



Equine Reproduction Embryo Recovery Embryo Transfer

ERS is the longest, continually in existence
Equine Embryo Transfer Company
in the United States

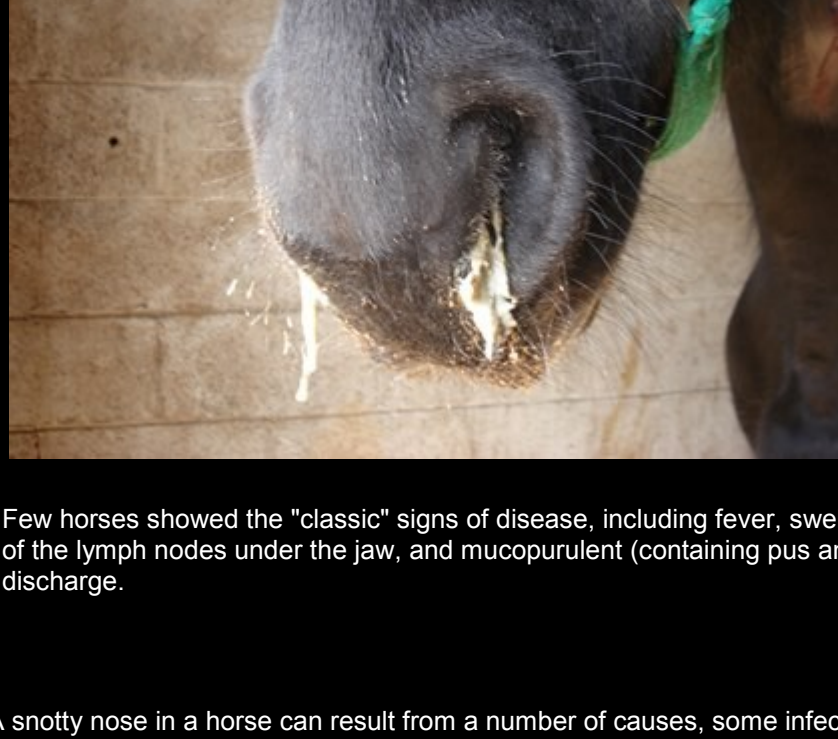
*** CLICK HERE ***

Current Articles &
Research

Reproduction
Foil Disorders
Lameness

Check back often for
new additions

Strangles in Horses: Predicting Disease and Complications



Few horses showed the "classic" signs of disease, including fever, swelling or abscessation of the lymph nodes under the jaw, and mucopurulent (containing pus and mucus) nasal discharge.

A snotty nose in a horse can result from a number of causes, some infectious, some not. So it's important to determine whether an infectious disease is, indeed, behind your horse's nasal discharge.

Researchers at the University of Pennsylvania are taking steps to make it quicker and easier for veterinarians to limit their lists of differential diagnoses by taking a closer look at one very contagious equine infection: strangles. They recently sought to identify clinical signs that could serve as predictors of strangles and complication development in concert with the disease.

"Strangles is an infection of the upper respiratory tract and lymph nodes of horses caused by the bacterium *Streptococcus equi* spp. *equi*," explained Ashley Boyle, DVM, Dipl. ACVIM, an assistant professor of medicine at the University of Pennsylvania School of Veterinary Medicine's New Bolton Center. "Classic signs of infection include fever, a thick nasal discharge, and abscessed lymph nodes, such as the submandibular node," which is located under the jaw.

While most horses recover uneventfully from strangles, some wind up developing serious complications including:

- Bastard strangles (abscess formation in other parts of the body, such as the abdomen, not associated with the respiratory tract);
- Purpura hemorrhagica (an immune-mediated inflammation of blood vessels causing swelling of the belly and limbs and bleeding noted on the gums);
- Guttural pouch empyema (accumulation of pus in the guttural pouch); and,
- Streptococcal myositis (a rare muscle infection characterized by pain, reluctance to move, and dark-colored urine).

"These complications can be fatal," cautioned Boyle.

It is currently unknown how many horses that become infected with strangles develop any of these complications; however, based on Boyle's recent review of the topic, that number could be as high as one in five horses.

To better predict which horses are prone to developing strangles-related complications, Boyle and colleagues took a closer look at 108 horses that New Bolton Center field veterinarians examined from 2005 to 2012 that displayed classic signs of strangles. Such signs included fever, retropharyngeal lymphadenopathy (swelling or abscessation of the lymph nodes under the jaw), and mucopurulent (containing pus and mucus) nasal discharge. Each case was either associated with a confirmed strangles outbreak or tested positive for *S. equi* via a laboratory test.

The researchers found that 72% of study horses had fever, 62% had mucopurulent nasal discharge, and 22% cases had external abscesses in the jaw area.

"Predictor variables associated with strangles in this study were mucopurulent nasal discharge and external abscesses in the pharyngeal region, as well as season," relayed Boyle.

The team determined that horses with signs of respiratory disease in the spring were more likely to have strangles than those with respiratory disease in other seasons. Further, horses with nasal discharge and external abscesses were 6.8 and 52.78 times more likely to have strangles than horses with respiratory disease without nasal discharge and external abscesses.

Regarding potential complications Boyle and colleagues also found:

- 64% of the 50 horses that underwent guttural pouch endoscopy had empyema, but they could not identify predictor variables for it;
- Only 6.5% of horses developed purpura hemorrhagica, and horses with strangles and anemia were 22.9 times more likely to develop purpura hemorrhagica than horses without anemia; and
- Only 2% of the horses developed bastard strangles, and the team could not identify any predictor variables for it.

"Very few horses had the classic triad of signs; however, the lack of classic signs does not rule out the possibility of strangles," Boyle concluded. "The horse's travel history and environment should be considered when determining whether there is a need to test of strangles. A high percentage of horses will develop empyema, so guttural pouch endoscopy is recommended at the end of the course of disease to make sure the horse is not a carrier. Finally, we found less horses affected by bastard strangles than previous reports."

The study, "Predictor variables for and complications associated with *Streptococcus equi* subsp. *equi* infection in horses," was published in the *Journal of the American Veterinary Medical Association*.