



American Association
of Equine Practitioners

Horse Health Education

IMMUNIZATION

Protect Your Horse Against
Infectious Diseases

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HORSE HEALTH EDUCATION: IMMUNIZATION

- Few things will help protect your horse from the ravages of some infectious diseases as easily and effectively as immunizations.
- The vaccines administered by your veterinarian to your horse place a protective barrier between the horse and several diseases:
 - Tetanus
 - West Nile Virus
 - Rhinopneumonitis
 - Strangles
 - Encephalomyelitis (sleeping sickness)
 - Equine Influenza
 - Rabies
 - Potomac Horse Fever

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WHAT TO EXPECT

A good immunization program is essential to responsible horse ownership; however, vaccination does not guarantee 100 percent protection. Please keep the following information in mind as you plan your vaccination program with your veterinarian.

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WHAT TO EXPECT



1. Vaccination serves to minimize risk of infection and aid in the prevention of disease but does not prevent disease in all circumstances.
2. Primary series of vaccines and booster doses should be administered before likely exposure.

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WHAT TO EXPECT

3. Each horse in a population is not protected to an equal degree or for an equal duration following vaccination.
4. All horses in a herd should be appropriately vaccinated, and whenever possible, the same schedule should be followed.

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WHAT TO EXPECT



- Vaccination involves the administration (injection or intranasal) of the causative organisms or important components of those organisms that are inactivated or modified to avoid causing actual disease in the horse.
- Two or more doses are usually needed to initiate an adequate immune response.

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WHAT TO EXPECT

- There is a lag period of 1-2 weeks after a full series of vaccinations are completed until the horse is fully protected.
- After immunizations are completed, protective antibodies in the blood and other specialized immune system components stand guard against the invasion of specific diseases.
- Over time, these antibodies gradually decline.

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WHAT TO EXPECT

- A booster is needed at regular intervals to maintain adequate protection.
- Boosters can accomplish protection against some diseases, such as tetanus and rabies, if only given once a year.
- Most other diseases require more frequent booster intervals to provide adequate protection.

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WHAT TO EXPECT

The vaccination appointment is also an excellent opportunity for an annual physical examination. This important component of your horse's preventative medicine care allows for:

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WHAT TO EXPECT



- Evaluation of the horse's health prior to examination
- Tailoring of immunizations to the patient's specific needs
- Early detection of medical problems
- Treatment of conditions before they become established
- Periodic evaluation of nutrition and husbandry practices

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VACCINATIONS NEEDED

The specific immunizations needed by a particular horse or horses depend upon several factors:

- age
- use
- breed
- sex
- general management
- exposure risk
- geographic location

Your local equine veterinarian can help you determine the vaccination program best suited to your horse's individual needs.

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VACCINATIONS NEEDED

These are just some of the diseases that are most often vaccinated against. Again, your local equine practitioners will know what is best for your horse.

Tetanus (lockjaw) – Tetanus is caused by toxin-producing bacteria (*Clostridium tetani*) found in the intestinal tract of many animals (including the horse) and in the soils where the horse lives. The spores can exist for years in the soil.

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VACCINATIONS NEEDED



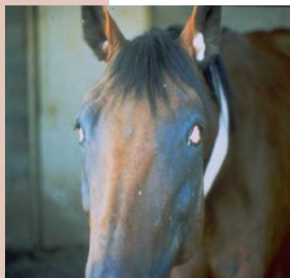
Spores enter the body through wounds, lacerations or the umbilicus of newborn foals. Although not contagious from horse to horse, tetanus poses a constant threat to horses.

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VACCINATIONS NEEDED



Clinical signs may include:

- muscle stiffness and rigidity
- flared nostrils
- hypersensitivity
- legs stiffly held in a sawhorse stance
- third eyelid prolapse

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VACCINATIONS NEEDED



As the disease progresses, muscles in the face and jaw stiffen (lockjaw), preventing the animal from eating or drinking. More than 80 percent of affected horses die.

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VACCINATIONS NEEDED

- All horses should be immunized annually against tetanus.
- Your veterinarian may recommend additional boosters for mares and foals.
- Available tetanus toxoid vaccines are safe and provide good protection.

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VACCINATIONS NEEDED



Encephalomyelitis (sleeping sickness) – Vaccines are available against Western Equine Encephalomyelitis (WEE), Eastern Equine Encephalomyelitis (EEE) and Venezuelan Equine Encephalomyelitis (VEE).

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VACCINATIONS NEEDED



Throughout North America, WEE has been noted, while EEE appears only in the east and southeast. VEE has not been seen in the U.S. for many years.

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VACCINATIONS NEEDED

Another new neurological disease that has hit the U.S. is West Nile virus (WNV).

