

Equine Infectious Anemia: What to Know

What is equine infectious anemia?

Equine infectious anemia, or EIA, is a bloodborne viral disease transmitted primarily through insects, particularly horse flies and deer flies. It can infect horses, ponies, donkeys and mules.

- The equine infectious anemia virus (EIAV) is a lentivirus, a subfamily of retroviruses with long incubation periods. The human immunodeficiency virus (HIV), which causes AIDS, is also a lentivirus, although EIAV does not cause disease in humans or represent any human health risk.
- Infection is spread primarily through insect bites, but EIAV can also be transmitted through contaminated needles and other instruments, or passed on from mare to foal during pregnancy.
- Outbreaks can frequently develop in late summer and early fall in temperate regions, coinciding with peak populations of biting insects.
- After EIAV infects a horse there is a 7-45 day incubation period before disease signs are seen.
- The virus triggers an immune response, but this is not effective in eliminating the infection. EIAV infected horses carry it for life – there is no cure.
- A test for EIA antibodies was established in the 1970s. The Coggins test was approved by the United States Department of Agriculture in 1973. It was developed by Leroy Coggins, one of the initial founders of NC State's College of Veterinary Medicine program. The test uses a blood sample, and can determine if a horse is infected within two days. Other types of test are also used to confirm a positive result, but the Coggins test is internationally recognized as the gold standard in diagnosing and helping control EIA.
- There is no vaccination against EIAV.

There are three forms of EIA:

- **Acute:** Severe signs of the disease display rapidly, and horses can die within 2-3 weeks. The acute form occurs so quickly that often an elevated body temperature is the only sign seen. These horses can survive and go on to become chronically infected or inapparent carriers.
- **Chronic:** If horses survive the acute infection, they can develop disease signs caused by the horse's immune response to the virus, which include:
 - Recurrent episodes of a sudden rise in temperature to 105° or more followed by recovery. In mild cases, a fever can last less than a day.
 - Decreased appetite and chronic weight loss.
 - Swelling of the lower chest, abdomen and legs (edema).
 - Decreased number of red blood cells (anemia) and an irregular heartbeat.
 - Thin or watery blood, blood-stained feces.
 - Pinpoint-sized hemorrhages on mucous membranes.
 - Depression, with general listlessness and a head hanged low.

The chronic EIA case is sometimes called a "swamper", thin, depressed, lethargic, and anemic. This horse represents an important risk to other horses, as its blood has a heavy load of virus.

- **Inapparent:** The majority of infected horses become inapparent carriers, with no signs of disease unless exposed to a severe stress. While their blood harbors less virus, they continue to represent a risk to other horses, albeit lower than a horse with active clinical signs of disease. These carriers are only likely to be detected when they are tested for EIA.

Control

- EIA is much less common today than it was in the 1960's or 1970's, but it remains a very dangerous disease. EIAV infection is always reportable, and each state has its own requirements for testing.
- The risk of infection is increased:
 - In the vicinity of outbreaks.
 - When new horses without negative Coggins tests enter the pasture or stable.
 - When exposed at horse events when negative Coggins tests are not required.
 - When pasturing horses in swampy areas, or when horses are not regularly tested.
- The only protection is prevention.

What can be done to help reduce the risk of an EIA infection?

- Use sterile, disposable needles and syringes, one per horse, for all vaccines and medications.
- Test all horses for EIA every year, and at the time they enter a new premises.
- Keep stables and other facilities sanitary. Regularly clean stalls and properly dispose of manure away from horse stabling areas.
- Implement approved insect controls, such as insecticides and good drainage of standing water to minimize fly presence.
- Only participate in events that require evidence of negative Coggins test for every equine entering the event to prevent disease introduction and spread.
- Isolate new horses on a property until they are tested for EIA.
- NEVER mix infected and healthy animals. Do not breed horses infected with EIAV.
- Follow state laws covering EIA.

What you can do

If you are a horse owner or veterinarian who suspects an EIA infection, contact state or federal animal health authorities, including the Animal and Plant Health Inspection Service (APHIS), aphis.usda.gov.

For more information on Equine Infectious Anemia

USDA:

aphis.usda.gov/publications/animal_health/content/printable_version/fs_equine_infectious_anemia.pdf

NC Department of Agriculture and Consumer Services: ncagr.gov/vet/FactSheets/equine.htm

American Association of Equine Practitioners: aaep.org/horsehealth/equine-infectious-anemia-only-protection-prevention

The Center for Food Security and Public Health at Iowa State University:

cfsph.iastate.edu/Factsheets/pdfs/equine_infectious_anemia.pdf