



# Strangles: New Millennium, Same Disease

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Strangles was one of the first equine diseases to be described by the early writers of veterinary science. Unfortunately, not a great deal about the disease has changed over the centuries. Strangles is still widely reported in North America and all other areas with major populations of horses. Outbreaks of strangles (and other infectious diseases) are costly when considering the value of the horse, lost performance time, missed breeding dates, veterinary treatment and control measures.

**One of the main factors contributing to the spread of the disease is the movement of horses, particularly those that no longer show clinical signs but still shed the organism in their nasal secretions.** As the international movement of horses continues to increase, strangles ranks high on the list of diseases likely to be transmitted.

The organism that causes strangles is a bacterium called *Streptococcus equi*. Transfer from horse to horse usually involves direct face-to-face contact or exposure of horses to such things as contaminated feed, water, hands, veterinary instruments or grooming tools. *S. equi* may survive in drinking water for up to four weeks. A stall or van recently used to house or transport a horse that is shedding the organism may also be a source of infection. However, because the organism dies quickly in the environment, the usual source of infection is an infected horse. **A small percentage of horses may harbor *S. equi* in their guttural pouches for months or years and transport infection to susceptible horses.** These horses may have an intermittent unilateral nasal discharge and pathologic changes in the affected pouch.

Classic signs of the disease include sudden onset of fever as high as 106 degrees F, thick yellow nasal discharge, swollen lymph nodes under the jaw. When the infection involves lymph nodes above the airway, horses may cough stretch their heads out. Other signs include depression, poor appetite, loss of condition and foul smelling breath. The disease is typically milder in older animals, who may only show nasal discharge. However, horses of all ages are susceptible. The disease is diagnosed in the laboratory by culture and/or PCR of the nasal canals. A test to measure serum antibody is also available.

By understanding other features of the organism and disease, horse owners and barn managers can take steps to help prevent it from spreading and to lessen its severity:

- **The time between exposure to an infected horse and onset of clinical signs (incubation period) ranges from three to 16 days**
- **Horses will develop a fever two to three days before they shed *S. equi*.**
- **The organism can be shed in nasal secretions for two to three weeks after clinical signs begin**
- **Individual horses within a group can become infected at different times**
- **Since antibiotic treatment is often not effective in getting rid of the organism, chances are high that the horse may relapse after treatment is stopped**
- **Also, immune responses are sometimes poor in horses that are treated with antibiotics**

**Because strangles is so contagious, strict measures to control its spread must be taken.**

The Strangles Control Plan, below, is designed to reduce the severity and length of the disease by reducing the numbers and potency of the organism.

#### Strangles Control Plan

- **New horses should be isolated for two weeks and observed for signs of strangles and other diseases**
- **Any horses showing signs should immediately be quarantined**
- Rectal temperatures of horses that have been in contact with sick horses should be taken twice daily and recorded for two to three weeks (normal = 99.5 to 100.5)
- Horses whose temperatures rise 1.5 degrees or more should immediately be quarantined
- The nasal passages of sick horses may be cultured at weekly intervals following abscess drainage to determine when the infection is cleared
- Only severely affected horses should be treated with antibiotics. Most cases recover without treatment and develop strong immune responses. Detection of guttural pouch infection requires endoscopic screening

**Without control measures, a strangles outbreak will ultimately affect all susceptible horses, last longer, and have a greater chance of leading to complications. These include purpura hemorrhagica (an inflammation of the blood vessels) and abscesses in other areas of the body besides the respiratory tract.**

The level of immunity stimulated by vaccines is lower than that produced during recovery from strangles because the right type of antibody is not stimulated. Vaccines given intramuscularly cause antibodies to be produced in the blood but not in the tonsils where the organism enters. Vaccines given intranasally are designed to cause antibodies to be produced in the mucous membranes of the throat. Therefore, this type of vaccine may be more effective in blocking entry of the organism.

Because the intranasal vaccine is a live, altered version of the actual disease-causing organism, there are some drawbacks to its use. For example, some horses develop nasal discharge or swollen lymph nodes. It can also cause abscesses in places where horses received other, intramuscular vaccines if that area is contaminated with the intranasal vaccine.

When pregnant mares are vaccinated a month or so before foaling, the antibodies produced in their colostrums should protect their foals for three to four months. Because foals younger than four months make poor responses to vaccines, vaccination at this age is not recommended. Also, vaccination during an outbreak is of no value to horses that are already infected. Experts do not recommend vaccinating horses that have had strangles during the previous two years.

Prevention plays the largest part in the control of strangles. By identifying and isolating infected horses, practicing strict hygiene, and disinfecting equipment and facilities, an epidemic may be prevented. Testing of horses being moved within and between countries using fast but accurate diagnostic tests is also helpful. Proper selection and administration of vaccines is also important.

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