

Flu Season Prep

Vaccinate, ventilate and provide quality nutrition to safeguard your horse from equine respiratory diseases like Equine Influenza and Equine Viral Rhinopneumonitis this fall and winter.

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Fall is here, and cooler weather brings with it a new flu season. Just as respiratory viruses affect people, different subtypes also affect horses. Equine influenza and equine rhinopneumonitis are viral diseases of horses residing in North America and other parts of the world.

vaccine

Most people refer to Equine influenza as the “flu” and to Equine Rhinopneumonitis as “rhino.” The medical terminology for rhinopneumonitis is rhino=nose, pneuma=respiration and -itis=inflammation and is defined as inflammation of the nasal and pulmonary mucous membranes.

These viruses, which cause “shipping fever” or “stable pneumonia,” are most common in young horses, especially those traveling to horse shows and racetracks and during transport (trailers, airplanes, etc.). The diseases highly contagious diseases can be found in the United States anytime of the year but are more prevalent in the summer and fall.

Signs of Disease

In the early stages of these diseases, horses can appear listless and be reluctant to eat or drink. Affected horses might then develop flu-like symptoms such as a dry, hacking cough and a fever of 102-107 F, lasting one to seven days. The dry cough can develop into a moist cough and serous nasal discharge. The disease can progress causing swollen submandibular lymph nodes, secondary bacterial infections and guttural pouch empyema.

Aaaaachooo!

Viruses can spread easily from horse to horse as a result of aerosol droplets from coughing, nasal discharge secretions and contaminated stalls or trailers. Spreading rapidly in susceptible horses, the virus is often introduced by a sub clinical shedder. These viruses affect the lining of the airways from nose to lungs. The equine influenza virus damages the small hair-like structures (called cilia) that normally beat and clean out dust and secretions from the nose and upper airways. The disease has almost 100 percent infection rate in a population that has been previously unexposed to the virus. The incubation period from when the horse is exposed to the virus until showing clinical signs is 2-10 days and the disease may persist for 1-14 days.

Determining the Problem

Diagnosing equine viral rhinopneumonitis and equine influenza is difficult, as they cannot be differentiated from equine viral arteritis or certain other equine respiratory infections solely on the basis of clinical signs. Equine influenza is a type A orthomyxovirus with two subtypes, which are H7N7 (formerly known as A/equine 1) and H3N8 (formerly known as A/equine 2). There are many strains including KY 93, 94, 95, & 96, Suffolk 89, Austria 92 and more. Because so many strains exist, vaccinations provide some protection, but they might not be complete, thanks to the assortment of disease strains.

Equine Rhinopneumonitis is a disease caused by equine herpes virus Type 1 (EHV-1). Each subtype produces different symptoms: Sub-type 1 is the strain that causes abortions, respiratory, and neurologic disease, while sub-type 2 is just a respiratory strain. Using the clinical signs may be the first step in diagnosing, but it is necessary to confirm through the use of virus isolation and serology.

For virus isolation, best samples are nasal, nasopharyngeal swabs or a tracheal aspirate, all collected early in the course of the disease. For serology collect 2 samples, 2-3 weeks apart, to find rising titer - a four times or greater rise in HA titer is needed to make a diagnosis (except in sub clinical or vaccinated horses who may not show a rise in titer!). Blood work may show a mild anemia and a lowering of the white blood count early in the disease. Recovering horses may show an elevation of the white count if secondary infection present. Enzymes CK, AST, and LDH may be elevated if myositis occurs.

The disease develops when a glycoprotein (hemagglutinin) attaches its spikes to respiratory epithelial cell receptors, and enters the cell via endocytosis. After viral replication new viral particles are released into the airway to infect other cells or become aerosolized. In one to three days this invasion causes necrosis and shedding of respiratory epithelial cells, exudation of protein-rich fluid into airways, and clumping of cilia, impairing the mucociliary apparatus for up to four weeks. Exudate accumulates and predisposes to secondary bacterial infections.

Critical Prevention

The most important part of dealing with this illness is to prevent it through proper vaccination. Effective vaccines are available and horses should be vaccinated several times per year to ensure strong immunity. It is important to consult your veterinarian to ensure the best vaccination protocol for your horse, based on the age, environment, travel schedule and work load of the horse.

In previous outbreaks, while a vaccine does not always prevent the disease, the disease in vaccinated horses was less severe, and the signs lasted a shorter period than with horses left unvaccinated. When training was stopped for those horses showing signs of influenza, it appeared to reduce the severity of the disease.

Good ventilation and quality support care are very important in reducing severity of the infection. There are no specific antiviral drugs, but there are immunostimulants that your veterinarian can administer that might be beneficial. Some horses will develop secondary bacterial infections that can lead to pneumonia and other problems, requiring antibiotics to deal with infection. If a horse is noted with clinical signs consistent with a respiratory infection, the horse(s) should be quarantined for at least two to three weeks. Any animals in contact with the infection should also be isolated, and all movement to and from the infected premises should be halted until the outbreak is over. Good hygiene includes cleaning and disinfecting stalls, equipment, and transport vehicles. (Visit www.stallsafe.com for information about a spray-on product that eliminates bacteria in areas your horse comes in contact with.)

As with any disease, an ounce of prevention is truly worth a pound of cure. Good ventilation, proper vaccination and quality nutrition will help keep your horse at the peak of performance.