

2023 National FFA Veterinary Science CDE – Equine Workstream

1. At what age is a horse said to have a “full mouth”, having replaced all temporary teeth with permanent ones? (McCurnin 1157 10th edition)
 301. One year of age
 302. Three years of age
 - 303. Five years of age**
 304. Seven years of age

2. The layman’s term “wolf teeth” refers to which kind of tooth in the horse? (McCurnin 285 8th edition)
 305. Incisor
 306. Canine
 - 307. Premolar**
 308. Molar

3. What is the layman’s term for serious abdominal pain in the equine patient? (McCurnin 1405 8th edition)
 309. Lethargy
 - 310. Colic**
 311. Maldigestion
 312. Peritonitis

4. Situated primarily on the right side of the horse, what is the name of the blind-ended fermentation vat immediately after the ileum? ([Merck Veterinary Manual](#))
 313. Large colon
 314. Rumen
 315. Jejunum
 - 316. Cecum**

5. Which macronutrient is NOT primarily absorbed by the horses’ small intestine? ([Iowa State University Extension: Digestive Anatomy and Physiology of the Horse](#))
 - 317. Structural carbohydrates (dietary fiber)**
 318. Non-structural carbohydrates (starch)
 319. Protein
 320. Fat

6. What is the average gestational length in an adult horse? (McCurnin pg 328 10th edition)
 321. 240 days
 322. 290 days
 - 323. 340 days**
 324. 390 days

2023 National FFA Veterinary Science CDE – Equine Workstream

7. A horse is considered a(n) _____ species, due to the frequency of their estrous cycle(s). (McCurnin pg 328 10th edition)
- 325. Monestrous
 - 326. Diestrous
 - 327. Polyestrous**
 - 328. Induced ovulatory
8. A castrated male horse is called a(n) _____? (McCurnin pg 231 10th edition)
- 329. Mule
 - 330. Gelding**
 - 331. Stallion
 - 332. Steer
9. In what part of the mare's reproductive tract does embryonic implantation occur? (McCurnin Pg 333 10th edition)
- 333. Uterus**
 - 334. Cervix
 - 335. Ovary
 - 336. Vulva
10. During the parturition process in the mare, one would expect which of the following sequences to normally occur (from first to last): (McCurnin pg 333 10th edition)
- 337. Foal passes through birth canal, frequent urination, appearance of water bag.
 - 338. Appearance of water bag, placenta passed, foal passes through birth canal.
 - 339. Appearance of water bag, foal passes through birth canal, placenta passed.**
 - 340. Foal's front feet present, appearance of water bag, placenta passed.
11. A horse with a body condition score of 8 would likely have the following physical attributes: (McCurnin Pg. 279 10th edition)
- 341. Neck – noticeable thickening; Withers – fat beginning to be deposited
 - 342. Ribs – individual ribs can be felt; Back – slight (positive) crease down back
 - 343. Shoulders – blend smoothly into body; Ribs – fat over ribs fleshy/spongy
 - 344. Ribs – difficult to feel; Tailhead – fat around tailhead very soft**
12. Restraint with a mechanical twitch works by: (McCurnin p.195 8th edition)
- 345. Releasing endorphins**
 - 346. Creating pain as a distraction to the horse
 - 347. Using injectable sedatives
 - 348. Diversionary device

2023 National FFA Veterinary Science CDE – Equine Workstream

13. In horses' wounds can develop exuberant granulation tissue. This is commonly known as (McCurnin p.994 8th edition)
- 349. Necrotic tissue
 - 350. Healthy tissue growth
 - 351. Epithelialization
 - 352. Proud flesh
14. When treating a wound on a horse, of the following, what is the first step? (McCurnin p. 993 8th edition)
- 353. Apply antibiotic ointment
 - 354. Remove the hair from the edges of the wound
 - 355. Lavage the wound
 - 356. Debride the wound
15. When bandaging wounds, the secondary layer performs what function? (McCurnin p. 980n 8th edition)
- 357. Debridement
 - 358. Covers surgical incisions/wounds
 - 359. Provides support
 - 360. Protects epithelialization
16. Reactive airway disease in horses, recognized as causing difficulty in breathing, chronic cough, wheezing, and nasal discharge, is commonly known by horse owners as: (McCurnin pg. 619 10th Edition)
- 361. Thumps
 - 362. Hives
 - 363. Heaves
 - 364. Gasps
17. The normal resting respiratory rate for a mature, full-sized horse is: (McCurnin pg. 234 10th edition)
- 365. 28-36 breaths per minute
 - 366. 18-26 breaths per minute
 - 367. 8-16 breaths per minute
 - 368. 48-56 breaths per minute
18. The anatomical term for the large cartilaginous tube that connects the larynx to the bronchi of the lungs, and commonly known as the "windpipe" is known as: (McCurnin pg. 618 10th edition)
- 369. Esophagus
 - 370. Trachea
 - 371. Aorta
 - 372. Ileum

