

EB1283

Recommended Vaccinations for Washington Horses

Appropriate vaccinations play an important role in the control of infectious diseases. Basically, vaccines increase an animal's resistance to specific disease producing agents. When a horse is vaccinated it is exposed to an antigen, which is usually a bacteria, virus or toxin that has been altered so that it can no longer cause disease. This exposure stimulates an immune response so that in the future the horse can more rapidly respond to the agent. It is important to remember that vaccination does not guarantee 100% protection against disease, and that other management practices that minimize stress and limit potential exposure to infectious agents are also essential to a successful disease control program.

Currently, there are vaccines available for at least 12 different equine diseases, with over 79 different vaccines or combinations of vaccines offered. In addition, new vaccines, such as the intranasal products for influenza and strangles, are constantly being developed. Therefore, it is important to develop a vaccination program in conjunction with your veterinarian and to periodically review the program.

Several general factors should be considered when developing a vaccination program. These include:

- (1) The likelihood of the horse getting the disease, which may vary with the geographic location, season, age of the horse, use of the horse, and specific management practices
- (2) The potential severity of the disease
- (3) The safety and efficacy of the vaccine

The following briefly discusses some of the diseases for which vaccination is frequently considered.

Tetanus

Sometimes referred to as lockjaw, tetanus is a disease of the nervous system caused by a toxin produced by the bacterium, *Clostridium tetani*. This bacterium is a normal inhabitant of soil and the intestinal tract of horses. Horses generally become infected by entry of the bacteria into a wound. While any wound may serve as a site of entry of tetanus spores into the body, deep puncture wounds are particularly susceptible as their oxygen free nature provides an ideal environment for growth of the bacteria.

The toxin affects the nervous system, causing spasms and paralysis. Signs include a stiff gait, elevation of the tail, prolapse of the third eyelid, increased sensitivity to sound, and difficulty swallowing and breathing. Tetanus is a highly fatal disease, and all horses should be vaccinated against tetanus.

Encephalomyelitis

Equine encephalomyelitis (sleeping sickness) is a neurological disease caused by viruses. The three major types of encephalomyelitis that can affect horses are: (1) eastern equine encephalomyelitis [EEE], (2) western equine encephalomyelitis [WEE], and (3) Venezuelan equine encephalomyelitis [VEE]. The encephalomyelitis viruses are transmitted from birds and rodents to horses by blood-sucking insects, primarily mosquitoes. Since encephalomyelitis is transmitted by insects, it generally occurs during the

warmer months when the population of insects is greatest.

Affected horses may exhibit the following clinical signs: fever, depression, incoordination, blindness, inability to swallow, and paralysis. The prognosis is often poor, particularly with EEE, which causes death in about 90% of affected horses. Due to the potential severity of the disease and the widespread distribution, vaccination is highly recommended.

Equine Influenza

Influenza is among the most common infectious respiratory diseases of horses. Caused by varying strains of influenza virus, the disease is highly contagious. Clinical signs include fever, inappetance, depression, cough, nasal discharge, and muscle soreness. Developing a highly effective vaccine for influenza has presented several problems, and new vaccinations are currently being developed. Vaccination is highly recommended, especially for horses which have significant exposure to new horses, such as those that are showing or racing or those that are housed at boarding stables or breeding facilities.

Equine herpesvirus (rhinopneumonitis)

Two equine herpesviruses of major importance for which vaccines are available are equine herpesvirus type 1 (EHV-1) and equine herpesvirus type 4 (EHV-4). Both of these viruses, particularly EHV-4, may infect the respiratory tract causing disease which varies in severity from mild fever and nasal discharge to severe disease characterized by high fever, lethargy, loss of appetite, and cough. Respiratory tract infections are most common in young horses, especially when assembled in new groups. EHV-1 also infects fetal fluids and placenta, possibly resulting in abortion or the birth of an infected foal. In addition, EHV-1 may cause neurological disease, for which vaccination is currently not protective. Vaccination against the herpesviruses is highly recommended for horses comingling with new horses and pregnant mares.

