

# Strangles

(also known as horse distemper)

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## Definition

Strangles, which also is known as horse distemper, is a highly contagious disease of horses. The disease is caused by the bacteria *Streptococcus equi*, which infects the upper respiratory tract of equine species (horses, mules, zebras).

The disease gets its name – strangles – from the swelling of the lymph nodes under the jaw and around the throatlatch area, which, in severe cases, can interfere with a horse’s ability to breathe.

Strangles can occur in any age horse, although horses under 5 years old are affected more frequently. The disease is highly contagious, with 50 percent or more of exposed animals becoming sick. However, the disease is rarely fatal (less than 5 percent in well-managed cases).

## Source of Infection

Horses become infected with strangles after inhaling or ingesting the bacteria. Usually this results from direct contact with infected animals or through shared feed and water containers. Discharge from the nose or abscesses carries large concentrations of the bacteria and is highly infective. Contaminated clothing, boots, brushes and tack all can spread the disease from one area to another.

Animals that are in the initial stage of infection and those recovering from the disease are the usual source for introducing strangles into a new population. In rare instances, chronic carriers can continue to shed the bacteria for prolonged periods even though they show no signs of infection.

## Four Stages of Disease

### 1. Exposed But No Symptoms

The first clinical signs usually develop within two to six days after exposure, although an incubation period lasting 14 days is not uncommon. Shorter incubation periods usually reflect greater bacterial exposure.

### 2. Early Stage of Infection

Initial symptoms may include depression, failure to eat or drink, clear nasal discharge (which will get thicker and creamy as the disease progresses), fever (as high as 106 F) and swelling of the lymph nodes under the jaw or in the throatlatch area. Affected horses may stand with their necks stretched out and be reluctant to swallow. Fever is often one of the first signs and may precede other symptoms by one to two days.

### 3. Lymph Node Abscesses

Abscesses may develop in the swollen lymph nodes seven to 10 days after initial signs are observed. In many cases, this is the first sign that owners may notice. As the abscesses mature, they will rupture and drain thick, yellowish material. Note that the draining pus from these abscesses contains high numbers of infectious

bacteria, and anyone caring for the sick animals should take every precaution to avoid contaminating other areas with bacteria.

### 4. Complications

Complications can occur in up to 20 percent of horses infected with strangles. One condition, known as “bastard strangles,” results when abscesses form throughout the body. The most common location for these abscesses is the lungs, liver, spleen, kidney and brain. Another complication associated with streptococcal infections is purpura haemorrhagica. This condition results when immune system complexes form and lodge in small blood vessels. This causes generalized blood vessel inflammation and body swelling (especially of the head and legs).

## Treatment

Because strangles is highly contagious, affected horses should be isolated immediately. Treatment is highly dependent on veterinarian preference and the stage of the disease. *S. equi* is very sensitive to a variety of antibiotics, and immediate antibiotic treatment during the early stage of infection (before external swelling of lymph nodes is evident) may prevent abscess formation. Mild cases usually resolve without incident and probably do not require antibiotic therapy.

Once abscesses have formed, antibiotic treatment is usually ineffective. Local application of hot packs to swollen and abscessed lymph nodes can be beneficial.

In some cases, abscesses may need to be lanced to facilitate drainage and healing.

Horses with bastard strangles or purpura haemorrhagica will require immediate veterinary attention because these complications can be fatal. Treatment may require therapy for extended period of time (up to four to six weeks) and additional medical therapy, such as anti-inflammatory medications or intravenous fluids.

## Controlling/Preventing the Spread of the Disease

Isolating affected horses immediately is essential for the prevention and control of strangles. In an ideal situation, personnel who do not have contact with other horses on the premises should care for isolated horses. If this is not possible, personnel should deal with affected horses last.

Workers should wash and sanitize their hands thoroughly and change their clothing and boots before leaving the isolation area. Other precautions to take include using disposable plastic boots and wearing rubber gloves.

Shared water buckets/troughs are a common route for this disease to spread. If a hose is used, workers must take care not to contaminate the end of the hose by dunking it into the water.

Once a horse enters the isolation area, it should not be allowed to leave until a veterinarian deems it clear of infection. Traditionally, the recommendation was to quarantine for a minimum of four weeks or until three consecutive nasopharyngeal swabs were collected.

However, these recommendations do not account for horses that become persistent carriers of the bacteria. Although the carrier state is not common (up to 10 percent of affected animals become carriers), this allows the bacteria to persist between outbreaks. Carriers harbor the bacteria in their guttural pouch and may have nasopharyngeal cultures that are negative for several weeks or months; therefore, the gold standard for carrier detection is to obtain a culture from the guttural pouch.

*S. equi* is not environmentally hardy and is believed to survive for no more than six to eight weeks. Any equipment, including all brushes, buckets and tack that have come in contact with an affected horse, should be disinfected thoroughly. *S. equi* is sensitive to most disinfectants as long as label directions are followed and the product is used appropriately.

## Vaccination

Most horses will develop a strong immunity to strangles after infection; however, some fail to do so and can be reinfected even a few months later. Approximately 75 percent of horses that are infected with strangles will develop strong immunity that lasts at least five years.

Several strangles vaccines are available, with products being given intramuscularly or intranasally. Vaccination will not guarantee prevention of the disease, but it may lessen severity and duration, and it does seem to be effective in helping control outbreaks. Discuss with your veterinarian the appropriate vaccine to use in your situation.

## Guidelines for Handling an Outbreak

Strangles is a common, highly contagious, bacterial disease that affects horses. Keep the following guidelines in mind if an animal on your premises is identified as having strangles.

- Isolate the infected horse(s) immediately. Early recognition is key to minimizing an outbreak.
  - The isolation area should prevent any direct contact with other horses. Turnout areas, water and feed troughs, and tack items must not be shared with other horses.
- Contact your veterinarian for treatment options, especially if the horse is having trouble breathing, is not eating or is running a high fever.
- Monitor all other exposed horses daily and immediately isolate them if they show any symptoms of strangles, including running a fever of 103 F or greater.
- Restrict movement of animals into or out of the facility.
- Remember that animals typically recover in approximately three weeks; however, bacterial shedding can occur for months.
- Clean and disinfect all water containers, feeders, brushes, stall walls, fencing and trailers thoroughly before returning them to general use. Strangles bacteria are susceptible to most disinfectants as long as label directions are followed and the product is used appropriately.
- Leave pastures and turnout areas that housed infected open for a minimum of 30 days as a general recommendation. The exact length of time that strangles can survive in the environment varies widely.

**For more information on this and other topics, see [www.ag.ndsu.edu](http://www.ag.ndsu.edu)**

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