2023 National FFA Veterinary Science CDE – Equine Workstream

19. Which of the following is a common equine respiratory disease that horse owners will have their horses vaccinated for? (McCurnin p.668 9th edition)

- 373. Equine herpesvirus types 1 and 4 (Equine Rhinopneumonitis)
- 374. West Nile Virus
- 375. Potomac Horse Fever
- 376. Eastern Equine Encephalitis

20. Oxygen in the lungs is exchanged between the blood capillaries and what respiratory structure? ([Merck Veterinary Manual](#))

- 377. Bronchi
- 378. Villi
- 379. Alveoli
- 380. Trachea

21. NSAIDs are a class of drug commonly used in equine medicine, what does this acronym stand for? (McCurnin p.913 9th edition)

- 381. Nonsedative anti-infection drug
- 382. Nonsteroidal anti-infection drug
- 383. Nonsedative anti-inflammatory drug
- 384. Nonsteroidal anti-inflammatory drug

22. Which method below is NOT a currently available method for diagnosing parasites in horses? (McCurnin p.614 9th edition)

- 385. Direct examination of feces
- 386. Fecal dehydration
- 387. Fecal flotation
- 388. Fecal culture

23. Which part of the horse's hoof is normally considered non-weight bearing? ([University of Missouri Extension: Functional Anatomy of the Horse Foot](#))

- 389. Sole
- 390. Frog
- 391. Wall
- 392. Bars

24. What diseases are considered part of the American Association of Equine Practitioner's core vaccination schedule for adult horses? ([AAEP Core Vaccination Schedule](#))

- 393. Eastern/Western Equine Encephalomyelitis, West Nile Virus, Equine Herpesvirus
- 394. West Nile Virus, Equine Herpesvirus, Rabies
- 395. Eastern/Western Equine Encephalomyelitis, West Nile Virus, Tetanus
- 396. West Nile Virus, Strangles, Rabies

2023 National FFA Veterinary Science CDE – Equine Workstream

25. Which item below is generally considered safe/non-toxic for horses to ingest? ([Merck Veterinary Manual](#); [ASPCA Poison Control](#))

- 397. Ionophores
- 398. Oleander
- 399. Easter Lily
- 400. Yew

You have been called out to assist on a farm call to float teeth for Mrs. Glenn's horse Hank. Hank is a 12-year-old western pleasure show horse. The owner may not be present when you arrive. She tells you Hank will be in the pasture with two other horses.

26. What piece of equipment will you need to load into the truck to float Hank's teeth? **(474-479)**

27. What additional piece of equipment will you need to load into the truck to float Hank's teeth? **(474-479)**

28. Identify what breed of horse Hank is.

- 401. Appaloosa
- 402. Thoroughbred
- 403. Quarter Horse
- 404. Morgan

The owner told you Hank would be in the pasture with a Percheron and a Belgian.

29. Identify the Percheron? **(405-410)**

30. Identify the Belgian? **(405-410)**

Before you arrive at the farm Mrs. Glenn calls to let you know that the neighbors Australian Cattle dog chased her horses through the fence and Hank now has a laceration to his lower right hind leg.

31. Identify the Australian cattle dog. **(411-414)**

When you arrive at the farm Hank is in the stall.

