath, sweating, muscle tremors, etc.

**173. Symptoms of chest bursitis:**
A. Heart weakness, shortness of breath, sweating, muscle tremors
B. In the area of the handle of the sternum, a limited swelling of a fluctuating consistency is found
C. soreness, swelling and crepitus
D. Fever, swelling in the affected area

**174. Treatment of open pneumothorax:**
A. the wound is immediately closed with a hermetic bandage or sutures are applied to the pleura and partially to the skin; intravenously inject 200 li of a 10% solution of calcium chloride, 300 ml of a 20% glucose solution or transfuse blood, give 30-40 g of streptocide inside, apply autohemotherapy. When blood or exudate accumulates in the chest cavity, a puncture of the corresponding pleural cavity is performed in order to remove fluid.
B. carry out the treatment of the wound, suture, intravenously inject 200 li of a 10% solution of calcium chloride
C. bring the edges of the wound together with a plaster, apply an immobilizing bandage
D. make a puncture of the corresponding pleural cavity

**175. List the conservative methods of treatment of bursitis of the sternum:**
A. intravenously injected 300 ml of 20% glucose solution
B. warm procedures, rubbing in absorbable ointments
C. massage the area of the sternum, rubbing in irritating ointments
D. cold procedures, rubbing in antiseptic ointments

**176. Symptoms of a chronic abscess of the shoulder-head muscle**
A. In the area of the shoulder-head muscle, a dense, painless or slightly painful motionless swelling is found, which basically breaks up the connective tissue, in the depths of which a purulent focus (cavity) is localized. Sometimes the tumor softens with the formation of purulent fistulas.
B. In the area of the shoulder-head muscle, a soft, painful mobile swelling is found, which basically breaks up the connective tissue, in the depths of which a purulent focus (cavity) is localized. Sometimes the tumor softens with the formation of purulent fistulas.
C. Phlegmon is formed in the affected area, body temperature rises, tremors in the muscles are observed
D. A tumor is formed with an increase in local temperature and soreness.

**177. Symptoms of rib fracture:**
A. There is no pain, there is swelling and an increase in local temperature
B. There is no swelling, the body temperature rises, there is no pain

C. Soreness, swelling and crepitus, and in violation of the pleura - frothy bleeding from the nasal cavity. Subcutaneous emphysema is sometimes noted.
D. soreness and absence of edema

**178. Types of bursitis of the sternum**
A. hemorrhagic
B. fibrinous, purulent
C. hemorrhagic, serous
D. serous, purulent

**179. Causes of the shoulder-head muscle abscess:**
A. Tearing of the tissues of the head muscle
B. Introduction of a fungal infection into the wound
C. The introduction of a purulent infection (staphylococci, streptococci) into the thickness of tissues or into the lymph node of the shoulder-head muscle
D. Insertion into the thickness of tissues or into the lymph node of the shoulder-head muscle of a viral infection

**180. In what species of animals is chronic abscess of the brachial muscle more common?**
A. in horses, mules and donkeys
B. at bulls-producers
C. in dogs and cats
D. in cows, rams

**181. List the most common causes of rectal prolapse**
A. invasive diseases
B. intussusception of the intestine, mechanical damage to the anus
C. is usually observed with diarrhea, constipation, bladder stones, severe prenatal attempts, and other diseases in which the animal needs to push hard.
D. severe pregnancy in females, febrile conditions

**182. What suture is applied to the anus when the prolapsed rectum is repositioned?**
A. nodal
B. Z-shaped
C. purse string
D. 8-shaped

**183. List the indications for conducting a rumenotomy:**
A. lack of peristaltic movements
B. traumatic pericarditis
C. traumatic reticulitis and reticulopericarditis, rumen overflow with solid feed
D. all answers are correct

**184. On what day is the purse-string suture removed after rectal prolapse surgery?**
A. 2-3
B. 11-15
C. 6-7
D. 20-25

**185. What method of treatment is used for scrotal hernia?**
A. Medication
B. Operational
C. Physical methods are used

D. The animal is culled

**186. Name the main cause of an umbilical hernia**
A. congenital malformations
B. purulent processes
C. increased intraperitoneal pressure
D. traumatic injuries

**187. Clinical manifestations of non-penetrating wounds of the abdominal wall:**
A. possible damage to the abdominal organs
B. the omentum or intestines may fall out
C. soreness, gaping of the wound and bleeding are noted at the beginning of the wound process.
D. edema, diffuse hemorrhages, increased body temperature

**188. What solution is used to flush the prolapsed rectum before reduction?**
A. warm saline
B. correct answers b), c).
C. 0.25% solution of potassium permanganate
D. iodine solution

**189. What position of the body should be best given to the animal when performing a scrotal hernia operation?**
A. dorsal
B. lateral
C. the animal is operated in a standing position
D. there is no correct answer

**190. Stages of preparation of the surgeon's hands:**
A. rinsing with running water, leather tanning
B. the use of surgical gloves is sufficient
C. correct answers c, b
D. mechanical cleaning, leather tanning, treatment with antiseptic solutions

**191. Castration is**
A. partial surgical removal of the gonads in males and females.
B. decrease in the productivity of animals by the drug method
C. surgical removal of the gonads in males and females.
D. correct answers b, c

**192. What is the optimal age for the castration of animals**
A. 8-10 months
B. 1-2 months
C. 14-18 months
D. 24-25 months

**193. What are the operative methods of castration**
A. closed way, mixed way
B. Closed way, Open way
C. method of exposure to temperatures
D. chemical method

**194. What anesthesia is recommended for castration?**

A. general anesthesia with a combination of local anesthesia
B. local anesthesia
C. it is possible to carry out the operation without anesthesia
D. novocaine blockade

**195. For what reason is it recommended to castrate animals with cryptorchidism?**
A. being in unnatural conditions (in the abdominal cavity or inguinal canal), the testis is prone to degeneration into a neoplasm.
B. the animal becomes more aggressive
C. from an animal, you can get offspring with developmental anomalies
D. all answers are correct

**196. What and the fastest way of castration?**
A. Closed method
B. Open and closed method
C. Open way
D. there is no difference between the ways

**197. What is the danger of early castration of animals?**
A. early castration, on the contrary, has a beneficial effect on the body
B. inhibits the physiological development of animals
C. leads to depletion of the body
D. worsens the constitution of the animal

**198. The most reliable method of castration is**
A. drug castration
B. physical castration
C. mechanical castration
D. surgical castration

**199. What should you pay attention to after the castration of animals?**
A. should pay attention to weight and prevent obesity
B. monitor the absence of sexual reflexes
C. pay attention to the behavior of the animal
D. castration cannot have an effect on the body as a whole

**200. By what percentage, on average, should the calorie content of food be reduced in castrated animals?**
A. by 10%
B. by 50%
C. by 30%
D. should not decrease

**201. Methods of making a diagnosis for wounds in the head area:**
A. The presence of a wound, the degree of damage to the tissues of the head is established by examination, palpation and revision; depth and direction are determined with a surgical probe. In some cases, fluoroscopy is performed, especially with penetrating wounds of the frontal and maxillary sinuses.
B. The diagnosis is based solely on the use of surgical instruments.
C. For an accurate diagnosis, an examination of the wound is sufficient.
D. In the presence of a surgical wound, immediately proceed to the operation.

**202. The purulent wound was drained with a tampon with a hypertonic solution of sodium chloride. What kind of antiseptic is used?**
A. biological;
B. physical
C. mechanical;
D. chemical

**203. What determines the degree of gaping of the wound?**
A. the direction of the elastic fibers of the skin.
B. damage to the nerve trunks;
C. damage to the fascia;
D. damage to muscles and tendons

**204. What are the causes of head injuries?**
A. As a result of damage to objects, improper transportation, storage, feeding and stamping
B. Harmful effects of things, improper transportation, storage, feeding
C. Damage to objects, improper transport, storage, feeding, stamping and settling
D. Harmful effects of things
**205. What determines the clinical signs of head injuries?**
A. The size of the object to be damaged
B. strength, time and location of injury
C. joint elasticity and object size
D. from a specific area of the head
**206. How are lip ulcers treated?**
A. Sutures and bandages are applied according to the method of I.E. Povazhenko
B. Sutures and bandages are applied according to the method of M.V. Plakhotina
C. Sutures and bandages are applied according to the method of K.I. Shakalova
D. Sutures and bandages are applied according to the method of B.D. Narzieva
**207. What can develop with repeated trauma to the skull?**
A. ossifying periostitis
B. exostosis
C. ossifying periostitis, lymphoidulitis and exostosis
D. ossification of periostitis and exostosis
**208. How is depression treated?**
A. foot and body massage, Kodikov's camphor serum is administered intravenously
B. injections of camphor oil and caffeine, foot and body massage, plaxotin fluid is injected intravenously
C. injection of camphor oil and caffeine, foot and body massage, intravenous serum Kodikov with camphor
D. antibiotic injections, foot and body massage, intravenous delivery of Kodikov serum with camphor
**209. How is a skull fracture treated?**
A. bone fragments are removed surgically
B. Bone fragments are surgically transplanted
C. a plasterboard is applied
D. glued board is applied
**210. The facial nerve is the nerve that controls which organs?**
A. muscles of the ear, squash, lips and cheeks
B. muscles of the eyes, lips and cheeks
C. muscles of the ear, squash, lips, nose
D. facial muscles
**212. How many pairs of nerves are there in the facial nerve?**

A. VII pairs of nerves
B. V pairs of nerves
C. VI pairs of nerves
D. II pairs of nerves

**213. Which animal has the most common facial nerve palsy?**
A. in cattle
B. In dogs
C. In horses
D. in dogs and pigs

**214. What types of facial nerve palsy are there?**
A. one-sided and two-sided
B. central, peripheral
C. central, peripheral, unilateral and bilateral, upper and lower
D. central, peripheral, unilateral and bilateral

**215. What are the complications of inflammation of the salivary glands, inner, middle and outer ear?**
A. facial nerve palsy
B. trigeminal neuralgia
C. tetraplegia
D. paraplegia

**216. What is observed with paralysis of the cheekbones of the facial nerve?**
A. paralysis of the upper lip and nasal rhinostenosis develops
B. atrophy of innervated muscles
C. upper ear and eyelids in normal condition
D. the consequences of the disease will be bad

