



The infection caused by the bacteria *Streptococcus equi*, commonly known as strangles, has been described in horses for almost 800 years. The name strangles describes the condition in which an affected horse is suffocated as lymph nodes in the throat region become enlarged and obstruct the airway, but thankfully this does not happen in all cases. Many misunderstandings exist regarding strangles, most likely due to improperly informed horse people passing on tales regarding the infection. Common myths surrounding strangles refer to clinical signs, transmission, treatment, persistence of the disease in the environment, and prevention.

Strangles is characterized by a sudden onset of fever with subsequent formation of abscesses under the jaw and within the throat approximately 7-10 days following exposure. These abscesses may open and produce a thick yellow drainage which may also be seen as a nasal discharge. Misunderstandings regarding the clinical signs of strangles can lead to a false sense of security among horse owners. It has been said that ALL horses with strangles have several large lymph nodes under their jaws with copious amounts of yellow drainage. The severity of clinical signs varies depending on the immune response on the individual horse. Younger horses, or horses that have never been exposed to the bacteria, will have a more severe form of the disease. Horses who have been exposed in the past, and have developed some level of immunity often exhibit a mild form of the disease seen as slight nasal discharge with little to no enlargement of the lymph nodes under the jaw. The symptoms of the disease following exposure to a group of horses can vary from severe lymph node enlargement with difficulty breathing to no outward signs with a slight nasal discharge.

Misunderstandings regarding the transmission of the bacteria causing strangles exist. It is often said that once a farm has had



STRANGLES

Dispelling the Myths

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an outbreak of strangles, the problem will always be on the farm and can show up at anytime. A fact that needs to be understood is that the source of infection from year to year and farm to farm is the horse, not any part of a barn, pasture, farm, or other animals besides horses.

After outward clinical signs of strangles have ceased, the majority of horses clear the bacteria and no longer pose a threat for infecting others by 2-3 weeks. However, following an outbreak a number of horses (can be as high as 10%) cannot clear the bacteria and become persistently infected. The bacteria can survive for years in the guttural pouches, which are located in the pharyngeal region. These persistently infected horses

who may not be showing any outward signs are known as asymptomatic carriers. A carrier horse who undergoes some form of stress such as foaling, weaning, competing at a show, or a simple change in routine, can begin to shed the bacteria and serve as a source of infection in its herd. These carrier horses can be the source of new outbreaks when introduced to a new herd.

Transmission of *Strep. equi* occurs either by direct or indirect contact. Direct transmission occurs during horse-to-horse contact through everyday social behavior. The indirect transmission can be more difficult to control and occurs through the sharing of contaminated stalls, water buckets and troughs, feed tubs, bits, as well as the tools and clothing of farriers, veterinarians, and dentists unless appropriate precautions are taken. Water sources, either in shared stalls or in field settings with a common water supply, are the most common culprit when it comes to infecting a herd during an outbreak. When a horse is shedding the bacteria and dips their nose into a water source, the water serves as a reservoir for the bacteria to be passed to every horse that comes in contact with the water. If the water is



not disinfected regularly the infected horse will continue to contaminate and infect the herd.

There is a misunderstanding regarding the persistence of *Strep. equi* in the environment. Besides in a water source, the bacteria will not survive for prolonged periods in the environment. This means horses do not become infected with the bacteria from the soil, grass, or fences unless a horse currently shedding bacteria is present.

Strangles is often diagnosed by clinical signs, but it takes a positive culture with or without a positive PCR test to confirm the presence of *Strep. equi*. Both tests utilize a sample from a nasal wash or direct swab from an enlarged lymph node to detect the bacteria. Each test has its limitations, but when used in conjunction can be very effective in detecting the bacteria in a horse actively showing clinical signs and a carrier horse who may appear outwardly healthy.

Common mistakes are made in the treatment of an individual horse or entire herd during an outbreak of strangles. Once a horse is confirmed to have strangles, different opinions exist regarding the treatment of the individual. Unless a horse is in distress, such as difficulty breathing or severely depressed with a fever above 103 F, they should be isolated from other horses and monitored with no medications. As far as herd management during an outbreak, the use of vaccines should be avoided. Vaccinating during an outbreak can actually cause more harm than good. Horses are at different stages of the disease during a herd outbreak and if vaccinated following exposure to the bacteria, a horse may have an immune system response to the bacteria that can be more severe than the actual disease. If not used correctly, antibiotics can also lead to problems during an outbreak. Often times, when a horse who has been exposed and is not yet showing clinical signs is placed on antibiotics, the disease process is simply being suspended. When the antibiotics are stopped, the horse may continue to progress through the stages of the disease with no benefit from the antibiotics. The best management during an outbreak is to segregate the horses showing clinical signs, giving them supportive care, and monitoring the temperatures of the healthy horses for 2-3 weeks after the last horse with clinical signs was removed.

Steps can be taken to prevent the exposure of your horse to strangles. It is important to remember that a horse does not have to be showing active clinical signs of strangles to be capable of infecting others. Care should be taken to minimize exposure to other horses, particularly at shows and stables with a changing population. Particular attention should be made to the water source. When traveling to shows, water buckets

should be brought and not shared with other horses. Do not permit direct or indirect contact with other horses while at the show. This includes nose-to-nose contact as well as sharing such things as stalls, water buckets, feed tubs, grooming tools, tack, and trailers. In a stable or herd situation, a few simple prevention methods can be used to decrease the likelihood of exposure to strangles. Isolation of all horses for 2-3 weeks before they come in contact with others can decrease the potential exposure. Testing incoming horses for *Strep. equi* can be an effective tool in limiting the introduction of strangles into a herd or stable. Strangles is a preventable disease and with the proper steps the risk of exposure can be minimized. ♦

Dr. Jeff Cook's practice involves mare reproduction and strangles outbreak control at farms and race tracks.

Research News

DNA Vaccine For West Nile Gains FDA Approval for 2006 Release

Fort Dodge Animal Health, a division of Wyeth, announced that its West Nile-Innovator DNA vaccine has received FDA approval and is expected to be released in early 2006. It is expected to be available only to licensed veterinarians.

The intramuscular-administered vaccine "causes the horse's cells to begin making proteins from the West Nile virus, which trigger a protective immune response," according to Fort Dodge. The company believes this is the first DNA vaccine in the world to be approved for commercial sale.

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