



RIDE & TIE
and **EQUATHON**
Jim Steere Memorial Scholarship

Each year Ride & Tie offers a scholarship in memory of our first head veterinarian Jim Steere to a veterinary student based on essays they submit to our committee. This year's winner of a \$2,000 scholarship is Cara McNamara. Cara is a current fourth-year veterinary student at the University of Pennsylvania School of Veterinary Medicine. Her primary clinical interest is equine reproduction and neonatal care. She currently plans to pursue a large animal theriogenology residency following graduation and a rotating equine internship. Her interest in reproduction stems from her involvement in the Equine Science program and Quarter Horse breeding program at Pennsylvania State University during her undergraduate education. Congratulations Cara! Her essay is on the following pages.



Understanding the Coggins Test

by Cara McNamara

Most horse owners are familiar with what a Coggins Test is and that their horse gets one once a year – a blood sample is taken from their horse, a picture is taken and about a week later they (hopefully) receive a paper stating that their horse is negative. But if you asked the owner what exactly the test is and what it detects, how many of them would be able to tell you?




What does the Coggins Test do?

The Coggins Test is a diagnostic test for Equine Infectious Anemia (EIA), a viral infection that leads to a potentially fatal disease with no treatment. EIA affects all equid species, including horses, donkeys and mules. Affected horses can present with a variety of clinical signs in different forms. The more severe acute form is characterized by fever, jaundice, bleeding from the nose, progressive weakness, bloody feces, depression, weight loss and abortion in pregnant mares. Horses that survive the acute phase progress to the more commonly seen chronic form, which can be associated with limb swelling (edema), weight loss, severe anemia and repeated episodes of fevers or no clinical signs at all. Horses with inapparent infections are often only diagnosed when tested prior to transportation, showing, or being sold. In rare cases, EIA infection can also lead to sudden death.

FORM SERIAL NUMBER
EIA-

GVL

GVL - EQUINE INFECTIOUS ANEMIA LABORATORY TEST

1. LAB/ACCESSION NUMBER	2. DATE BLOOD DRAWN (2020-10-01)	3. TEST REQUESTED BY VET AGID	4. REASON FOR TESTING Annual		
5. CURRENT HOME PREMISES OF EQUINE: RANCH / FARM / STABLE / MARKET	7. NAME & ADDRESS OF OWNER		8. NAME & ADDRESS OF VETERINARIAN		
6. COUNTY OF CURRENT HOME PREMISES OF EQUINE			VETERINARIAN NATIONAL ACCREDITATION NUMBER		
CERTIFICATION OF FEDERALLY ACCREDITED VETERINARIAN (I certify I am a category II federally accredited veterinarian, authorized, in the state where the sample was obtained, by me, from the animal described below.					
SIGNATURE OF FEDERALLY ACCREDITED VETERINARIAN					
HORSE					
9. TUBE NUMBER	10. FREEZE BRAND	11. REGISTERED NAME	12. COLOR / COAT OR HAIR COLOR(S)		
13. BREED OR SPECIES	14. AGE OR DOB	15. GENDER	16. MICROCHIP, BREED, OR REGISTRATION NUMBER		
					
					
NARRATIVE DESCRIPTION		OTHER MARKS AND BRANDS:			
17. HEAD:	18. NECK AND BODY:				
19. LEFT FORELIMB:	20. RIGHT FORELIMB:				
21. LEFT HINDLIMB:	22. RIGHT HINDLIMB:				
RABIES VACCINATION					
TYPE	VACCINATION DATE	PRODUCT	SERIAL NUMBER	EXPIRATION DATE	ADMINISTERED BY
FOR LABORATORY USE ONLY					
23. LABORATORY	24. DATE SAMPLE RECEIVED 2020-10-08	25. DATE RESULTS REPORTED 2020-10-08	26. OFFICIAL RESULT Negative	27. TEST TYPE USED AGID	
28. LABORATORY REMARKS					
29. SIGNATURE OF NYSL APPROVED EIA TECHNICIAN			30. INTERIM RESULT REFERRED FOR CONFIRMATION No		

Official EIA Test Form, Approved by USDA Veterinary Services March 2020, GVL

What exactly is a Coggins Test?