**217. What happens when the dorsal cheek nerve is damaged?**
A. ear and eyelids are in normal condition
B. paralysis of the upper lip and nasal rhinostenosis develops
C. The consequences of the disease will be bad
D. there is atrophy of the innervating muscles

**218. What is observed with all types of paralysis of the facial nerve and its branches?**
A. atrophy of the innervated muscle
B. paralysis of the upper lip and nasal rhinostenosis develops
C. ear and eyelids are in normal condition
D. the consequences of the disease will be bad

**219. What medicine is given to paralyzed muscles?**
A. vitamin V6 for multiple points
B. vitamin V12 for multiple points
C. vitamin V1 for multiple points
D. multi-point vitamin PP

**220. In what infectious diseases does trigeminal neuralgia develop?**
A. rabies, plague of dogs
B. brucellosis, semolina
C. semolina
D. rabies, semolina

**221. What is revealed with actinomyoma?**
A. Druze
B. fibrin
C. collagen fibers
D. blood

**222. What areas of the esophagus are mainly damaged?**
A. mucous membrane

B. chest
C. serous membrane
D. muscle layer

**223. Can ulcers of the esophagus be on the outside?**
A. possibly
B. impossible
C. in some cases
D. outside only
**224. What method is used to diagnose damage to the esophagus?**
A. x-ray
B. ultrasound
C. palpation
D. auscultation
**225. The esophageal diverticulum is ...**
A. 2-sided bulge of the esophagus wall
B. 1-sided bulge of the esophageal wall
C. Damage to the esophageal wall
D. obstruction of the esophagus
**226. Where is the esophageal diverticulum in horses?**
A. in the chest area
B. in the stomach
C. on the neck
D. right
**227. Is there pain in spinal cord necrosis?**
A. the pain is severe
B. No pain
C. Intermittent pain
D. constant or intermittent pain
**228. What is the basis for the treatment of purulent-necrotic processes in the wound area?**
A. Surgical removal of dead tissue and opening of purulent ducts
B. opening channels in an operational way
C. drainage
D. use of novocaine blockade
**229. What incisions are used in the operation of purulent-necrotic processes in the wound area?**
A. angular, vertical, sagittal
B. scaly - vertical, sagittal and lateral
C. angular, vertical, sagittal and medial
D. scaly - angular, vertical, sagittal
**230. Why is desmotomy of the cervix performed in case of purulent-necrotic processes in the pelvic area?**
A. helps to rupture the necrotic process faster
B. prevents the spread of necrotic process
C. facilitates the discharge of pus.
D. for stitching the torn ligament
**231. Phlegmon can develop in case of infectious diseases?**
A. brucellosis, paratyphoid
B. brucellosis, semolina
C. semolina, tuberculosis
D. rabies, semolina

**232. Does pus form in the anaerobic phlegmon of the abdomen?**
A. no pus
B. pus is formed
C. thick pus is formed
D. liquid pus is formed
**233. Pneumothorax is ...**
A. accumulation of air between the pleural sheets
B. Inflammation of the lungs
C. Joint inflammation
D. Periosteal rupture
**234. With valvular pneumothorax ...**
A. part of the pleura or muscle layer forms the valve
B. After injury, air stops flowing
C. Air enters and leaves the chest cavity during breathing
D. The valve is formed in the lungs
**235. With closed pneumothorax ...**
A. enters the chest cavity during removal and appears again
B. the valve is formed in the lungs
C. after injury, the flow of air into the pleural cavity ceases to flow
D. air enters and leaves the chest cavity during breathing
**236. With open pneumothorax ...**
A. part of the pleura or muscle layer forms the valve
B. air enters and leaves the chest cavity during breathing
C. after injury, the supply of air to the pleural cavity stops
D. air enters and leaves the chest cavity during breathing
**237. What is observed with pneumothorax?**
A. pleurisy develops, with percussion of the chest wall, a tympanic sound is heard
B. pleurisy does not develop, with percussion an atypical sound is heard
C. pleurisy develops, with bloating, a drum sound is heard
D. pleurisy develops, with percussion of the maxillary sinus, a clear sound is heard
**238. What kind of bandage is used for pneumothorax?**
A. 4-layer
B. 3-layer
C. occlusive
D. light bandage
**239. Hemothorax is ...**
A. accumulation of air in the pleural cavity
B. accumulation of gas in the pleural space
C. accumulation of fluid in the pleural cavity
D. accumulation of blood in the pleural cavity
**240. What can be done to replace blood loss from hemothorax?**
A. reinfusion
B. infuse hemodez
C. transfuse fresh blood
D. transfuse plasma
**241. What is peritonitis?**
A. chest wall perforation
B. inflammation of the peritoneum
C. rupture of the periosteum
D. joint inflammation
**242. What novocaine blockade is performed in the treatment of peritonitis?**
A. blockade of the abdominal nerve according to M.V. Plakhotin

B. blockade of the thoracic nerve according to M.Sh. Shakurov
C. blockade of the abdominal nerve according to V.V. Mosin
D. intestinal nerve block according to B.A. Suliev

**243. What is used to prevent adhesions in peritonitis?**
A. proteolytic enzymes, oxygen and antihistamines
B. sulfonamides, oxygen, antihistamines
C. antibiotics, oxygen, and antihistamines
D. hydrogen peroxide and antihistamines

**244. What is an abdominal hernia?**
A. internal organs fall out under the skin as a result of a violation of the integrity of the peritoneum and yellow fascia
B. internal organs fall out under the skin and the parietal layer of the peritoneum
C. abdominal bulge
D. internal organs falling under the skin

**245. What does the hernia ring consist of?**
A. muscles of the ruptured abdominal wall
B. fascia of the ruptured abdominal wall
C. tissue natural rupture of the abdominal wall
D. muscle, fascia, adipose tissue

**246. What disease is called prolapse?**
A. cracked or cracked abdominal wall
B. muscles and fascia
C. damage to muscles, fascia, adipose tissue
D. violation of the integrity of the peritoneum and yellow fascia

**247. Can vitamin deficiency and malnutrition lead to the development of hernias?**
A. Impossible
B. possibly
C. can only be found in horses
D. only in dogs

**248. In what animals is umbilical hernia most common?**
A. in dogs and piglets
B. only in calves
C. only in pigs
D. in dogs

**249. What organs is the visual analyzer divided into?**
A. eyelid, optic nerve, temporal muscle
B. protection, eyelids, optic nerve
C. eyelids, protective equipment, organ of movement
D. eyelid, upper and lower eyelid, optic nerve

**250. What is eye protection?**
A. temporal bone, periorbitis, upper eyelid, lacrimal apparatus, muscle layer, fatty layer of the eye
B. eyeball, periorbitis, eyelids, conjunctiva, lacrimal apparatus, subcutaneous fat
C. eyelid, optic nerve, muscles that move the eyelid, layer of fat under the eye, lacrimal pparatus
D. conjunctiva, nasopharyngeal canal, fibrous layer of the eye, outer layer of the eyelid, optic nerve

**251. What do you mean by the orbit of the eye?**
A. the bony part of the eyeball, which protects muscles and nerves
B. upper part of the eyelid
C. middle part of the century
D. perverts the eyes and temporal lobe

**252. What is periorbita?**
A. a cone-shaped napkin that wraps around the eyelids
B. layer of fascia surrounding the eyelid
C. the bone that protects the eyelids
D. conical bag with a fibrous-elastic membrane located in the eyelids, muscles, nerves and intraorbital fatty body
**253. What is the function of the periorbital?**
A. refracts visible light
B. surrounds the nerves, muscles, fat and blood vessels leading to the orbit
C. surrounds the optic nerve
D. receives rays of light
**254. How many and with what muscles do the eyelids move?**
A. 6 correct
B. 3 straight lines, 3 curves
C. 4 straight lines, 2 curves
D. 6 curves
**255. How old are farm animals?**
A. 2
B. 4
C. 3
D. 5

**256. What are the eyelids made of?**
A. top, bottom and third
B. middle, bottom and second
C. low, medium and high
D. second, top and bottom
**257. What are the components of the lacrimal apparatus?**
A. lacrimal duct, lacrimal gland, nostrils
B. nose and mouth openings, lacrimal glands, lacrimal sac
C. lacrimal gland, lacrimal sac, lacrimal canal
D. lacrimal canal, nasolacrimal canal, lacrimal gland
**258. What is the basis for the discharge of tears?**
A. exudate
B. lysozyme
C. lymphatic fluid
D. blood plasma fluid
**259. Where is the eyelid located?**
A. near the conjunctiva
B. before the third century
C. between third eyelid and conjunctiva
D. behind the lower and upper eyelids
**260. What is in the retrobulbar space of the eyeball?**
A. Muscles, Fatty Body and Nerves
B. fascia, fat and fiber layer
C. superficial and deep fascia, muscle layer
D. fat, special fascia and nerves
**261. What is the outer fibrous layer of the eyeball?**
A. intestinal film, conjunctiva
B. layer of the sclera and desemetes
C. horny film, white film
D. conjunctival and scleral layer

**262. What are the layers of the eyelids?**
A. upper, lower and intermediate
B. medium, medium and superficial
C. superficial, outer and bottom
D. outer, middle and inner
**263. What is the name of the outer layer of the eyelid?**
A. fibrous membrane
B. mesh membrane
C. vascular membrane
D. connecting membrane
**264. What is the name of the middle layer of the century?**
A. fiber
B. vascular membrane
C. irritating membrane
D. mesh membrane
**265. What is the name of the inner layer of the eyelid?**
A. fiber
B. vascular membrane
C. mesh membrane
D. fibrous membrane
**266. What contributes to the expansion and contraction of the pupil?**
A. atmospheric pressure
B. light
C. cornea of the eye
D. fibrous membrane of the eye
**267. What is the shape of the herbivore's pupil?**
A. horizontal
B. vertical
C. oval
D. curve
**268. What kind of animals have an oval pupil?**
A. in cattle
B. in birds
C. in horses
D. in dogs and cats
**269. What organ is used to refract light and capture images on the retina?**
A. retina
B. cornea of the eye
C. ciliary body
D. eyeball
**270. What part of the eye is examined with a keratoscope?**
A. conjunctiva
B. vascular layer of the eye
C. cornea
D. white membrane of the eye
**271. When will the head wounds start?**
A. in case of traumatic action of objects, improper transportation, maintenance, feeding
B. in case of traumatic action of objects, keeping, feeding
C. in case of traumatic action of objects, saddling
D. in case of traumatic action of objects
**272. What are the clinical signs associated with wounds in the head area?**
A. the size of the traumatic object

