



## Equine Vaccination

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Vaccinations are an important part of proper equine health care. When thinking of a vaccination program for horses, there is not a “standard” protocol that applies to all horses. Instead, the owner and veterinarian must consider several factors when deciding the best vaccination protocol for an individual horse. The first consideration is the risk of the horse developing a given disease. This includes the anticipated exposure, environmental factors, geographic factors, age, breed, use, and gender of the horse. Second, one must consider the consequence of the disease (meaning the severity of illness or chance of death and potential for spread to humans). The third consideration is the anticipated effectiveness of the selected vaccine (which in most cases, vaccines are very effective). Fourth, one must consider the potential adverse reactions to the vaccine (which are generally mild, such as swelling and sensitivity at the injection site). Severe, life-threatening reactions may occur, but are uncommon. Because of the possibility of a severe reaction, vaccines should always be administered by a veterinarian. The final consideration for a vaccine protocol is the cost of the immunization compared to the potential treatment cost of the disease (which typically favors the immunization because the cost of a vaccine is nominal compared to treatment of many of these diseases).

As mentioned, a good vaccination program is essential as part of being a responsible horse owner. Owners must understand, however, that good managerial practices directed toward maximizing the health, productivity, and performance of the horse is important along with a good vaccination protocol. Occurrence of infectious disease in populations of horses tends to increase with (1) increased population density of susceptible horses at a facility, such as breeding farms, sales grounds, and boarding facilities, (2) movement of horses on and off the facility property, and (3) environmental and managerial influences such as stress, over-crowding, parasitism, poor nutrition, inadequate sanitation, contaminated water source/supply, concurrent disease, and inadequate rodent, bird, and insect control. Furthermore, owners must understand that vaccination minimizes the risk of infection but does not prevent disease in all circumstances, and each horse in a population is not protected to an equal degree nor for an equal duration following vaccination. The final important concept that must be understood is that the primary series of vaccines and boosters must be administered prior to the disease exposure in order to be effective against that disease.

Vaccinations can be categorized into “core” vaccines and “risk-based” vaccines. Core vaccinations are those that protect from diseases that are endemic to a region, those with potential public health significance, required by law, virulent/ highly infectious, and/ or those posing a risk of severe disease. Core vaccines have clearly demonstrated efficacy and safety, and thus exhibit a high enough level of patient benefit and low enough level of risk to justify

their use in the majority of patients. These vaccines include Tetanus, Eastern/ Western Equine Encephalomyelitis, West Nile Virus Encephalomyelitis, and Rabies. Risk-based vaccines, on the other hand, vary based on the region, the population within an area, and between individual horses within a given population. Examples of these vaccines include Botulism, Herpesvirus (Rhinopneumonitis), Influenza, and Strangles.

A brief review of the diseases follows:

- **Tetanus** – Also called “lockjaw”. It is caused by a toxin-producing bacteria found in the intestinal tract and soil. It can enter the body through wounds, lacerations, or the umbilicus of newborn foals. Clinical signs include muscle stiffness and rigidity, which leads to inability to eat or drink. More than 80% of affected horses die. This disease is not contagious.
- **Eastern/ Western Equine Encephalomyelitis** – WEE has been found throughout North America, while EEE appears in the east and southeast. Transmission is by mosquitoes. Clinical signs begin with fever, depression, and appetite loss. Later, the horse might stagger when it walks and can progress to paralysis. About 50% of WEE-affected horses die, while approximately 90% of EEE-affected horses die. This disease is not contagious.
- **West Nile Virus Encephalomyelitis** – WNV has been found throughout the United States and affects both horses and humans (although it is not contagious from horse to horse or horse to human). It is transmitted by mosquitoes. Clinical signs are similar to WEE and EEE, with approximately 33% mortality rate of affected horses.
- **Rabies** – While this is an infrequently encountered neurologic disease, it causes death and can be transmitted from horse to human.
- **Botulism** – Also called “forage poisoning” in adult horses and “shaker foal syndrome” in young horses. The toxin-producing bacteria can enter the body through wounds or by ingestion. It causes weakness, which can lead to paralysis, inability to swallow, and death. This disease is not contagious.
- **Herpesvirus (Rhinopneumonitis)**- Two strains of virus (EHV1 and EHV4) cause respiratory tract disease. EHV1 also causes abortion, foal death, and paralysis. Infected horses may have fever, lethargy, loss of appetite, nasal discharge and a cough. Rhinopneumonitis is contagious and spreads by aerosol and direct contact with secretions, buckets, or drinking water.
- **Influenza** – This is a common respiratory disease. Clinical signs include cough, nasal discharge, fever, depression, and loss of appetite. It is highly contagious and transmitted by aerosol or direct contact.
- **Strangles** – A bacterial disease caused by *Streptococcus equi*. Clinical signs include fever, nasal discharge, dysphagia, anorexia, and enlarged lymph nodes (+ abscessation). This disease is contagious.

It is best to discuss your horse’s particular situation with your veterinarian to determine the appropriate vaccination protocol for your horse.

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

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