

Tetanus

Tetanus is a bacterial disease that can affect most animals. Horses are particularly susceptible because of their environment and tendency to incur injuries. Sadly, infected horses and ponies usually die or require euthanasia.

What causes tetanus?

Tetanus is caused by the bacterium *Clostridium tetanii* which can be found in soil and droppings just about everywhere. It survives in the environment for long periods of time. It enters the body through wounds, particularly puncture wounds if the wound is dirty. Puncture wounds on the sole of the foot are common sites of infection. Infection can be acquired via the intestines, after eating contaminated soil or droppings, through gastric or intestinal ulcers. In foals, infection can occur via the umbilicus (navel). The tetanus bacteria do not need oxygen (they are classified as 'anaerobic' bacteria) and multiply rapidly in the damaged tissues at the site of the injury. They produce a toxin (tetanus toxin) and it is this potent neurotoxin that causes the classical signs of tetanus.

What are the symptoms?

An unvaccinated horse that is infected with *Clostridium tetani* will start to demonstrate symptoms of 'tetanus' about 2 weeks after the wound was created. Owners may not be able to recall a recent injury, especially since the inciting wound may have been tiny, or unnoticed, and certainly could have healed over. Tetanus toxin attacks nerves controlling the muscles of the body. This causes progressively worsening muscular stiffness and spasm. The affected horse will become stiff ("sawhorse stance") and have difficulty moving and eating. The third eyelid (membrana nictitans, a membrane which can be easily seen at the inner corner of the eye) starts to protrude across the eye, particularly if the horse is startled. The tail is often held out straight and the horse develops an anxious expression because of facial muscle spasm. Any stimulus such as loud sound, bright light or touch can exacerbate the signs. The horse may sweat. In advanced cases the horse will collapse with spasms, convulsions and death from respiratory failure.

Can tetanus be treated?

Most cases of tetanus ultimately result in death of the affected animal. If diagnosed early, treatment is aimed at destroying the bacteria so that no more toxin is produced and reducing the effects of the toxin that has already been produced. Large doses of antibiotics, usually penicillin, are used in conjunction with Tetanus Antitoxin injected usually intravenously and intramuscularly. If the horse is able to eat, food should be offered at a height where it can easily reach it. In severe cases, slinging may be necessary. Intravenous fluids and/or catheterization of the bladder may also be necessary. Unfortunately, the chances of recovery are extremely poor if such measures are necessary and euthanasia on humane grounds is usually more appropriate.

How can tetanus be prevented?

Tetanus is an easily preventable disease. Vaccination with 'tetanus toxoid' should be used for all horses and ponies. The initial course consists of two injections given approximately four to six weeks apart followed by a booster 12 months later and then boosters at two-year intervals thereafter. Foals cannot respond to vaccine given before approximately four months of age but should start a course of vaccine soon after this. As protection before this age foals should receive a tetanus antitoxin injection soon after birth. They also receive some protection via colostrum (first milk) if the mare is well vaccinated.

Good first aid can help prevent tetanus. Wounds should be cleaned as soon as they occur and steps should be taken to encourage drainage of deeper injuries. Paddocks, stables and stable yards should be kept safe, clean and clear of dangerous items such as old tractor parts, corrugated iron sheets and building materials that may cause injury. We also recommend that all horses having any sort of dental work done are fully protected against tetanus.