32. What equipment is needed to complete a brief physical exam on Hank? **(415-420)** *Thermometer, Stethoscope, Ophthalmoscope*

33. What additional equipment is needed to complete the brief physical exam? **(415-420)** *Thermometer, Stethoscope, Ophthalmoscope*

34. What additional equipment is needed to complete the brief physical exam? **(415-420)** *Thermometer, Stethoscope, Ophthalmoscope*

2023 National FFA Veterinary Science CDE – Equine Workstream

During the physical examination the veterinarian finds a tick on Hank.

35. Identify the tick.

- 421. Tick — American Dog (Family Dermacentor; Genus variabilis)
- 422. Tick — Black Legged Deer (Family Ixodes; Genus scapularis)
- 423. Tick — Brown Dog (Family Rhipicephalus; Genus sanguineus)
- 424. Tick — Lonestar (Family Amblyomma; Genus americanum)

The veterinarian determines that Hank will need sutures to close the wound. Hank will need to be sedated before the wound can be sutured. Hank weighs 545 kg. The veterinarian decides to use DORMOSEDAN® (*detomidine hydrochloride*) to sedate Hank. The dosage is 0.012 mg/lb and the concentration is 10 mg/ml.

36. How many pounds does Hank weigh?

- 425. 545 lb
- 426. 700 lb
- 427. 1200 lb
- 428. 1500 lb

37. How many milligrams of DORMOSEDAN® (*detomidine hydrochloride*) will Hank receive?

- 429. 0.14 mg
- 430. 1.44 mg
- 431. 14.4 mg
- 432. 144.0 mg

38. How many milliliters of DORMOSEDAN® (*detomidine hydrochloride*) will Hank receive?

- 433. 0.14 ml
- 434. 1.44 ml
- 435. 14.4 ml
- 436. 144.0 ml

As a precaution, the veterinarian has asked for you to gather the humane twitch.

39. Identify the humane twitch **(480-483)**

----- END OF EQUINE GENERAL KNOWLEDGE SEGMENT -----

2023 National FFA Veterinary Science CDE – Equine Workstream

HANDLING AND RESTRAINT PRACTICUMS 1 & 2

Prior to sedation you are directed to halter the horse and apply a lead shank with a chain under Hank's chin so the veterinarian can administer sedation and suture Hank's laceration.

The veterinarian asks you to gather the needed equipment to suture Hank's laceration. She asks for:

- 40. Identify the Allis tissue Forceps **(437-442)**
- 41. Identify the Needle Holders - Olsen Hegar **(437-442)**
- 42. Identify the Scissors - Metzenbaum dissecting **(437-442)**

Several biological processes are pertinent to wound healing. Evaluate the provided images and determine the correct answer to the questions below:

- 43. Identify the cell that helps control and stop bleeding. **(443-447)** Platelets
- 44. Identify the cell the helps fight off infection. **(443-447)** Neutrophils
- 45. Identify the cell that carries oxygen throughout the body **(443-447)** Mammalian red blood cell (erythrocyte)

2023 National FFA Veterinary Science CDE – Equine Workstream

CLINICAL PROCEDURES PRACTICUM 1

Fill the syringe with the correct dose of DORMOSEDAN® (detomidine hydrochloride) for Hank.

Reminder: Hank's Weight: 545 kg

Drug Dose: 0.012 mg/lb

Drug Concentration: 10 mg/ml

What equipment is needed to bandage Hank's leg? **Roll Gauze, Vet wrap, and Elasticon**

- 46. Identify one piece of equipment to bandage Hank's leg. **(448-453)**
- 47. Identify one additional piece of equipment to bandage Hank's leg. **(448-453)**
- 48. Identify one additional piece of equipment to bandage Hank's leg. **(448-453)**

2023 National FFA Veterinary Science CDE – Equine Workstream

CLINICAL PROCEDURES PRACTICUM 2

Once the sutures are placed the veterinarian bandages the wound and then asks you to apply a standing wrap to the other leg.

2023 National FFA Veterinary Science CDE – Equine Workstream

While Hank is recovering from sedation, the veterinarian asks you to determine the amount of Banamine® (*flunixin meglumine*) Hank will need to help control swelling and pain. Hank weighs 545 kgs. The dosage is 0.5 mg/lb and the concentration is 50 mg/ml.

