



Equine

Infectious Anemia

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What is Equine Infectious Anemia?

Equine Infectious Anemia (EIA) is a contagious, viral disease.

EIA affects all members of the Equine species, including horses, ponies, donkeys, and mules.

Once animals become infected they are life-long carriers of the virus.

What are the clinical forms of EIA?

There are three clinical forms of EIA, acute, chronic, and inapparent. The majority of the clinical signs of the disease are related to the reaction of the animal's immune system to the viral infection. Clinical signs of the acute form include high fever, depression, loss of appetite, small areas of hemorrhaging on the mucous membranes, stocking up (swelling of the legs), and edema (collection of fluid) along the ventral abdomen. Clinical signs of the acute form of the virus usually appear seven to 30 days after exposure to (or infection of) the virus.

Clinical signs of the chronic form of EIA include reoccurring intermittent fever, depression, lack or loss of appetite, weight loss, anemia, weakness, and incoordination of the hind legs. The severity and frequency of the reoccurring episodes decrease over time. Animals that are infected without showing detectable clinical signs are "inapparent carriers" of EIA.

Mares that are infected with EIA typically fail to conceive or abort if they are pregnant.

How is the disease transmitted?

EIA is found in the blood of all infected animals even if they are inapparent carriers. Typically equines with the acute form of the disease are more infectious than others carrying the virus because of the high levels of virus circulating in the blood. The primary method of transmission is through blood sucking insects, including horse flies, deer flies, mosquitoes, and gnats. Less common modes of transmission are virally contaminated health instruments such as needles, syringes, and dental and teeth floating equipment. Transmission may also occur between infected pregnant mares and unborn foals. About 10 percent of foals born to infected mares are infected with the virus. The virus may also be transmitted through natural service or breeding.

Testing and tests used to diagnose EIA

North Dakota Century Code 36-01-08 states, "All equine species require negative tests for equine infectious anemia within twelve months prior to date of importation, unless originating from states exempted from test requirements by the state veterinarian."



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The United States Animal Health Association (USAHA) offers some suggestions regarding testing for EIA. Included in these recommendations, equines should be tested annually if entered into exhibitions or competitive events. If equine animals are moved interstate, the USAHA suggests a negative test for EIA within six months prior to entry. The USAHA also suggests all equines sold, traded, or given away have a negative test no more than six months prior to change in ownership, and ideally no more than 60 to 90 days.

Testing for EIA requires drawing blood for analysis by a laboratory. Blood samples must be drawn by a licensed and accredited veterinarian and must be submitted to an approved lab. There are three laboratory tests that can be used to accurately detect and diagnose EIA in animals. These tests are the Coggins test, SA-ELISA, and C-ELISA tests. The Coggins test is the test of choice.

As with all tests, false negatives and positives can occur. False negatives can occur when the lab tests are performed between zero and 45 days after infection. During this period of time the immune system generally has not produced enough antibodies against the virus for detection. Typically it takes about 45 days of infection to produce sufficient levels of antibodies for lab detection. Just as false negatives may occur, so may false positives. False positives typically occur in foals nursing infected mares, and consequently the foals have circulating colostral antibodies for the EIA infection from the infected mare in their immune system. The incidence of false positives can be decreased or eliminated by testing foals that are at least six to nine months old. By that time colostral antibodies are no longer present in the foal's immune system.

What to do if an animal is confirmed EIA positive

According to North Dakota Century Code 36-01-08, "North Dakota horses testing positive to equine infectious anemia must be positively and individually identified by permanent brand."

The United States Animal Health Association suggests permanent identification of EIA positive tested animals using "hot iron, chemical brand, freezemarking, or lip tattoo." The USAHA also states "once an equine has been classified as a reactor, it must be totally removed from the herd. This can be accomplished by euthanasia, removal for slaughter, or quarantine in the herd of origin." If quarantine is chosen the USAHA suggests "the quarantine area must provide no less than 200 yards separation from all other equines."

Methods to control the spread of EIA

To effectively control the spread of EIA in the equine population, positive individuals must be detected and removed from the population. More testing is required of the entire population to effectively detect infected animals. This is especially true of animals carrying the inapparent form of the disease, as they are infected carriers without showing detectable clinical signs of the infection.

Preventative measures

There are several preventative management measures equine owners can take to decrease the risk of their animals contacting the disease. One important measure is establishment of an effective fly control program. Blood sucking insects are the primary transmitters of EIA, so decreasing the presence of these pests, can decrease the risk of equine animals getting the disease. Effective fly control programs can utilize foggers, fly repellants, and electronic or automatic fly control systems in barns. Perhaps the easiest and most cost effective method of fly control is the removal and spreading of manure and generally keeping barns and other areas clean.

Another preventative measure is sterilizing and disinfecting all animal health equipment. Use syringes and needles on only one animal. Follow the rule of thumb, "One horse, one syringe, one needle." Be sure surgical, dental, and tattooing equipment is sterilized and disinfected after each use.

Require all equines entering the premises to have a negative EIA test within the past 12 months and test all horses annually for EIA.

Effective treatments

It is imperative to remember that infected animals are lifelong carriers of EIA. Currently there are no effective treatments for the disease. Likewise, there are no vaccines available in North America for prevention or protection of EIA.