The Coggins Test is a blood test that detects antibodies to EIA, specifically called an agar-gel immunodiffusion test. This is the official test for EIA as determined by the USDA, but there are other tests that detect antibodies. Because EIA is a reportable disease in every state, only licensed and accredited veterinarians can perform and submit a Coggins Test to USDA-approved laboratories. The results expire one year after the testing date, hence testing needs to be completed annually.

Detection of antibodies will result in a positive result, indicating the horse is infected with EIA. It may be in either the acute or chronic form but the horse will remain a lifelong carrier of the virus and will remain positive on all future Coggins tests. Unfortunately, positive horses can act as a source of infection for other horses in the vicinity.

How do horses get infected with Equine Infectious Anemia?

Horses acquire the virus indirectly from the blood of an infected horse. This is most commonly through vector species such as blood-sucking insects, especially biting flies such as deer and horse flies. These insects can carry the virus and spread it when they take a blood meal from a horse. The virus can also be spread from the reuse of unsterilized medical equipment and lip tattoo equipment, blood transfusion and other sources of blood contamination that inadvertently spreads blood from one horse to others. Less commonly, the virus has been shown to be spread in-utero from a positive pregnant mare to her foal, and also through milk and semen.



Horse flies, one of the significant transmission sources for EIA

What happens if my horse is positive?

Unfortunately, there is currently no treatment for EIA and horses will remain permanently infected for the rest of their lives. Additionally, they will remain a source of the virus and can spread it to other horses in the vicinity. Because of this, the recommendations are to either quarantine and isolate the horse at least 200 yards from all other equids or to humanely euthanize it. Therefore, identification of infected equids and prevention of infection is key to controlling this disease.

How can I prevent EIA in my horse?

In addition to their annual Coggins testing, you can take some additional measures to prevent introduction and transmission of EIA on your farm. Prioritizing horse health and sanitation through strict biosecurity measures will help prevent inadvertent spread of blood between horses. This includes never reusing needles for vaccinations and medication administration as well as requiring a negative Coggins test and a 14-day quarantine period for any new horses being introduced into your herd and/or interacting with your horse. Fly management strategies should also be implemented on the farm to help reduce the likelihood of viral transmission and infection. Unfortunately, there is currently no vaccine that is approved for use in the U.S for EIA.

What should I do if I suspect my horse might have EIA?

In the case of suspected EIA, you should immediately call your veterinarian. While you wait for them to arrive, you should isolate the suspected horse(s) at least 200 yards away from any other equids on the property and reduce exposure to biting flies. Once your veterinarian arrives, they will take a blood sample for a Coggins test to either confirm or rule out EIA. There are many other diseases that can resemble EIA, such as Equine Viral Arteritis, Piroplasmosis, Leptospirosis, autoimmune hemolytic anemia or purpura hemorrhagica. It is important to confirm if it is truly EIA or one of these differentials, as many of these diseases can be treated and have a better prognosis than EIA.

When might a Coggins Test be required?

The most common reasons that proof of a negative Coggins test may be required is for the following situations: equids being moved interstate, equids being entered into competitive events, horse auctions or sales or equids changing ownership. However, it is also recommended for the introduction of a new horse of unknown EIA status onto a farm such as for boarding reasons or any other situation in which horses will be exposed to a new equid of unknown EIA status. It is also recommended to do one as part of the pre-purchase examination.

Can I be infected with EIA?

Fortunately, there is currently no evidence to demonstrate that humans are at risk of being infected, either from a positive horse or from flies that may be carrying the virus. However, biosecurity measures and strict sanitation should still be maintained when interacting with positive horses.

References

Equine Infectious Anemia. AAEP Horse Health.

www.aaep.org/horsehealth/equine-infectious-anemia

What is a Coggin's Test? Penn State Equine Extension.

www.extension.psu.edu/what-is-a-coggins-test

Equine Infectious Anemia. USDA-APHIS Animal Disease Information.

www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/equine/eia/equine-infectious-anemia

Equine Infectious Anemia. Merck Veterinary Manual.

www.merckvetmanual.com/generalized-conditions/equine-infectious-anemia/equine-infectious-anemia

Pictures

Figure 1: *What is a Coggin's Test?* Penn State Equine Extension.

Figure 2: *Black Horse Fly*. Proactive Pest Control Pest Identification.