B. elasticity of the tissue and the size of the traumatic object
C. by force, time and place of influence
D. a certain area of the head

**273. What complications are observed besides the well-known ones for wounds in the head area?**
A. signs of concussion
B. severe bleeding
C. paralysis of the facial and trigeminal nerves
D. squint

**274. What exudate is released during penetrating wounds into the nasal cavity?**
A. serous-catarrhal
B. foamy - reddish
C. serous fibrinous
D. serous-purulent

**275. What methods of treatment are used for injured lips?**
A. sutures and a bandage are applied according to the method of M.V. Plakhotin
B. sutures and a bandage are applied according to the method of K.I.Shakalov
C. sutures and a bandage are applied according to the method of B.D. Narziev
D. sutures and a bandage are applied according to the method of I.E. Povazhenko

**276. What can develop with repeated bruises of the bones of the skull?**
A. ossifying periostitis and exostosis
B. ossifying periostitis
C. exostosis
D. ossifying periostitis, lymphoidulitis and exostoses

**277. How is depression treated?**
A. massage of legs and body, Kadykov's camphor serum is injected intravenously
B. injections of camphor oil and moya vacaffeine, foot and body massage, Plahotin fluid is injected intravenously
C. antibiotic injections, foot and body massage, Kadykov's camphor serum is injected intravenously
D. injections of camphor oil and moya vakofein, massage of the legs and body, intravenous injection of Kadykov's camphor serum

**278. What is the treatment for head fractures?**
A. bone fragments are transplanted using surgery
B. bone fragments are removed using surgery
C. a plaster cast is applied
D. an adhesive bandage is applied

**279. The motor nerve of which organs is the facial nerve?**
A. muscles of the ear, eyelids, lips and cheeks
B. muscles of the eyeball, lips and cheeks
C. muscles of the ear, eyelids, lips, cheeks of the nasal cavity
D. facial muscles

**280. What pair of cranial nerves is the facial nerve?**
A. Vpara
B. VIIpara
C. VIpara
D. Iipara

**281. In what animals is facial nerve paralysis most common?**
A. KRS
B. Dogs
C. horses
D. dogs and pigs
**282. What are the types of paralysis of the facial nerve?**
A. upper and lower
B. central, peripheral
C. central, peripheral, bilateral
D. central, peripheral, unilateral and bilateral

**283. What complications are observed with inflammation of the parotid saliva, outer, middle and inner ear?**
A. trigeminal paralysis
B. tetraplegia
C. facial nerve palsy
D. paraplegia

**284. What is observed with paralysis of the facial nerve?**
A. auricles and eyelids maintain their normal position
B. paralysis of the upper lip and rhinostenosis
C. atrophy of the corresponding muscles
D. prognosis is very bad

**285. What is observed when the buccal dorsal nerve is damaged?**
A. auricles and eyelids maintain their normal position
B. paralysis of the upper lip and rhinostenosis
C. prognosis is very poor
D. atrophy of the corresponding muscles

**286. What is observed with general paralysis of the facial nerve and its branches?**
A. paralysis of the upper lip and rhinostenosis
B. auricles and eyelids are in a normal position
C. atrophy of the corresponding muscles
D. prognosis is very bad

**287. What drug is injected into the paralyzed muscles?**
A. ~ itamine B6
B. ~ vitamin B1
C. vitamin B12
D. ~ vitamin PP

**288. In what infectious diseases does trigeminal paralysis develop?**
A. brucellosis, glanders
B. sap
C. rabies, plague of dogs
D. rabies, glanders

**289. What is found in the pus from actinomyoma?**
A. fibrin
B. collagen fibers
C. Druze

D. blood

**290. In what part of the esophagus are wounds most common?**
A. chest area
B. serous membrane
C. mucous membrane
D. muscular layer

**291. Can there be a wound on the outside of the esophagus?**
A. can't
B. can
C. can sometimes
D. the wound is observed only from the outside

**292. What method is used to detect injuries to the thoracic part of the esophagus?**
A. ultrasound
B. palpation
C. auscultation
D. x-ray

**293. A diverticulum of the esophagus is ...**
A. bilateral protrusion of the esophageal wall
B. unilateral protrusion of the esophagus wall
C. wound of the wall of the esophagus
D. blockage of the esophagus

**294. What are the signs of esophageal diverticulum in cattle?**
A. drooling, flatulence
B. signs of vomiting
C. painful, pear-shaped swelling
D. cessation of breathing

**295. Usually in what area of the esophagus in horses is the diverticulum observed?**
A. abdominal
B. cervical
C. chest area
D. on the right side

**296. How are fistulas located in the withers in horses?**
A. the fistulous canal passes into the muscle
B. the fistulous canal surrounds the muscles
C. the fistulous canal passes through the muscles and descends along the blood vessels and Nerves
D. have a tortuous canal, which, bypassing the muscle layers, descends along the blood vessels and nerves.

**297. Is there pain in old fistulas?**
A. not observed
B. there is severe soreness
C. there is a very strong soreness
D. there is a constant and sharp soreness

**298. Is there pain in necrosis of the spinous process of the vertebra?**
A. not observed
B. is observed sometimes
C. there is severe soreness
D. is observed all the time or sometimes}

**299. What exudate is released during necrosis of the nuchal ligament?**
A. thick and yellowish
B. mucopurulent
C. liquid mixed with blood
D. serous}

**300. What exudate is released from the fistula in case of purulent bursitis?**
A. thick and yellowish
B. mucopurulent
C. in large quantities, liquid with an admixture of blood
D. fibrinous

**301. What exudate is released during the disintegration of spinous processes?**
A. thick and yellowish
B. mucopurulent
C. in large quantities, liquid with an admixture of blood
D. serous

**302. What is the basis for the treatment of purulent - necrotic processes in the area of the withers?**
A. removal of dead tissue and excision of purulent canals
B. operatively excision of purulent canals
C. drainage
D. use of novocaine blockade

**303. What incisions are used for purulent - necrotic processes in the area of the withers?**
A. angular, vertical, sagittal
B. angular - vertical, sagittal and lateral
C. patchwork - angular, vertical, sagittal
D. patchwork - angular, vertical, sagittal and medial

**304. What is the use of ligamentum nuchal desmotomy in purulent-necrotic processes in the withers area?**
A. prevents the spread of the necrotic process
B. promotes the opening of the necrotic process
C. facilitates the drain of pus
D. to connect the torn ligament

**305. In what infectious diseases can withers phlegmon develop?**
A. brucellosis, paratyphoid
B. brucellosis, glanders
C. glanders, tuberculosis
D. rabies, glanders

**306. Is pus formed during anaerobic phlegmon of the withers?**
A. is formed
B. thick pus is formed

C. is not formed
D. liquid pus is formed

**307. Pneumothorax is ...**
A. accumulation of air in the pleural cavity
B. lung swelling
C. joint inflammation
D. destruction of the periosteum

**308. What happens with a closed pneumothorax?**
A. after injury, air enters the chest cavity and freely comes out back
B. a valve is formed in the lung
C. a valve is formed in the wound canal of the chest wall with a part of the pleura or muscle layer
D. after injury, the flow of air into the pleural cavity stops

**309. What happens with open pneumothorax?**
A. a valve is formed in the wound canal of the chest wall by a part of the pleura or by the muscle layer
B. after injury, air enters the chest cavity and freely comes out back
C. after injury, the flow of air into the pleural cavity stops
D. a valve is formed in the lung

**310. What signs are observed in pneumothorax?**
A. pleurisy develops, with percussion a tympanic sound is heard
B. pleurisy develops, with percussion you can hear a tympanic sound
C. bronchitis develops, with percussion a tympanic sound is heard
D. pleurisy develops, with auscultation sounds of friction are heard

**311. What kind of bandage is applied for pneumothorax?**
A. 4-layer
B. 3-layer
C. occlusive
D. light 1 ply

**312. What is hemothorax?**
A. accumulation of gas in the pleural cavity
B. accumulation of air in the pleural cavity
C. accumulation of exudate in the pleural cavity
D. accumulation of blood in the pleural cavity

**313. What is being done to replace blood in hemothorax**
A. hemodez is injected intravenously
B. is reinfused
C. fresh blood is injected intravenously
D. plasma is injected intravenously

**314. What is peritonitis?**
A. penetrating wound of the chest wall
B. disintegration of the periosteum
C. inflammation of the peritoneum
D. joint inflammation

**315. How can limited peritonitis result?**
A. the formation of metastases
B. dissolve or encapsulate and then break open
C. encapsulate with the development of an anaerobic infection
D. dissolve or encapsulate

**316. What method of novocaine blockade is used for peritonitis?**
A. celiac nerve blockade according to V.V. Mosin
B. blockade of celiac nerves according to M.V. Plakhotin
C. blockade of pectoral nerves according to M.Sh. Shakurov
D. blockade of abdominal nerves according to D.Kh. Narziev

**317. What means are used to prevent adhesions in peritonitis?**
A. sulfonamides, oxygen and antihistamines
B. antibiotics, oxygen and antihistamines
C. proteolytic enzymes, oxygen, and antihistamines
D. proteolytic enzymes, hydrogen peroxide and antihistamines

**318. What is an abdominal hernia?**
A. prolapse of internal organs as a result of rupture of the peritoneum and yellow fascia
B. prolapse of internal organs together with the parietal layer of the peritoneum
C. protrusion of the abdominal wall
D. prolapse of internal organs under the skin

**319. What forms the hernial ring?**
A. abdominal muscles
B. natural slits or ruptured abdominal wall
C. fascia of the abdominal wall
D. muscles, fascia, adipose tissue

**320. What is prolapse?**
A. prolapse of internal organs under the skin as a result of rupture of the peritoneum and yellow fascia
B. prolapse of internal organs under the skin through natural crevices
C. rupture of muscles and fascia
D. wound of muscles, fascia, adipose tissue

**321. Can vitamin deficiency and improper feeding be the reasons for the development of hernias?**
A. can't
B. can
C. can only be found in calves
D. can only be in puppies