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VACCINATIONS NEEDED

West Nile virus has been diagnosed in horses throughout the continental United States. This disease causes neurologic signs of muscle tremors, hypersensitivity of the skin, loss of coordination (ataxia) and recumbency.

Facial spasms of right forehead, along with tense nose and muzzle.

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VACCINATIONS NEEDED

Mosquitoes act as a vector that transmit sleeping sickness or West Nile virus, after the insects have acquired the virus from birds and rodents. Humans are also susceptible when bitten by an infected mosquito, but horses and humans are dead-end hosts, meaning a horse or human cannot pass disease on to others.

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VACCINATIONS NEEDED

Signs vary widely, but result from inflammation of the brain and/or spinal cord. Early signs may include:

- fever
- depression
- appetite loss
- staggering when walking (ataxia), with paralysis in the later stages

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VACCINATIONS NEEDED

About 50 percent of horses infected with WEE die, and the death rate is 70 to 90 percent of animals infected with EEE or VEE. The mortality rate for WNV is 25-35 percent.

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VACCINATIONS NEEDED

- All horses need an EEE and WEE vaccine at least annually.
- Vaccination for West Nile virus should be administered at least annually, and bi-annually in high-risk areas.

States with more persistent mosquito populations may require more aggressive vaccinations for sleeping sickness and WNV.

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VACCINATIONS NEEDED



The best time to vaccinate is during the spring, about a month before mosquitoes become active. In the South and West some veterinarians choose to add a booster shot in the fall to ensure extra protection year-round.

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VACCINATIONS NEEDED

Influenza – This is one of the most common respiratory diseases in the horse. Highly contagious, the virus can be transmitted by aerosol (when snorting or coughing) from horse to horse (viruses may shed for up to 4-8 days) over distances as far as 30 yards.

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VACCINATIONS NEEDED



Signs to watch for may include:

- coughing
- nasal discharge
- fever
- depression
- loss of appetite

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VACCINATIONS NEEDED

With proper care, most horses recover in about 10 days. Some, however, may show signs for weeks, especially if put back into work too soon. Influenza has no specific treatment and can result in a lot of “down time” with indirect financial loss, not to mention discomfort for your horse.

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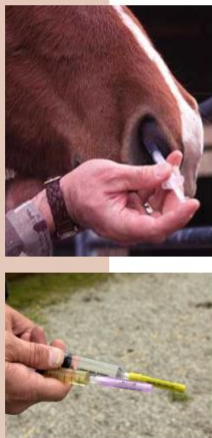
VACCINATIONS NEEDED

Influenza viruses are constantly changing or “mutating” and can bypass the horse’s immune defense. Duration of protection is short-lived and re-vaccination may be recommended as frequently as every 2 to 4 months.

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VACCINATIONS NEEDED

Both intramuscular injectable and intranasal influenza vaccines are available for use in horses. Your veterinarian can tell you which products are the most appropriate for your situation.

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VACCINATIONS NEEDED

- Horses less than 5 years old are at a greater risk of contracting influenza.
- Horses that travel or are exposed to other horses should be regularly immunized against influenza.

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VACCINATIONS NEEDED

Rhinopneumonitis – Two distinct viruses, equine herpesvirus type 1 (EHV-1) and equine herpesvirus type 4 (EHV-4), cause two different diseases.

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VACCINATIONS NEEDED

Both viruses cause respiratory tract problems, and EHV-1 may also cause abortion, foal death and neurological disease (paralysis). Infected horses may exhibit the following:

- fever and lethargy
- loss of appetite
- nasal discharge
- cough

Young horses suffer most from respiratory tract infections by these viruses.

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VACCINATIONS NEEDED

Rhinopneumonitis is spread by aerosol and by direct contact with secretions, equipment (tack, buckets, grooming tools) or drinking water. The virus may also be latent (silent carriers) but not appear in carrier animals.

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VACCINATIONS NEEDED



Pregnant mares, foals, weanlings, yearlings and young horses under stress are candidates to be vaccinated.

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VACCINATIONS NEEDED

- Immune protection is short.
- Pregnant mares are vaccinated during the 5th, 7th and 9th month of gestation.
- Youngsters at high risk need a booster at least every 3 months.

Many veterinarians recommend vaccination in at least two-month intervals year-round for high-risk animals.

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OTHER DISEASE THREATS

Several other diseases are common, although the need for vaccination against them is highly individual. Rely on your veterinarian to guide you.

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OTHER DISEASE THREATS



Draining lymph nodes.

