

## **Routine Vaccinations**

As routine maintenance for your horse, vaccinations for infectious diseases should be given on a regular basis. There are several diseases that can be deadly if your horse is not protected. There is no curative treatment for several of these diseases, and supportive care is the only option in these cases. The most common diseases that should be a part of a routine vaccination program include West Nile Virus, Tetanus, Equine Encephalitis, Influenza, Rhinopneumonitis, Strangles, and Rabies.

West Nile is a Flavivirus and is present in several countries throughout the world, including the United States. West Nile Virus is transferred to the horse by the bite of an infected mosquito. Many horses infected with West Nile Virus will not show clinical signs. Clinical signs associated with this virus include forelimb or hind limb incoordination and weakness, which can be asymmetric, difficulty rising and stumbling, that can lead to paralysis of all four limbs, fever, drooping lip, face twitching, and blindness. Horses should be vaccinated for this virus at 3-4 months of age with a booster in one month. Another booster vaccination can be given in 6 months in endemic areas. Adults should receive a booster vaccine twice per year in Florida. Boostering every 4 months in areas that this disease is most commonly seen may help reduce the risk of infection.

Encephalitis (including Eastern, Western, and Venezuelan equine Encephalomyelitis) is a Togaviridae that occurs in the Western Hemisphere in temperate climates. This disease is also known as "Sleeping Sickness". These viruses infect birds, small mammals, and reptiles without causing clinical signs. Acute clinical signs include fever, decreased appetite, and stiffness. As the disease progresses, propulsive walking, depression, increased sensitivity to stimulation, aggression, and excitability can develop. The later signs, which are very diagnostic of encephalomyelitis, include head pressing, blindness, circling,

head tilt, and muscle tremors. Encephalomyelitis also has the potential to infect humans, usually young or old, and cause similar clinical signs. Encephalomyelitis vaccines should be given at 3-4 months, 4-5 months, and again at 5-6 months of age. A booster vaccination should be given twice yearly and every 4 months in endemic areas.

Tetanus is caused by the bacteria *Clostridium tetani*. This bacterium is found in the soil and is introduced through puncture wounds. The clinical signs include colic, stiffness, muscle spasms, difficulty eating, excitement due to stimulation, straight and stiff limbs, excessive salivation, difficulty walking, difficulty breathing, and unable to rise. Horses should be vaccinated with a Tetanus toxoid vaccine at 3-4 months of age and again in one month if born to an unvaccinated mare. If the mare was vaccinated, the foal should not be vaccinated until 6 months of age and two boosters given at one month intervals. Tetanus toxoid vaccination should be repeated twice yearly. Otherwise, if the last vaccine was given longer than 6 months prior to penetrating injury, the horse should be revaccinated.

Rabies is a fairly uncommon but severe disease that is transferred by skunks, raccoons, the red fox, dogs, cats, and other horses. It is transmitted by inhalation, orally, or from dam to young. Rabies causes increased sensitivity to stimulation, incoordination, behavior change, paralysis, difficulty rising, stumbling, frequent falling, colic, fever, and sudden death. There are three forms of rabies: furious, dumb, and paralytic. The furious form is where aggression and tremors are noted. In the dumb form, animals show signs which consists of depression, head tilt, decreased appetite, and blindness. The paralytic form is the most severe form and includes incoordination and shifting lameness. Horses should be vaccinated against rabies at 3-4 months of age with a booster given at 12 months if born to an unvaccinated dam. If the mother was vaccinated, the foal should be vaccinated at 6 months and again at 7 and 12 months of age. A booster vaccination should be given

yearly.

Strangles is caused by the bacteria *Streptococcus equi* subspecies *equi*. This organism is inhaled from an infected horse. The clinical signs noted include a fever, nasal discharge, and lymph node enlargement. Affected horses may stand with their neck stretched out and have difficulty swallowing. Severe problems due to strangles infection can include internal abscesses, vessel inflammation, and infection of the entire body with bacteria and their toxins. There are 2 forms of this vaccine available: injectible and intranasal. Injectible vaccines may be less reactive and should be given at 4-6 months, 5-7 months, 7-8 months, and again at 12 months of age. The intranasal vaccine should be handled carefully due to the potential to cause the disease and severe inflammation if injected. This vaccine should be given into the nose at 6-9 months of age and then 3 weeks later. Strangles should be boosted every 6 months, no matter which vaccine is used for prevention.

Influenza is a respiratory tract virus that commonly affects younger horses (<3 years of age). Asymptomatic carriers may shed the virus when stressed, and the virus may be harbored in birds. Horses become infected through respiratory passages. Clinical signs noted include a sudden fever, serous nasal discharge, decreased appetite, depression, and a dry cough. The Influenza vaccines available include inactivated or modified-live vaccines. The inactivated vaccines are made of non-active influenza virus and should be given to a foal from a non-vaccinated mare at 6, 7, and 8 months of age. A foal from a vaccinated mare should receive these vaccines at 9, 10, and 11-12 months of age. This vaccine should be given every 3 months. The modified-live vaccine is an intranasal vaccine that is live virus in which the capability to cause disease has been removed. This type of vaccine should be given at 11 months of age and then twice yearly.

Rhinopneumonitis is Equine Herpes Virus and occurs through inhalation of the

virus or contact with infected tissues. Close contact is very important for transmission of rhinopneumonitis. Clinical signs include fever, cough, and nasal discharge. Horses should be vaccinated for rhinopneumonitis at 4-6 months of age and then have two boosters at one month intervals. This vaccine should then be boosted every 3-4 months in areas of high risk.

Several of these diseases are curable with appropriate treatment. These diseases include West Nile, Strangles, Influenza, and Rhinopneumonitis. The other diseases discussed today, Encephalomyelitis, Tetanus, and Rabies, are most commonly deadly diseases and horses suspected to have one of these diseases should be seen by a veterinarian immediately.

Contact Brandon Equine Medical Center at 813-643-7177 or email [info@brandonequine.com](mailto:info@brandonequine.com) with any questions regarding this topic.