**322. What animals often have an umbilical hernia?**
A. in pigs and dogs
B. in calves
C. in pigs
D. in dogs

**323. What scientist divided ulcerative bolonoposthitis in bulls into 3 clinical stages?**
A. M. Rufanov

B. M. L. Abishev
C. A.P. Plakhotin
D. I. Chernenko

**324. What methods of anesthesia should be carried out in the treatment of prepuce diseases?**
A. conductive, circular, caudal
B. paralumbar, paravertebral
C. sacral, conductive, infiltration
D. infiltration, lumbar

**325. What is the name of male castration?**
A. orchidectomy
B. ovariectomy
C. enucleation
D. vasectomy

**326. What is the name of the castration of females?**
A. orchidectomy
B. enucleation
C. ovariectomy
D. vasectomy

**327. Can vitamin deficiency and improper feeding be the reasons for the development of hernias?**
A. can't
B. can
C. can only be found in calves
D. can only be in puppies

**328. What animals often have an umbilical hernia?**
A. in pigs and dogs
B. in calves
C. in pigs
D. in dogs

**329. What scientist divided ulcerative bolonoposthitis in bulls into 3 clinical stages?**
A. M. Rufanov
B. M. L. Abishev
C. I. Chernenko
D. A.P. Plakhotin

**330. What methods of anesthesia should be carried out in the treatment of prepuce diseases?**
A. conductive, circular, caudal
B. paralumbar, paravertebral
C. infiltration, lumbar
D. sacral, conductive, infiltration

**331. What does the term orchidectomy mean?**
A. male castration
B. castration of cryptorchids
C. removal of the eyeball

D. vessel removal

**332. Ovariectomy What is the name of female castration?**
A. castration of cryptorchids
B. castration of females
C. removal of the eyeball
D. vessel removal

**333. Indicate the methods of castration of animals.**
A. surgical, chemical, hormonal, radioactive
B. bloody and bloodless, osteosynthesis, radiation, biological
C. elastration, percutaneous
D. open, closed

**334. Castration is ...**
A. artificial temporary stop of the function of the sex glands
B. artificial stop of the function of the sex glands
C. removal of genitals
D. decreased function of the sex glands

**335. What is the name of the inflammation of the glans penis?**
A. posts
B. balanitis
C. funiculitis
D. orchitis

**336. What does the term post mean?**
A. inflammation of the glans penis
B. inflammation of the body of the penis
C. inflammation of the sex gland
D. inflammation of the prepuce

**337. What instruments are used to castrate stallions?**
A. Tongs Zandaiemasculator
B. Emasculator and Piana clamp
C. Pian Clamp and Müller Pliers
D. Müller's Zandaicleschis

**338. With the help of what methods is a cesarean section performed?**
A. laparotomy ienterotomy
B. hysterotomy isophagotomy
C. laparotomy and hysterotomy
D. introtomy and isophagotomy

**339. What is the general name of tumors found on the genital organ of males?**
A. lipoma
B. venereal tumor
C. myoma
D. adenoma

**340. What should be done to remove urine in case of high amputation of the penis?**
A. a catheter is inserted into the urinary canal

B. the mucous membrane of the urogenital canal is sewn to the edges of the wound
C. urethrostomy is not performed
D. urethrostomy is performed

**341. When is the castration method called open?**
A. when opening the scrotum and muscular-elastic membrane
B. when opening the scrotum and common vaginal membrane
C. when opening the scrotum and special vaginal membrane
D. when opening the scrotum and fascia

**342. What suture is applied during cystotomy in large animals?**
A. Schmiden
B. Circular
C. not superimposed
D. Lambert

**343. When is acropostitis observed?**
A. with a long and narrow preputial sac
B. with a long and narrow preputial sac
C. with a narrow preputial sac
D. with the existence of a preputial sac

**344. What types of tumors are most often found on the genitals of young stallions?**
A. fibroma, venereal, fibropapilloma, fibrosarcoma
B. melanosarcoma, adenoma and carcinoma
C. carcinoma, lipoma and melanosarcoma
D. fibropapilloma, fibroma, fibrosarcoma, melanosarcoma and carcinoma

**345. What is the name of the muscle that tightens the fascia?**
A. rotator
B. extensor
C. tensor
D. adductor

**346. What is the name of the muscle that rotates the limb outward or inward?**
A. extensor
B. rotator
C. adductor
D. tensor

**347. What are the causes of limb disease?**
A. improper hoof trimming, violation of conditions of keeping, feeding and exploitation
B. lack of exercise, untimely vaccination and conditions of detention
C. correct or late trimming of hooves, housing and feeding conditions, lack of exercise
D. feed poisoning, actinomycosis

**348. What is called a cycle of movement?**
A. complete movement of one limb
B. simultaneous movement of all four limbs
C. complete movement of all four limbs
D. lump of two limbs

**349. What is the name of the complete movement of one limb?**
A. step
B. movement cycle
C. lameness
D. stance phase

**350. What is called a step?**
A. complete movement of the four limbs
B. complete movement of one limb
C. simultaneous movement of all four limbs
D. lump of two limbs

**351. What are the 3 main shock absorbers on the limbs of animals?**
A. knee and hock and hip joints
B. fascia, bursa, tendon sheaths
C. carpal, hock and hip joints
D. proximal, middle and distal

**352. What part of the limb serves as a distal shock absorber?**
A. elbow
B. shin
C. hoof
D. thigh

**353. What percentage are purulent arthritis in relation to all diseases of the extremities?**
A. 10.3%
B. 14%
C. 16%
D. 15.2%

**354. For how long should an animal be allowed to rest in case of a partial rupture of the Achilles tendon?**
A. 4-6 weeks
B. 10-15 days
C. 2-3 weeks
D. 10-20 days

**355. How many main types of lameness are observed in animals?**
A. 5
B. 4
C. 6
D. 3

**356. What are the main types of lameness observed in animals?**
A. hanging lameness, relying lameness, mixed lameness
B. leaning lameness, mixed lameness of ichlromism when testing for a wedge
C. lameness with a wedge test, hanging lame and leaning lameness,
D. tensor and rotator lameness, lameness with a wedge test

**357. Under what pathology is an animal's gait "swinging" observed?**
A. with mixed lameness
B. with adduction lameness
C. with abduction lameness

D. with spar of the tarsal joint

**358. When is lameness observed with a free limb position (hanging lameness)?**
A. with severe soreness of the muscles involved in the support of the limb
B. with severe soreness of the muscles involved in the support and removal of the limb
C. with severe soreness of the muscles leading the limb to the trunk
D. with severe soreness of muscles and other anatomical elements involved in the removal of the limb

**359. When there is lameness of a leaning limb (leaning lameness)**
A. with severe muscle soreness of other anatomical elements involved in supporting the limb
B. with severe muscle soreness of other anatomical elements involved in the removal and support of the limb
C. with severe muscle soreness of other anatomical elements of the limb
D. with severe soreness of the muscles leading the limb to the body

**360. When is mixed lameness observed?**
A. with severe soreness of the muscles leading the limb to the trunk
B. with severe soreness of the muscles of other anatomical elements involved in the support of the limb
C. with severe soreness of the muscles of other anatomical elements involved in the removal and support of the limb
D. with severe soreness of the motor muscles

**361. When is intermittent claudication observed?**
A. with the defeat of the 4th finger
B. with the support of the extension of the limb
C. with brake and femoral artery embolism
D. when bringing the limb to the body

**362. How many degrees of lameness exist depending on the severity of dysfunction of the diseased limb?**
A. 6
B. 3
C. 5
D. 2

**363. At what degree of lameness are arrhythmic movement and incomplete support on the diseased limb observed?**
A. at degree 3
B. at degree 2
C. at 1 degree
D. at degree 4

**364. What signs are observed with lameness of the 2nd degree?**
A. the animal rests slightly on the diseased limb and basically keeps it in an elevated position
B. the animal does not fully step on the diseased limb and moves it with great care
C. the animal rests on a sick limb for less time than on a healthy one, and when walking, the lameness disappears
D. there are no characteristic clinical signs

**365. How is the method of passive movements applied in case of limb diseases?**

A. the joints are forced to bend to the end
B. healthy limbs rise forward, thereby transferring the weight of the body to the pelvic limbs
C. flexion, extension, adduction and abduction of the diseased limb are forcibly performed
D. puncture of joints in motion

**366. Why do horses step over their hind limbs from time to time?**
A. to give rest to the triceps muscle of the shoulder
B. to give rest to the muscles that fix the kneecap
C. to give rest to the quadriceps muscle of the thigh
D. with fatigue of the biceps muscle

**367. What is lameness?**
A. violation of the rhythm of movement as a result of pain in diseases of the limb
B. disturbance of the rhythm of movement as a result of severe pain in the motor muscles
C. fatigue of three- and four-headed thigh muscles
D. reduction in the time of bearing on the injured leg in comparison with the healthy
**368. Violation of the rhythm of movement in the event of pain in the extremities leads to ...**
A. lameness
B. amble
C. dragging your feet
D. running at a gallop

**369. What is observed in deforming arthritis?**
A. with a quick lifting of a healthy limb, the support on the diseased limb will be a little painful
B. with a quick raising of a healthy limb, the support on the diseased limb will be very painful
C. with a quick lifting of the diseased limb, the support on the healthy limb will be very painful
D. when raising the diseased limb, the support on the healthy limb will be painless

**370. What muscles does the Achilles tendon begin with?**
A. from the heel muscle
B. from the middle muscle of the lower leg
C. from the lateral muscle of the lower leg
D. from the posterior muscle of the tibia
**371. What are the causes of spastic paresis?**
A. doing hard work for a long time
B. paralysis of the peroneal nerve
C. rupture of the major and peroneal muscles
D. unknown reason

**372. What does a locomotive apparatus consist of?**
A. joints, tendons and bones
B. tendons, ligaments and parenchymal organs
C. bones, muscles, tendons and ligaments
D. parenchymal organs, bones and muscles

**373. How is radial nerve paralysis investigated?**
A. the area of the tibia is examined
B. an elbow test is carried out
C. the area of the wrist is examined
D. the area of the fibula is examined

**374. What muscles provide fixation of the elbow joint when the animal is at rest?**

A. radial wrist flexor and ulnar wrist extensor
B. radial extensor of the wrist, elbow flexor of the wrist
C. triceps, wrist extensor ulnar
D. radial flexor of the wrist, triceps