Strangles – A highly contagious bacterial disease caused by the *Streptococcus equi* organism. There may be some side effects associated with vaccination (available in both injectable and intranasal forms). It is important that you discuss the benefits and risks of vaccination with your veterinarian.

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OTHER DISEASE THREATS

Rabies – This is a disease that occurs more commonly in some areas than in others. Horses are infected infrequently, but death always occurs. Rabies can be transmitted from horses to humans.

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OTHER DISEASE THREATS

Botulism (“Shaker Foal Syndrome” in young horses) – This disease can be potentially serious. Botulism in adult horses (“forage poisoning”) can also be fatal. Vaccines are not available against all types of botulism.

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OTHER DISEASE THREATS



Pregnant mares can be vaccinated against one form, clostridium type B, for Shaker Foal Syndrome. Foals can be protected by vaccinating the mare late in her pregnancy, ensuring adequate colostrum intake by the newborn foal.

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OTHER DISEASE THREATS

Equine Viral Arteritis (EVA) – This disease can result in abortion and/or export restrictions and can be sexually transmitted. Follow your veterinarian's recommendations.

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OTHER DISEASE THREATS



Potomac Horse Fever –
This particular illness is seasonal with geographic factors. One-third of affected horses die. Follow your veterinarian's recommendations.

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IN A NUTSHELL

For primary immunization, an initial series of vaccinations is required, followed by appropriately spaced boosters. The following slides are a handy reference guide for scheduling your horse's immunizations.

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IN A NUTSHELL

Tetanus

- Foals from non-vaccinated mares: Should receive a tetanus antitoxin dose at birth and three doses, thereafter of tetanus toxoid at monthly intervals, beginning at 3 to 4 months of age.
- Foals from vaccinated mares: three doses at monthly intervals, beginning at 6 months of age.

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IN A NUTSHELL



- Yearlings and adult horses require annual boosters.
- Booster at time of penetrating injury or surgery if last dose was not administered within 6 months.
- Broodmares should receive a booster annually, 4 to 6 weeks before foaling.

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IN A NUTSHELL

Encephalomyelitis

- Foals from non-vaccinated mares or vaccinated mares in high-risk, endemic areas: three doses at monthly intervals, beginning at 3 to 4 months of age.
- Foals from vaccinated mares in low-risk areas: three doses at monthly intervals, beginning at 6 months of age.

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IN A NUTSHELL

- Yearlings and adult horses in low-risk areas require annual boosters in the spring.
- Yearlings and adult horses in high-risk, endemic areas require boosters every 6 months.
- Broodmares should receive a booster annually, 4 to 6 weeks before foaling.

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IN A NUTSHELL

West Nile virus (WNV)

Consult with your veterinarian on what his or her recommendations are for your horse considering the West Nile risk factors for your area.

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IN A NUTSHELL

Influenza

Inactivated injectable vaccines:

- Foals from non-vaccinated mares: three doses at monthly intervals, beginning at 6 months of age. Then follow with boosters at three-month intervals as prescribed by veterinarian.
- Foals from vaccinated mares: three doses at monthly intervals, beginning at 9 months of age. Then follow with boosters at three-month intervals as prescribed by veterinarian.

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IN A NUTSHELL



- Yearlings and adult horses: booster every 3 to 4 months up to annually, depending on recommendations of veterinarian.
- Broodmares: booster semi-annually, with one booster 4 to 6 weeks before foaling.

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IN A NUTSHELL

Intranasal modified live virus vaccine:

- Consult your veterinarian for foals less than 11 months old. A dose may be administered at 11 months of age.
- Yearlings and adult horses: booster every 6 months.
- Broodmares: not recommended for pregnant mares (until data is available).

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IN A NUTSHELL

Rhinopneumonitis (EHV-1 & EHV-4)

- Foals: three doses at monthly intervals beginning at 4 to 6 months of age. Then follow with boosters at 3-month intervals as prescribed by your veterinarian.
- Yearlings and adult horses: booster every 3 to 4 months up to annually as prescribed by your veterinarian.

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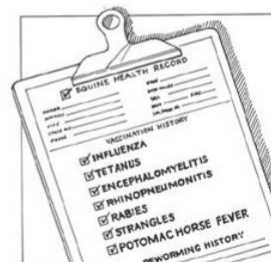


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IN A NUTSHELL

- Broodmares: vaccinate at 5, 7 and 9 months of pregnancy with optional dose at 3 months of pregnancy.

Many combination vaccines are available. Please be sure to check with your equine practitioner.



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Appropriate vaccinations and good husbandry management practices are the best and most cost effective weapon you have against common infectious diseases of the horse. A program designed with the help and advice of your local veterinarian will help keep your horses healthy and you happy for many years to come.

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Photos courtesy of

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