



EIA

Equine Infectious Anemia

WHAT IS EIA?

Equine infectious anemia (EIA) is a disease caused by a virus that produces anemia, intermittent fever, and severe weight loss. Equidae (e.g., horses, ponies, mules, and donkeys) are the only animals known to be affected by the virus. Once an animal is infected with the virus it is infected for life, regardless of the severity of the symptoms. No treatment is effective against the EIA virus.

When the virus enters the bloodstream, it invades lymphocytes (a form of white blood cells that are important in the body's defense against disease). The virus then reproduces in the lymphocyte, increasing in numbers until the lymphocyte bursts, releasing more virus into the bloodstream to repeat the cycle. The animal attempts to fight off the viral infection by producing antibodies against the virus. However, this antibody is not effective in eliminating the virus from the body, and enough lymphocytes are destroyed over time to reduce the effectiveness of the immune system. When the animal reaches this stage, it usually succumbs to other bacterial or viral infection. The death rate of infected Equidae varies from 30 to 70 percent, and is usually higher when the virus is introduced into a new geographical region.

The anemia that sometimes accompanies this disease is caused by the animal's immune system attacking the cells that produce red blood cells in the bone marrow. The reasons for this event are unknown.

Other common names for EIA are: swamp fever, mountain fever, slow fever, and Coggins' disease.

How is EIA transmitted?

EIA is transmitted by the exchange of certain bodily fluids, usually blood, from an infected to a noninfected animal. One mode of transmission is through insect bites. Horseflies, stable flies, and deer flies are blood feeders. Their bites are painful, and an animal often interrupts the insects' feeding, forcing them to relocate. A fly usually will have residual blood on its mouth parts from an interrupted meal. If the fly moves from an infected to a noninfected animal, the virus may be introduced into the noninfected animal when the insect breaks the skin.

The virus is also transmitted by mechanical means. Instruments, such as hoof knives, needles (tattooing or bleeding), syringes, etc., that were previously used and contaminated with blood from an infected animal are mechanical procedures of infecting a healthy animal. Blood transfusions have also been implicated in transmitting the virus.

During gestation, if the levels of virus in the blood are high enough, transplacental infection of the foal is possible. Approximately 10 percent of foals delivered from infected mares are infected at birth and remain life-long carriers of the virus. Because of the presence of maternal antibodies to the virus in the mare's colostrum, foals born to infected mares will themselves be antibody positive at 24 hours of age. Maternally acquired passive antibodies should be gone by six months of age. If the foal is infected at birth, its own antibodies will persist after six months.

Patterns of EIA

Initial signs of EIA may include: an intermittent or continuous fever (sudden rise from 100 degrees Fahrenheit to 105 degrees Fahrenheit), profuse sweating, rapid breathing, depression, and weight loss (even though the animal continues to eat well). Disease signs occur 7 to 21 days after primary infection.

The initial signs of EIA pass quickly into one of four patterns: acute, subacute, chronic, or carrier.

1. **Acute** cases are more the exception than the rule. These animals rarely survive and can die within 3 to 10 days after the virus enters the bloodstream.
2. **Subacute** cases can also be very sick and then become chronic. These animals exhibit no signs of the disease for a long time, then progress to a state of continuing weight loss, rough hair coat, and anemia. Relapses of increasing severity are common.
3. **Chronic** cases may have occasional attacks and develop classic symptoms which can include a poor hair coat, weight loss, weakness, anemia, and swelling of the lower legs, chest, and abdomen. These signs will later subside, but may never recur. These symptoms commonly develop after stress from hard work, hot weather, pregnancy, or from other diseases.
4. **Carrier** animals appear to be healthy, but harbor the agent of the disease. An animal will carry the virus for its entire life and never show signs of the disease, but it is potentially able to transmit the disease. These animals may develop into acute or chronic cases after hard work, severe stress, or from other diseases.

Do I Need to Have My Horse Tested for Equine Infectious Anemia?

Equine Infectious Anemia (EIA for short, and also known as Coggins Disease) is a disease caused by a virus that produces anemia, intermittent fever, and severe weight loss. Equidae (e.g., horses, ponies, mules, and donkeys) are the only animals known to be affected by the virus. Once an animal is infected with the virus it is infected for life, regardless of the severity of the symptoms. No treatment is effective against the EIA virus.

- If you own a horse (or other equidae) born before April 30th, 2002 you are required to have had a one-time mandatory EIA test on or before this date. Equidae born after this date are exempt from the one-time mandatory test, but must comply with the remaining test requirements of the law.
- Persons transporting equidae *within* Michigan using public streets, roads and highways DO NOT need proof of annual EIA testing simply to be on the road.
- Persons transporting equidae into Michigan from other states or nationalities MUST HAVE proof of current negative EIA test as defined below (see last bulleted item).
- Horses and other equidae attending publicly held exhibitions, fairs, or shows in Michigan MUST have proof of a current negative EIA test as defined below (see last bulleted item). Publicly held exhibitions include horse shows, races, pulls, parades, team penning events, and similar activities. Horses and other equidae traveling to auction markets in Michigan also MUST have proof of a current negative EIA test as defined below (see last bulleted item).
- Foals 6 months of age or younger and still nursing their mother are exempt from testing requirements, providing the mother has a current negative EIA test.
- By Michigan law, a current EIA test is a test that was done within the past 12 months.
- All equidae changing ownership (being sold), in which the equidae will leave the premises when sold, **must** have proof of a current negative EIA test prior to leaving the premises.