**375. Where the horse is guided before shoeing?**
A. on a concrete track
B. on a clay track
C. on an asphalt track
D. on a dirt road

**376. What material are horseshoes made of?**
A. mild steel ST 1 and ST 4
B. mild steel
C. made of iron
D. mild steel ST 2 and ST 3

**377. How far from the wall is the hitching post set to tie the horse during shoeing?**
A. 80-100 cm from the wall
B. 60–70 cm from the wall
C. 110-150 cm from the wall
D. 50-60 cm from the wall

**378. How aggressive bulls are fixed for shoeing?**
A. upright
B. in the supine position
C. related
D. with legs bound

**379. Which of the organs is checked by special methods for "spar"?**
A. heel (hock) joint of the leg
B. wrist
C. pulse check
D. respiratory rate measurement

**380. How many holes for nails are in the horseshoe of heavy trucks?**
A. 5-6
B. 14-15
C. 10-12
D. doesn't matter

**381. What is the weight of a horseshoe for a horse jumping over an obstacle?**
A. 70-75 g
B. 120-150 g
C. 150-200 g
D. 80-120 g

**382. What is the weight of the horseshoe for the front hooves of trotters?**
A. 150-180 g
B. 150-250 g
C. 100-150 g
D. 80-120

**383. What is the ratio of the length of the anterior wall of a normal hoof to the wall of the heel in cattle?**
A. 3 times
B. 2.5 times
C. 2 times
D. are the same

**384. What kind of horseshoes are used for sports horses?**
A. sturdy and with pinches to avoid slipping
B. lightweight and durable
C. with wide anterior clefts.
D. are not at all shoddy

**385. Are there tongs on horseshoes for cattle?**
A. there are but narrow
B. are not
C. not often
D. are always

**386. What happens to the hoof when the legs are wide?**
A. the leg moves along an internal arc
B. the front of the hoof is abraded
C. the heel of the hoof is abraded
D. the white line is wearing off

**387. Which part of the hoof is tested with a Baer wedge?**
A. heel
B. tendons
C. shuttle unit
D. coffin bone

**388. What are the causes of hoof deformity?**
A. poor conditions of detention
B. hereditary and acquired
C. damage
D. disease

**389. What shape can a deformed hoof have?**
A. wrong
B. oval
C. with vertical heel
D. dumb

**390. Distinguishing features of a flat hoof:**
A. the surface of the sole is flush with the wall of the hoof
B. hoof bulge
C. concavity of the arrow
D. concavity of hoof crumb

**391. What are the symptoms of narrow hooves?**
A. the wall of the hoof capsule is compressed
B. the anterior part of the hoof capsule wall is sharpened

C. the arrow of the hoof is damaged
D. the heel portions of the hoof capsule wall are close to each other

**392. How to fix a crooked hoof?**
A. is nailed a semi-moon horseshoe or a round horseshoe with a soft lining
B. a wide horseshoe is nailed
C. a narrow horseshoe is nailed
D. is impossible to fix

**393. How is a steep hoof straightened?**
A. nailed high in front
B. the lunar horseshoe is nailed
C. a horseshoe high from the back is nailed
D. horseshoe is not nailed

**394. Which animal has crumb cartilage on the hooves?**
A. in sheep
B. in pigs
C. in horses
D. in cows

**395. What are the main clinical signs of corolla phlegmon in cattle?**
A. body temperature is high, the swelling is not large, the surface is dense
B. the formed abscesses quickly rupture, a liquid fetid pus forms and flows out.
C. the horny capsule of the hoof comes off
D. the overall body temperature is very high, the upper part of the corolla of the hoof is swollen and soft.

**396. What causes crumb phlegmon?**
A. infected deep crumb wounds
B. complications of foot and mouth disease
C. complication of necrobacteriosis
D. complication of the shuttle bone fracture

**397. In what animals is soft cartilage necrosis found?**
A. in breeding stallions
B. at breeding bulls
C. in breeding cows
D. in breeding pigs

**398. What is meant by aseptic pododermatitis?**
A. Inflammation of the base of the skin of the sole of the hoof
B. inflammation of the base of the skin of the hoof wall
C. inflammation of the shuttle bursa
D. inflammation of the deep flexor

**399. How is aseptic pododermatitis treated?**
A. in the initial period, warm and massage around the hoof, then the introduction of hydrocortisone
B. hooves are trimmed and cleaned, local cold, 0.25% novocaine solution is injected intravenously

C. in the initial period, cold is applied, then pressing dressings, blockade with 0.25% novocaine around the process
D. the process is opened surgically and a novocaine-antibiotic solution is injected inside

**400. What causes rheumatoid arthritis?**
A. long-term use of the animal in harsh conditions
B. some infectious diseases - brucellosis
C. hard blows
D. local infection

**401. Where is the process of rheumatic inflammation of the hooves?**
A. at the top of the crumb
B. based on the skin of the hoof wall
C. in crumb
D. in the joint of the coffin bone

**402. What are the clinical signs of rheumatoid arthritis?**
A. the animal rests on the heel of the hoof, the local temperature rises, the pulsation of the arteries of the fingers increases
B. the animal rests on the toe of the hoof, the general temperature is high, and the tendons are swollen
C. the animal rests on the medial edge of the hoof, groans, the overall temperature does not rise
D. the upper part of the hoof is diffusely swollen, painful and hot, and the animal shakes the leg.

**403. How is rheumatoid arthritis treated?**
A. heat is applied to the hoof area, local antibiotics are injected, pressure bandages are applied, massage
B. thermocauterization is used, opening of the hoof joint and washing with antibiotics
C. heat is applied to the hoof area, protein-rich foods are added to the animal's diet
D., cold is applied to the hoof area, a solution of 10% sodium salicylate, hydrocortisone, butadione, calcium chloride is injected intravenously

**404. What are orthopedic horseshoes used for?**
A. so as not to slide on ice
B. so as not to get bogged down in sand and mud
C. in case of deformity of the hoof
D. improve the performance of sport horses

**405. Where nails are driven when shoeing?**
A. into the white line of the wall of the hoof capsule
B. in the plantar part of the hoof capsule
C. at the base of the hoof wall
D. in the arrow of the hoof

**406. When should the hooves of untrained horses be trimmed and cleaned?**
A. 39-40 days
B. 29-30 days
C. 37-42 days
D. as you grow

**407. What are the clinical signs of necrobacteriosis in horses?**
A. the tissues are dense, immobile, a liquid, gray, greenish exudate with an unpleasant odor flows out of the fistula

B. necrosis with the formation of deep ulcers and the release of a greenish exudate
C. the tissues undergo wet necrosis, and after a few days the skin peels off and ulcers form
D. horses do not have necrobacteriosis

**408. What are the local methods of necrobacteriosis treatment:**
A. the dead tissue is removed, washed with potassium permanganate, and then the Vishnevsky emulsion is applied
B. drainage with ointment is introduced into the fistula, alkaline solutions are injected into the fistula, dead tissue is removed
C. the process is washed with a solution of furacillin and a thick bandage is applied that absorbs the liquid
D. the organ is completely amputated

**409. In what animals is Rustergoltz's ulcer most widespread?**
A. in cows
B. in racehorses
C. in sheep
D. in calves

**410. What factors cause Rustergolz's ulcer?**
A. hoof movement
B. Excessive clipping of the hoof when shoeing
C. weight is unevenly distributed on the sole of the hoof hoof movement
D. deficiency of molybdenum and iodine in the body
**411. What are the clinical signs of Rustergolz's ulcer?**
A. a gray wound forms on the wall of the hoof
B. on the soft heel of the hoof, first a crack, then a wound
C. a deep wound is formed on the sole and the wall of the hoof is separated from the sole
D. on the border of the sole of the foot and soft heel, an ulcer forms

**412. In what disease of the hoof is cold applied to the hoof area, intravenous solution of 10% sodium salicylate, hydrocortisone, butadione, calcium chloride?**
A. with rotting hoof
B. with rheumatic inflammation of the hooves
C. with purulent pododermatitis
D. with purulent trochleitis

**413. How to treat hoof deformity?**
A. is not treated
B. Orthopedic shoe hoof surgery
C. circumcision of the horny sole
D. correct answers A, B

**414. What organs does the visual analyzer consist of?**
A. eyeball, optic nerves, zygomatic muscles
B. protective organisms, eyeball, optic nerves
C. eyeball, protective organs and motor organs
D. eyeball, upper and lower eyelids, optic nerve

**415. What organs belong to the protective organs of the eye?**
A. eyeball, periorbitis, eyelids, conjunctiva, lacrimal apparatus of the eyes, postorbital fat layer

B. bone, periorbitis, upper eyelid, lacrimal apparatus of the eyes, muscle layer, postorbital fat layer
C. the eyeball, optic nerve, muscles, fat layer, lacrimal apparatus of the eyes
D. conjunctiva, nasolacrimal canal, fibrous layer of the eyes, outer layer of the eyeball, optic nerve

**416. What is the orbit of the eye?**
A. upper part of the eyeball
B. middle part of the eyeball
C. periorbitis and zygomatic bone
D. the bony part in which the eyeball, muscles and nerves are preserved

**417. What is periorbita?**
A. subcutaneous connective layer covering the eyeball
B. cone-shaped fibrous sac in which the eyeball, muscles, nerves and fatty body are located
C. fascia covering the eyeball
D. protective bone layer of the eyeball

**418. What parts does the nasolacrimal apparatus consist of?**
A. lacrimal nasal canal, lacrimal gland, sinuses
B. nasal and oral cavities, lacrimal canal, lacrimal gland
C.Lacrimal gland, lacrimal sac, lacrimal nasal canal
D. lacrimal-oral canal, lacrimal nasal canal, lacrimal gland

**419. Where are the eyeballs?**
A. in the anterior part of the third century
B. between and behind the upper and lower eyelids
C. in the conjunctiva
D. between the third century and the conjunctiva

**420. What is the name of the outer shell of the eyeball?**
A. mesh shell
B. choroid
C. connecting sheath
D. fibrous membrane

**421. What is conjunctivitis?**
A. corneal inflammation
B. inflammation of the inner surface of the eyelids
C. inflammation of the vascular layer of the eyes
D. inflammation of the upper eyelid

**422. What parts of the eyes are examined with the help of a keratoscope?**
A. vascular layer of the eye
B. vitreous eye
C. cornea
D. anterior chamber of the eye