49. How many milligrams of Banamine® (*flunixin meglumine*) will Hank receive?

- 454. 200 mg
- 455. 347 mg
- 456. 450 mg
- 457. 600 mg

50. How many milliliters of Banamine® (*flunixin meglumine*) will Hank receive?

- 458. 12 ml
- 459. 24 ml
- 460. 50 ml
- 461. 60 ml

The veterinarian asks you to draw-up Banamine® (*flunixin meglumine*) into a Leur Lock syringe.

1B. Which syringe is the correct size and has a Leur Lock tip? **(462-465)**

The clinic pays \$25.00 per 100 ml bottle of Banamine® (*flunixin meglumine*).

2B. How much does 1 ml of Banamine® (*flunixin meglumine*) cost?

- 466. \$0.25
- 467. \$0.50
- 468. \$0.75
- 469. \$1.00

3B. How much will Hank's dosage of Banamine® (*flunixin meglumine*) cost?

- 470. \$3.00
- 471. \$6.50
- 472. \$9.00
- 473. \$12.00

While Hank is waking up from sedation the owner asks you about West Nile Virus.

4B. Identify the vector for West Nile Virus. **(474-477)**

During this time, the veterinarian also discusses the at-home care that Mrs. Glenn will need to provide to ensure Hank's wound heals optimally.

5B. Which piece of equipment can be used to remove Hank's bandage safely? **(478-483)**

6B. Which additional piece of equipment can be used to remove Hank's bandage safely? **(478-483)**

2023 National FFA Veterinary Science CDE – Equine Workstream

7B. Which additional piece of equipment can be used to remove Hank's bandage safely? **(478-483)**

Since Hank was unable to have his teeth floated today the veterinarian tells Mrs. Glenn she will come back and float them another day and if she has 5 horses to float that day, she will give her a 10% discount on every horse. The veterinarian usually charges \$175 per horse.

8B. What will it cost per horse with a 10% discount?

- 462. \$145.50
- 463. \$137.50
- 464. \$157.50
- 465. \$167.50

Mrs. Glenn asks her friend if her Thoroughbred needs his teeth floated when the veterinarian comes back.

9B. Identify the Thoroughbred. **(466-469)**

The clinic you work for charges \$90 plus \$1.50/ mile for the veterinarian to make a farm call appointment. Mrs. Glenn lives 20 miles round trip from the clinic.

10B. How much does it cost Mrs. Glen to have the veterinarian evaluate her animals at her farm?

- 470. \$100.00
- 471. \$120.00
- 472. \$150.00
- 473. \$180.00

The goal for the team activity, is to identify the medical findings and recommendations from both Hank and Ricky's veterinary evaluation and present to the judge as if they are the animal owner.

1. Share the top three medical findings from Hank's exam and their clinical relevance.

Top Findings:

- *Hank had a leg wound*
- *It required bandaging*
- *Hank required sedation*
- *Hank received NSAID's and antibiotics*
- *Identified Hank needed a dental float*

2. Share with Ms. Glenn at least three veterinary recommendations for the at-home wound and bandage care of Hank's leg.

Judge's points:

- *Bandage care – keep it clean and dry*
- *Look for swelling, dripping, odor*
- *Fly management*
- *Stall rest*
- *BCS – Diet and nutrition for stall care*
- *Pain management/monitoring*

3. Share the top three medical findings from Ricky's exam and their clinical relevance.

Top Findings:

- *Ricky's skin is itchy and infected. (Pyoderma)*
- *Ricky has an ear infection. (External otitis)*
- *Ricky has coccidiosis.*
- *Ricky is sore from a horse's kick.*
- *Ricky has a tick infestation.*

4. Share with Ms. Carroll at least three veterinary recommendations for the at-home management of Ricky's multiple diagnoses.

Judge's points:

- *Give Simplicef, an oral antibiotic, to treat Ricky's pyoderma.*
- *Apply EasOtic to each ear daily to treat yeast otitis.*
- *Give Albon as directed to control coccidia infection.*
- *Watch for itching to return after 6-8weeks, when Cytopoint may need boosted.*
- *Use a monthly flea/ tick preventative in addition to the annual Proheart12 injection.*
- *Monitor for continued lameness from Ricky getting kicked by the horse.*