Strangles

This is a highly contagious disease caused by the bacterium *Streptococcus equi*. Although the

clinical disease is most common in young horses (weanlings and yearlings), all horses are susceptible. The disease is transmitted by direct contact with infected horses or asymptomatic carriers, or by indirect contact with substances contaminated with bacteria from nasal secretions or draining pus. In most cases, after inhalation, the bacteria spreads to lymph nodes around the head, jaw, and throat causing them to enlarge and ultimately form an abscess.

Affected horses have a fever and are off feed. Developing a highly effective, safe vaccine for strangles has been difficult, and vaccination is generally recommended primarily for horses on premises where strangles has been a persistent problem or for those horses that are being transported to a high risk facility. An intranasal strangles vaccine has recently become available, and recommendations may change.

Rabies

Rabies is a viral neurological disease that affects warm-blooded mammals. The clinical signs of rabies in horses are highly variable, and may include fever, behavioral changes, increased sensitivity of the skin, lameness, and paralysis as well as a number of other signs. The disease is invariably fatal. Human exposure to the virus may occur when a rabid horse is handled. Vaccination against rabies is recommended for horses living in areas where rabies is common. While rabies is very uncommon in horses in Washington, it has been diagnosed, and vaccination should be discussed with your veterinarian.

Additional Diseases

Vaccination for additional diseases, such as Potomac horse fever (PHF), botulism, and others, may be considered depending on the circumstances. Horse owners should contact their veterinarian to develop an optimal vaccination program for their farm.

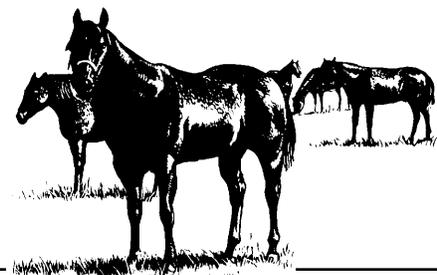


Table 1. Vaccination Recommendations for Adult Horses.*

Use of Horse	Tetanus	Encephalomyelitis (EEE, WEE)	Herpesviruses (EHV-1, EHV-4)	Equine Influenza
Pleasure Horses (minimal contact with other horses)	Annual	Annual, spring	Optional—biannual, may booster before likely exposure	Optional—biannual, may booster before likely exposure
Performance or Show Horses (significant contact with other horses at shows or through stabling)	Annual	Annual, spring	Every 3 months	Every 3 months
Pregnant Mares	Annual, timed 4–6 weeks prepartum	Annual, spring (timed 4–6 weeks prepartum)	Inactivated EHV-1 vaccine—5,7, and 9 months of gestation; EHV-1 and EHV-4 4–6 weeks prepartum	Biannual with one booster timed 4–6 weeks prepartum

*All horses that have never been previously vaccinated should receive a primary immunization series according to the manufacturer's recommendations for the vaccine. For most diseases, this involves a series of 2–3 vaccinations. Once the primary immunization series is completed, the above program may be followed.

Table 2. Vaccination Recommendations for Foals, Weanlings, and Foaling Mares.

	Mares	Foals *						
	4–6 weeks prefoaling	4 mo	5 mo	6 mo	7 mo	9 mo	10 mo	12 mo
Tetanus	X			X	X	X		
EEE/WEE	X			X	X	X		
Influenza	X						X	X
EHV-4, EHV-1	X**	X	X		X		X	

*Foals born to mares that have never been vaccinated should be given tetanus toxoid and tetanus antitoxin at birth. The series of vaccinations for tetanus, encephalomyelitis, influenza, and EHV-1/EHV-4 may begin at 3 months of age.

**Pregnant mares should also be vaccinated with an inactivated EHV-1 vaccine at 5, 7, and 9 months of gestation to help prevent abortion due to EHV-1.



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