**423. What does blepharitis mean?**
A. inflammation of the eyeball
B. inflammation of the iris
C. eye corneal inflammation
D. inflammation of the eyelids

**424. The reasons for the occurrence of keratitis?**
A. exogenous and endogenous factors
B. primary and secondary factors
C. infectious diseases of the eyeball
D. invasive eye diseases

**425. What happens with valvular pneumothorax?**
A. after injury, the flow of air into the chest cavity stops
B. after injury, air enters the chest cavity and freely comes out back
C. a valve is formed in the wound canal of the chest wall with a part of the pleura or muscle layer
D. a valve is formed in the lung

**426. What reasons cause lameness of a hanging limb?**
A. pathology of the muscles that extend the limb forward
B. fractures of the bones of the fingers
C. injury to the hip joint
D. flexor tendon injury

**427. How does chemical injury occur?**
A.When exposed to alkalis and acids
B .when exposed to high and low temperatures, rays, radiation,
C.In electric current and lightning
D.when exposed to viruses, pathogenic microbes
E. in violation of the adaptive properties of the animal

**428. When does monotrauma occur?**
And when injuring animals of the same type
B when injuring animals of the same breed
C. In case of injury to an organ
D when injuring organs of one system

**429. When does physical trauma occur?**
A. And when exposed to alkalis and acids
B . when exposed to high and low temperatures, rays, radiation, electric current and lightning
C . when exposed to viruses, pathogenic microbes
D. in violation of the adaptive properties of the animal

**430. What is the result of non-observance of the rules and failure to create conditions for obtaining semen from bulls?**
A. And industrial and technological trauma
B. Sex trauma
C. In a breed injury
D. HOC trauma

**431. What is meant by periarthritis?**
A. outpouring of blood from the damaged joint capsule into the joint cavity
B. purulent inflammation of all elements of the joint and surrounding tissues
C. purulent inflammation of the synovial membrane of the joint
D. purulent inflammation of all elements of the joint

**432. Purulent surgical infection is ...**
A fungus, purulent sticks, clostridiums
Bstaphylococcus, streptococcus, diplococcus, Escherichia coli
C.Into gas gangrene
D spore-forming bacilli, Escherichia coli and staphylococci

**433. What is meant by panarthritis?**

A.And the outpouring of blood from the damaged joint capsule into the joint cavity
B. purulent inflammation of the synovial membrane of the joint
C.Purulent inflammation of all elements of the joint and surrounding tissues
D.Purulent inflammation of all elements of the joint

**434. What is the percentage of bone fractures in horses?**

A 33.6
B 24.6
C 32.5
D44.8

**435. What is the name of purulent inflammation of all elements of the joint and surrounding tissues of the joint?**

A joint abscess
Bpanarthritis
C.In the phlegmon of the joint
D.Arthrosis of the joint

**436. In what part of the flexor muscles of the finger are sprains and tears more common?**

A dorsal
B ventral
C. In the caudal
D.distal

**437. What is the function of the tendon sheath?**

A.Covering the tendon part of the muscle facilitates its work
B wetting the tendon part of the muscle contributes to its contraction
C. provides movement of the tendon part of the leg
D. provides movement of the leg muscles and prevents bleeding

**438. What causes lead to acute aseptic tendinitis?**

A.And rupture, crushing, caries and stretching
B. hematoma, lymphoextravasate
C. In stretching, fracture, rupture
D. Hushib, stretch, squeeze

**439. Tenosynovitis is ...**

A. Tendon sheath avinflammation
B. inflammation of the joint tissues
C. In tendon stretching
D. inflammation of the tendon

**440. How are joint dislocations classified?**

A traumatic and ordinary
B normal
C. Into pathological
D. Born and acquired

**441. What is the sequence of the shock phases?**

A. torpid, paralytic, erectile
B.arectile, torpid, paralytic
C. paralytic, erectile, torpid
D. erectile, paralytic, torpid

**442. What is meant by collapse?**

A sharp decrease in the activity of the cardiovascular system
B loss of consciousness
C. In a sharp decrease in the activity of the nervous system
D increased blood pressure

**443. What is the correct characteristic of normmergic inflammation?**

A. And the predominance of degeneration processes over regeneration

B equality of regeneration and degeneration
C. The predominance of regeneration processes over degeneration
D intensification of the inflammatory process in the tissues

**444. What are the types of bone necrosis in terms of localization?**

A complete and general
Bnecrosis of the bone
C. Bone softening
D. Bone destruction

**445. Describe the appearance of the wound with a penetrating wound of the nasal cavity**

A.Accompanied by a foamy red discharge
B. due to significant tension of the skin gape, the intensity of bleeding depends on damage to blood vessels and bones
C.Paralysis with muscle atrophy is observed
D. are characterized by profuse bleeding and swelling, dehiscence is often moderate

**446. What changes can be observed with injuries of the brain and nerve trunks?**

A.And are characterized by profuse bleeding and swelling, dehiscence is often moderate
B Paralysis with muscle atrophy is observed
C The process is accompanied by a foamy red discharge
D due to significant tension of the skin, they gape, the intensity of bleeding depends on damage to blood vessels and bones

**447. Typical clinical signs for contracture of the joint of the first phalanx:**

A Excessive flattening and curvature of it, as well as the butt positioning of the put.
B lameness, accompanied by a complete absence of active movements in the damaged joint
C In the animal, there is a mild to moderate degree of mixed lameness.
D significant painless or less painful fluctuating swelling of the affected joint

**448. What wounds in the chest area are the most dangerous for the life of an animal?**

A And the cut wounds
B Used bite wounds
C Vrana penetrating into the chest cavity
D bite wounds

**449. Symptoms of chest bursitis:**

A cardiac weakness, shortness of breath, sweating, muscle tremors
B soreness, swelling and crepitus
C In the area of the handle of the sternum, a limited swelling of a fluctuating consistency is found
D fever, swelling in the affected area

**450. Types of bursitis of the sternum?**

A hemorrhagic
B fibrinous, purulent
C hemorrhagic, serous
D. serous, purulent

451. What suture is placed on the anus when the prolapsed rectum is repositioned?

A nodal
B Z-shaped
Vkisetny
L 8-shaped

452. When does the annular ulcer of the preputial sac appear?

And with phimosis
Used with an incorrect haircut
In the case of balanoposthitis
G on the funicular

**453. For what purpose is thermocaterization used for inflammation?**

Burns to stop bleeding
Gods for medicinal purposes
Into burning
D dressing compress for medicinal purposes
**454. What layers in sequence are present in the warming compress?**
Listening, heat-resistant, moisture-proof, damp
B heat-shielding, retention, moisture-proof, damp
In moisture-proof, retention, heat-proof, damp
G wet, retention, heat-proof, moisture-proof
455. On what day is the purse-string suture removed after surgery for rectal prolapse?
A 2-3
B6-7
11-15
G 20-25
**456. What method of treatment is used for scrotal hernia?**
Aoperative
B medication
Use physical methods
The animal is discarded
**457. Name the main cause of an umbilical hernia.**
And purulent processes
B increased intraperitoneal pressure
In traumatic injury
Congenital malformations
**458. What is the name of the method of taking blood from an animal's vein and introducing it to another animal of the same species?**
Homohemotherapy
B autohemotherapy
In hemotherapy
D heterohemotherapy
**459. What methods of preparation of preparations suggested by V.P. Filatov and N.I. Krause?**
And blood products
B dairy preparations
In mushroom preparations
Tissue preparations
**460. What methods of preparation of preparations suggested by M. P. Tushnov?**
And blood products
B tissue therapy
Into antibiotics
Glizates
**461. Aseptic purulent inflammation can develop when:**
A pronounced protective properties of the body
B intramuscular "ulcerative or subcutaneous injection of turpentine
Intramuscular "Ulcerative or subcutaneous administration of antibiotics
All answers are wrong
**462. Serous exudation is expressed in:**
Aloshadey
B pigs
In cattle
G birds
**463. In physiotherapy, their means of treating inflammatory processes include:**

And tissue therapy
UHF field action
In novocaine blockade
D heterotherapy

**464. Non-specific stimulating therapy includes:**
And novocaine blockade
B paraffin therapy
Hemotherapy
G Minin lamp

**465. Hydrotherapy refers to:**
Medicinal use of cold water
B use of infusion of hypertonic saline solutions
The use of synthetic blood substitutes for medicinal purposes
Ozerinotherapy

**466. Fibrinous exudation is expressed in:**
And the horses
Large cattle
Into the dogs
Svens

**467. Roschin novocaine of which concentrations is used for blockade with pathogenetic purpose?**
A 5%
B 10%
AT 3%
Γ0.5%

**468. Immunostimulating drugs do not include:**
A virutricide
Banalgin
B thymogen
G ketamine

**469. Hematoma is:**
A hemorrhage into loose tissue with the formation of a cavity
B multiple punctate hemorrhages in loose tissue
In bloody, in a heart-shaped shirt
D correct answer A, B

**470. When treating lymphoextravasates it is shown:**
And active movements
B cold
Take it easy
G Compress

**471. If a sick animal has a high temperature for 3-4 days after opening the phlegmon, it is necessary:**
A And antipyretic drugs
B Conduct an additional audit of the wound
C In physiotherapy and procedures
D correct answers B, C

**472. During the surgical treatment of phlegmon it is necessary:**
A And open the phlegmon
B to partially remove the tissue that forms the cavity
C Open the phlegmon and introduce drainage into its cavity
D remove partially tissue, open phlegmon

