

## What is the Coggins' test?

The Coggins' test is for a serious equine virus called equine infectious anemia (EIA). There is no vaccine or cure for EIA, which is also known as "swamp fever" because of the warm, wet regions of the United States in which it is more common.

There are three stages to EIA. The acute stage is when the horse shows the symptoms of the disease, which include fever; listlessness; swelling in the chest, belly or legs; and no appetite. Although, while the infection progresses, he may not show any symptoms at all, and it may take over a month for the horse to test positive on the Coggins' test.

According to the Indiana State Board of Animal Health, between 30 and 50 percent of horses infected with EIA die within two to four weeks of showing initial symptoms.

Horses that survive the acute phase enter the chronic phase where they will have recurring symptoms of the disease including weight loss, fever and anemia. Such horses can survive up to a year or more in this stage before finally succumbing to the disease. While appearing healthy at some times, horses can experience acute episodes again when under stress such as when faced with hot weather, hard work or other disease, according to the Indiana State Board of Animal Health.

EIA is transmitted to horses by insects such as deerflies and horseflies. It can also be transmitted to horses through instruments contaminated with infected blood such as needles or tattoo equipment.

Some horses can also be in the asymptomatic carrier stage where they do not show any signs of disease but will test positive on the Coggins' test. But these horses can also experience acute episodes when stressed. The Indiana State Board of Animal Health notes that these horses in the asymptomatic carrier stage present the greatest danger to healthy horses in public gatherings like horse shows or clinics because they appear healthy.

Surviving horses are unable to completely clear themselves of the virus and will remain infected for the rest of their lives, according to the Animal Disease Diagnostic Laboratory at Purdue University. Affective control of the disease depends on isolation of new, sick, untested or positively testing horses; hygiene with regard to needles and like equipment such as dental tools, fly control and identification of positive animals.

Horse owners are often required to submit a negative Coggins' test in order to show, move to a new stable, sell their horse or transport their horse across state lines. A negative Coggins' test proves that your horse is safe to have around other healthy horses.

According to the US Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) fact sheet on the EIA virus, it is the "first persistent virus for which antigenic drift was defined. (Antigenic drift is the virus's ability to change its form sufficiently so that it is no longer vulnerable to existing antibodies.)"

To determine if a horse is negative on a Coggins' test, a blood sample from the horse is tested for the presence of EIA antibodies. Antibodies are proteins produced by the immune system that recognizes and helps fight infections and other foreign substances in the body. The antibody is specific to the EIA antigen (a foreign substance causing an immune response).

The Coggins' test was developed by Dr. Leroy Coggins, a veterinary virologist, in the 1970s. According to the Animal Disease Diagnostic Laboratory at Purdue University, the test has a 95% accuracy rate and is the most used test for EIA though other tests can be used when the results are questionable or to confirm diagnosis.

According to the USDA APHIS, the percentage of positives for the Coggins' test has declined from "nearly 4 percent in 1972 to less than 0.01 percent in 2005." The agency states that historically the disease was present particularly in "hot zones" such as Texas, Oklahoma, Louisiana, Missouri, Tennessee, Alabama, Georgia, North and South Carolina, Virginia, Kentucky, among others. Recent figures show that the prevalence of EIA in the United States is roughly less than 8 in 100,000, according to the USDA APHIS.

Many states have different requirements with regard to handling horses' positive for EIA. Because there is no cure for the disease, and a horse positive for it is a threat to healthy horses, many states require euthanasia. Others allow for very strict quarantine measures, where horses are removed from the herd and kept in a 200-yard buffer zone away from all other horses. Some require confinement to a screened stall. Isolated horses are to never have contact with with the rest of the herd again.

Though EIA is low in incidence in the United States, to reduce risk of horses being infected with EIA, the USDA APHIS recommends horse owners:

Never share needles among horses. Dispose of needles after each use.

Sterilize instruments thoroughly after each use.

Keep stables and area clean and drained to avoid attracting insects that spread the disease.

Use insect control such as insecticides.

Quarantine unhealthy, infected animals. Do not breed horses that have tested positive to EIA.

Quarantine all horse species that are new to your facility until you have a Coggins' test.

Have the Coggins' test result done and available for horse shows, fairs, and other places where animals co-mingle.

Follow state laws concerning EIA.