**473. Septicopyemia is a form of sepsis:**
A And with multiple primary purulent foci
B with the creation of purulent metastases and toxemia
C with progressive endotoxemia
D Endogenous intoxications
**474. What color do muscles have in case of anaerobic gangrene:**
A. And bright red
B Boiled meat
C. Into the usual
D. yellow
**475. In case of severe purulent inflammatory process, changes are noted in the blood formula:**
A. And the number of stab neutrophils does not change
B decrease in the number of stab neutrophils
C. Increased number of stab neutrophils
D. emigration of leukocytes
**476. The most common causative agent of gas gangrene are:**
A And CL. septicym
B CL. hystoliticum
C CL. perfringens
D. C.L. novyi
**477. Where tendon ruptures are most common:**
A flexor fingers
B on the extensors of the fingers
C on the lateral joints
D on ligaments
**478. Phlegmons are called**:
Acute diffuse purulent inflammation of loose connective tissue
B limited purulent inflammatory process, accompanied by the formation of a cavity filled with pus
C In purulent inflammation of the hair follicle and sebaceous gland along with the surrounding fiber
D acute purulent-necrotic inflammation of the skin
**479. An abscess is called:**
A And acute diffuse purulent inflammation of loose connective tissue
B Limited purulent inflammatory process, accompanied by the formation of a cavity filled with pus
C In purulent inflammation of the hair follicle and sebaceous gland along with the surrounding fiber
D acute purulent-necrotic inflammation of the skin
**480. Anaerobic phlegmon is characterized by:**
Acute or fulminant course, formation of slightly painful, not hot, crepitant swelling
B acute or fulminant course, formation of hot, painful, crepitant swelling
C During chronic course, formation of hot, painful fluctuating swelling
D acute or lightning-fast current without boundaries
**481. In the light-refracting media of the eye include:**
A And the cornea, sclera, lens, retina
B iris, lens, vitreous body, retina
C Cornea, intraocular moisture, lens, vitreous humor
D iris, lens, ciliary body
**482. Protective devices of the eye include:**
A And the eyelids, lacrimal apparatus, fibrous membrane of the eye

B eyelids, orbit, lacrimal apparatus, eye muscles, cornea
C Vorbit, periorbit, eyelids, fascia, full-time fat, lacrimal apparatus
D eyelids, orbit, lacrimal apparatus, eye muscles, cornea, vitreous

**483. The motor apparatus of the eyeball consists of:**

A And five muscles
B six muscles
C All muscles
D eight muscles

**484. Farsightedness is:**

Aghypermetropia
B emmetropia
C anisometropia
D myopia

**485. Myopia is:**

Amyopia
B anisometropia
C In piemiya
D Hyperopia

**486. Refraction is:**

A And the ability of the eye to clearly recognize objects at different distances
B the phenomenon when the rays of light, after refraction in the environments of the eyes, do not combine at one point
C The vanatomical ability of the optical system of the eye at rest to refract parallel rays and collect them at one point
D angle of incidence

**487. Accommodation is:**

A special type of abnormal refraction when the rays of light after refraction in the environments of the eyes do not connect at one point
B The ability of the eye to clearly recognize objects that are at different distances
C The ability of the optical system of the eye at rest to refract parallel rays and collect them at one point \
D the anatomical ability of the optical system of the eye at rest to refract parallel rays and collect them at one point

**488. 77. With the help of the Purkine-Sansona image, the**

A And the condition of the cornea and sclera
B Lens condition and transparency of refractive media
C In the refraction of the eye
D correct answer A, B

**489. Keratoscope is being installed**

A And the smallest changes on the conjunctiva of the eyelids, sclera, cornea, iris in the anterior and posterior chambers of the eye and on the anterior surface of the lens
B the passage of light through the environment of the eye and the state of its bottom
C The general condition of the cornea, its sphericity and specularity
D shell in the anterior and posterior chambers of the eye and on the anterior surface of the lens

**490. Ophthalmoscopy**

APassage of light through the medium of the eye and the state of its bottom
B the smallest changes in the conjunctiva of the eyelids, sclera, cornea, iris in the anterior and posterior chambers of the eye and on the anterior surface of the lens
C In the condition of the cornea and sclera
D the transmission of light through the environment of the eye and the state of its bottom

**491. Side focal lighting set**

A And the permeability of light through the environment of the eye and the state of its bottom

B The smallest changes in the conjunctiva of the eyelids, sclera, cornea, iris in the anterior and posterior chambers of the eye and on the anterior surface of the lens
C In the state of the protective devices of the eye
D condition of the cornea, its sphericity and specularity

**492. What forms of drugs in ophthalmology last longer**

A And ointments
B Used eye drops
C Ophthalmic healing films
D Emulsions

**493. The following clinical signs are characteristic of catarrhal conjunctivitis**

A And edema of the edge of the eyelids and their hyperemia, loss of eyelashes, profuse lacrimation, ectropium, blepharospasm
Blepharospasm, the presence of Vitok from the inner corner of the eye with admixtures of mucus and flakes, conjunctival edema, injection of superficial vessels, soreness of the eye and an increase in local temperature
C In blepharospasm, soreness and increased local temperature, photophobia, injection of superficial vessels, chemosis, the presence of mucopurulent discharge from the inner corner of the eye, the presence of necrosis of the mucous membrane
D Purulent inflammation, covering all environments and membranes of the eyes, including the sclera

**494. The following clinical signs are characteristic of fibrinous conjunctivitis**

A And photophobia, profuse lacrimation, mucopurulent leaks from the inner corner of the eye, the presence of itching in the eye area, edema of the third eyelid, conjunctivitis, blepharitis, eyelash loss, entropium, keratitis, the inner surface of the third eyelid resembles a raspberry berry
B Fear of light, profuse lacrimation, pronounced injection of superficial vessels of the conjunctiva, edema of the eyelids and conjunctiva, chemosis, presence of brown-red films and necrosis on the conjunctiva
C In blepharospasm, soreness and increased local temperature, photophobia, injection of superficial vessels, chemosis, the presence of mucopurulent discharge from the inner corner of the eye, the presence of necrosis of the mucous membrane
D edema of the edge of the eyelids and their hyperemia, loss of eyelashes, profuse lacrimation, ectropium, blepharospasm

**495. The penetration of microorganisms into the bloodstream during sepsis is facilitated by their ability to:**

A Hyaluronidase secretion
B release of hemolysins
C In the synthesis of fibrinolysin
D All answers are correct

**496. Shock is:**

A And changes in the morphological composition of blood when microorganisms enter the blood
B response of the immune system to a foreign protein
C Non-specific syndrome due to decreased tissue perfusion with blood
D changes in the morphological composition of the skin

**497. Inflammation is:**

A And the tissue reaction to blood loss
B The vascular-mesenchymal reaction of the body in response to damage
C Into the immune system's response to a foreign protein
D reaction to microbes

**498. What is the name of the outer shell of the eyeball?**

AAnd the choroid
B connecting sheath
C Fibrous membrane
D mesh shell

**499. Give the most complete correct answer: bleeding is an outpouring of blood:**

A And into the external environment;
B in the body cavity;
C  in the tissues of the body;
D  of tissue, body cavity or external environment;

**500. Temporary hemostasis is carried out:**

A And by ligating the vessel in the wound;
B imposition of a vascular suture;
C In a pressure bandage, tourniquet, finger pressure;
D diathermocoagulation.

# V. Evaluation criteria for the subject

**Evaluation criteria for the subject**

Criteria for assessing the knowledge of bachelor students on a 5-point system

Rating 5 (excellent):

make decisions and draw conclusions;

think creatively;

independently analyze the situation

apply the knowledge gained in practice;

understand the principle;

know, reveal the essence;

have an idea;

Rating 4 (good):

analyze independently;

apply the knowledge gained in practice;

understand the principle;

know, reveal the essence;

have an idea;

grade 3 (satisfactory);

understand the principle;

know, reveal the essence;

have an idea;

2 (unsatisfactory):

not master the program of the subject;

not know the essence of the subject;

not have a specific idea;

not be able to think independently.

# VI Handouts on the subject

Practical lesson

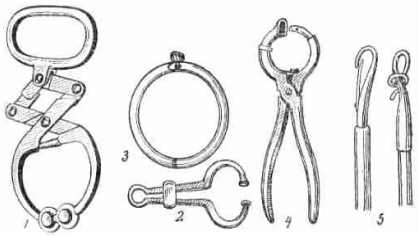
Research methods of surgically sick animals

Target. To work out and master the technique of fixing animals of different species in a standing and lying position.

Materials and equipment. Bridle, rope, harness belts, fetlock belt with a ring, tarpaulin twisting, Dyachenko nasal forceps, Garms nasal forceps, nose rings, stick-leashes for bulls, cotton wool, gauze, bandage, iodine solution, alcohol, experimental animals, fixation machines, surgical tables, bundles of straw.

Exercise 1

Learn the tools for restraining cattle and familiarize yourself with restraining tables for farm animals.



Mark the cattle fixation tools in the figure and describe them.

1._____

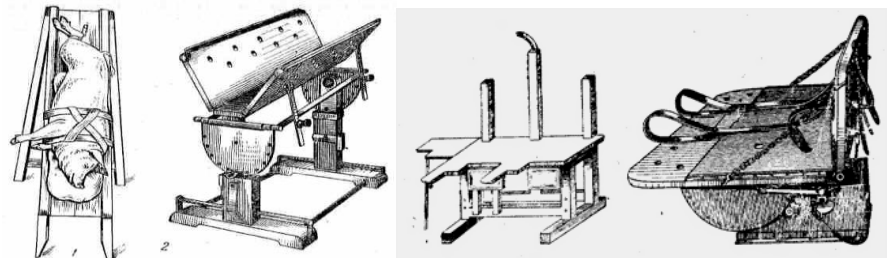
2._____

3._____

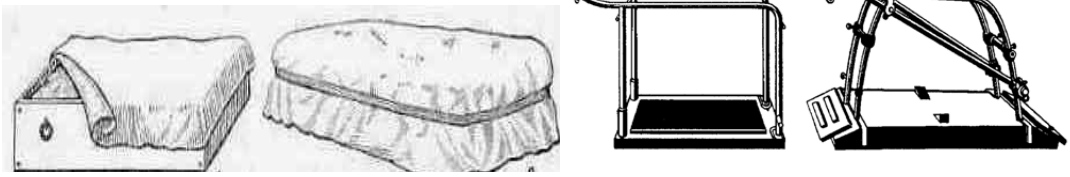
4._____

5._____

Indicate in the figure tables for fixing agricultural animals and indicate for which animals they are used.

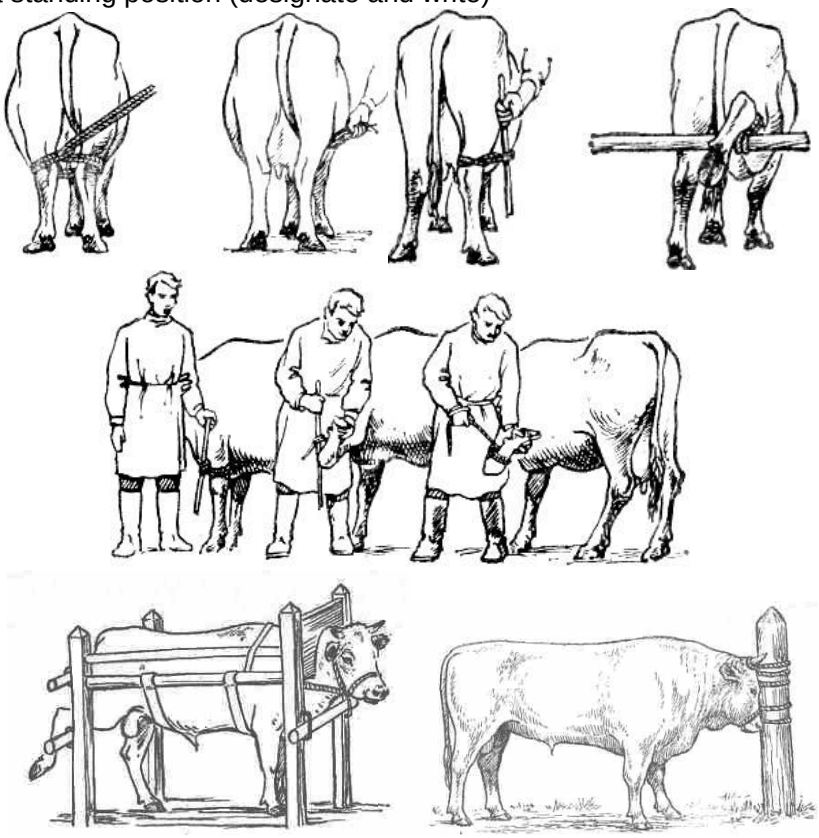


1 2 3 4

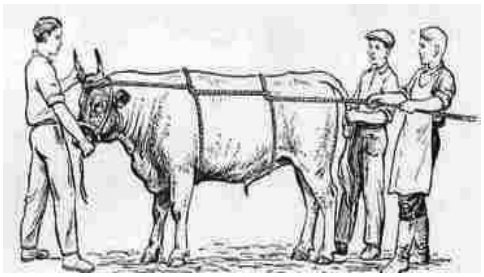


5 6 7 8

Assignment 2
Fix the cattle in a standing position (designate and write)



1



Carry out the fall of cattle according to the Hess method (briefly describe)._____

Carry out cattle felling in the Caucasian way (briefly describe)

_____

Assignment 4

Get acquainted with the methods of fixation and carry out fixation of dogs, cats and wild fur animals.

Control questions

1.For what purpose are animals fixed during operations and diagnostic studies?

2. Methods for fixing cattle, horses, pigs and small animals.

3. What complications arise during the fixation of animals?

4. Ways to prevent complications.

Practical lesson

The use of paraffin therapy and ozokerite in subacute and chronic inflammatory processes

Target. To acquire practical skills in the use of cold and thermal procedures, foot baths, paraffin treatment.

Materials and equipment. Cotton wool, gauze, bag, braid, bandages, bucket, brush, towel, oilcloth, cellophane, parchment, clay, vinegar, paraffin, ozokerite, cloth, electric stove, syringe, injection needles, alcohol tincture of iodine, alcohol.

Exercise 1

Acquire practical skills in the use of cold procedures (cold compresses, dry cold, foot baths).

Methodical instructions

The following types of physiotherapy are used in veterinary surgery: hydrotherapy, mud therapy, paraffin therapy, ozokeritotherapy, moxibustion, phototherapy, electrotherapy and massage.

Hydrotherapy is based on irritation of the cerebral cortex through receptors with the help of mechanical and thermal action. There are water: cold (below 20C), cool (from 21 to 32C), indifferent (indifferent) (33-35C), warm (36-40C), hot (above 40C). Thermal water procedures cause active hyperemia in the affected tissues and organs, improve metabolism, increase lymphocytosis and immunobiological characteristics of the body, reduce pain, and accelerate the resorption of inflammation.

1.1. Dry cold application (describe) _____

1.2. Cold compresses (describe)

_____

1.3. Cold foot baths (describe) _____

Assignment 2

Get acquainted with the technique:

2.1. Mud therapy (describe)

._____

2.2. Paraffin treatment (describe)

_____

Control questions

1. Methods of using cold and heat during the treatment of surgical diseases.

2. Technique of steam therapy, paraffin therapy and ozokerite therapy.

Practical lesson

Local application of novocaine blockade

Target. Learn how to prepare anesthetic solutions and use different types of anesthesia.

Materials and equipment. 0.75% sodium chloride solution, novocaine powder, 2.5 ml and 20 ml syringes, injection needles, tape measure, alcohol solution of iodine, alcohol, cotton wool, gauze, sterilizer, distilled water, towel, soap, 0.25% novocaine solution, scissors.

Exercise 1

Prepare anesthetic solutions and describe the preparation methods.

0.25% novocaine solution (100 ml)

_____

0.5% solution of novocaine (150 ml)

_____

1-1.5% solution of novocaine (150 ml)

_____

2% solution of novocaine (180 ml)

_____

Methodical instructions

A measured amount of 0.7% sodium chloride solution is poured into a neutral glass flask and boiled for 10-15 minutes. The required amount of novocaine is poured into a boiled isotonic sodium chloride solution and the solution is brought to a boil again, after which the flask is removed from the heat. If the solution contains mechanical impurities, it is filtered and reheated to boiling.

Assignment 2

Apply infiltration anesthesia along the incision line (describe).

Assignment 3

Conduct conduction anesthesia of the metacarpal nerves in cattle according to GM Shabrov (describe).

In the figure, mark the injection site

Assignment 4

Perform low sacral bovine epidural anesthesia (describe). Show the injection site in the figure.

Methodical instructions

Anesthesia of the tail, rectum, anus, external genitalia of females, vagina, perineum, posterior croup and thigh occurs 10-15 minutes after injection and lasts 30-90 minutes.

Control questions

1. What substances are used for cattle anesthesia?
2. Describe the methods of local anesthesia.
3. Technique of infiltration, conduction and spinal anesthesia.

Practical lesson

The use of novocaine
blockages for systemic diseases

Target. To acquire practical skills in the technique of performing novocaine blockades.

Materials and equipment. Injection needles 10-15 cm, Beer's needle, Bobrov's needle, Janet's syringe for 15-200 ml, Record syringe for 200 ml, Bobrov's apparatus, Cooper's scissors, razor, 0.25-0.5% novocaine solution, 5% alcohol solution iodine, denatured alcohol, collodion, dressings, fixing agents.

Exercise 1

To acquire practical skills in the technique of performing novocaine blockades (describe).

Methodical instructions

The mechanism of action of novocaine therapy is very complex. It distinguishes between two main methods: turning off (blocking) and weak irritation of the nervous system. Novocaine blockade protects the cerebral cortex from pain impulses, replaces "strong" irritations with "weak" ones. With such a favorable effect, novocaine blockade restores balance between the processes of excitation and inhibition and restores the relationship between the cerebral cortex and internal organs. All this improves tissue trophism and has a beneficial effect on the inflammatory process.

Assignment 2

To acquire practical skills in the technique of performing lumbar (perirenal) novocaine blockade (describe)

Assignment 3

To acquire practical skills in the technique of suprapleural blockade of the celiac nerves and borderline sympathetic trunks according to V.V. Mosin (describe).

Assignment 4

To acquire practical skills in the technique of performing udder nerve blockade in cows. Describe the technique of nerve blockade according to B.O. Bashkirov.

Control questions

1. Name the types of novocaine therapy.

2. Technique for different types of novocaine blockades.

Practical lesson

Treatment of acute purulent inflammation

Target. Master the methods of examination and treatment of animals with aseptic and purulent diseases.

Materials and equipment. Sick animal, thermometers, phonendoscope, plessimeters, percussion hammer, centimeter ruler, injection needles, scalpel, scissors, cotton wool, bandage, alcohol tincture of iodine, alcohol, penicillin, streptomycin, furacilin solution (1: 500), syringe.

Exercise 1

Examination of animals for aseptic and purulent diseases (describe)

Assignment 2

Treatment of animals for aseptic and purulent diseases (describe)

Assignment 3

A six-month-old calf has a frustrating swelling in the navel, which is limited, painful and hot. At the same time, there was a general depression of the animal, an increase in body temperature, in the blood - a decrease in hemoglobin and the number of erythrocytes, hyperleukocytosis with a shift of the nucleus to the left. Diagnose and prescribe treatment.

Control questions

1. What is a surgical infection and how does it manifest itself?
2. What are the types of surgical infection?
3. In what forms does purulent infection appear?
4. Causative agents of infections of various types.

Practical lesson

Study of the wounded animal and the technique of primary surgical debridement of wounds

Target. Master the technique of examining the general condition of a wounded animal. External and internal examination of the wound, surgical debridement and wound tamponade and application of a hemostatic tourniquet.

Materials and equipment. Gastric tube, grooved tube, thermometer, measuring ruler, phonendoscope, stethoscope, gauze, cotton wool, bandages, scissors, scalpel, tweezers, hemostatic forceps, ligature, surgical needles, needle holders, rope, nasal forceps, alcohol tincture of iodine, alcohol, alcohol , iodoform, white streptocide emulsion, etc.

Literature: A.K. Kuznetsov Veterinary surgery, orthopedics and ophthalmology. - M .: Agropromizdat, 1986 .-- S. 200-237.

Borisevich V.B., Teres S.O., Salisty V.T. Veterinary surgery, ophthalmology, orthopedics. - K .: Vishcha school, 1988. - S. 134-137.

Exercise 1

Conduct and describe a study of the general condition of the injured animal.

Assignment 2

Conduct and describe an external examination of the wound.

Assignment 3

Conduct and describe the internal examination of the wound, the technique of primary surgical treatment.

Assignment 4

Carry out and describe the tamponade of the wound, apply a hemostatic tourniquet.

Assignment 5

In a cow, 2 hours after mechanical damage with a pitchfork, during examination from the medial side of the thigh, a limited swelling of tissues (10 cm in diameter) was found, slightly painful, without changing the local temperature, fluctuating.

Diagnose and prescribe treatment.

———

Control questions

1. What is a wound and how are wounds classified?
2. What is wound debridement and how is it done?
3. What treatment is recommended for aseptic and freshly infected wounds?
4. What are the possible complications of wound healing?