

**American Association  
of Equine Practitioners**

**Horse Health Education**

# **IMMUNIZATION**

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**Protect Your Horse Against  
Infectious Diseases**

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# HORSE HEALTH EDUCATION: IMMUNIZATION



Few things will protect your horse from the ravages of disease as easily and effectively as immunizations.

The vaccinations administered by your veterinarian to your horse place a protective barrier between the horse and a list of diseases. Some of the most common may include:

- Tetanus
- West Nile virus
- Rhinopneumonitis
- Strangles
- Encephalomyelitis (sleeping sickness)
- Equine Influenza
- Rabies
- Potomac Horse Fever



# HORSE HEALTH EDUCATION: IMMUNIZATION



## WHAT TO EXPECT

A good immunization program is essential to responsible horse ownership; however, vaccination does not guarantee 100 percent protection.



# HORSE HEALTH EDUCATION: IMMUNIZATION

## WHAT TO EXPECT

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Vaccination involves an injection (with a sterile syringe and needle) or intranasal dose of bacteria or viruses 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

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



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## WHAT TO EXPECT

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



## WHAT TO EXPECT

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- Once immunization is completed, protective antibodies in the blood stand guard against specific diseases.
- Over time, these antibodies gradually decline.



## WHAT TO EXPECT

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- A second vaccination is required to boost immunity to acceptable levels.
- Protection against some diseases such as tetanus and rabies can be accomplished by boosting once a year. Others may require more frequent intervals to provide adequate protection. *Consult with your veterinarian regarding what diseases are more higher risk for your area.*

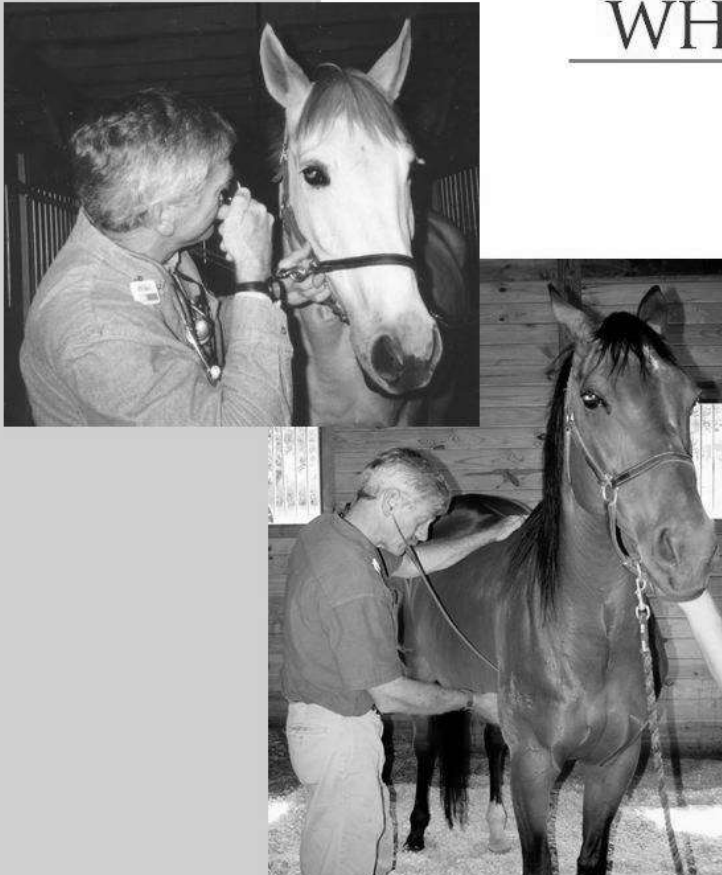




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## WHAT TO EXPECT

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:

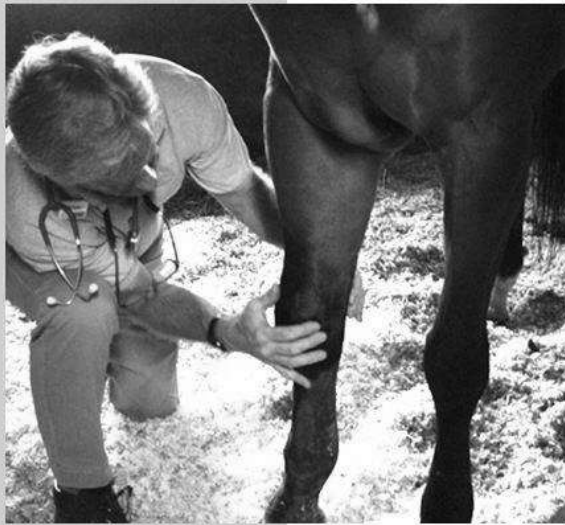




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## WHAT TO EXPECT

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- 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



# HORSE HEALTH EDUCATION: IMMUNIZATION

## VACCINATIONS NEEDED

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

- Age
- Use
- Breed
- Sex
- Value
- General management
- Exposure risk
- Geographic location
- Pregnancy status
- Environment

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



## CORE VACCINES

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The AAEP Infectious Disease committee has identified "Core Vaccines." These core vaccines have clearly demonstrated efficacy and safety.

The following equine vaccines meet these criteria and are identified as 'core' in these guidelines:

- Tetanus
- Eastern & Western Encephalitis
- West Nile virus
- Rabies



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## TETANUS

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

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



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## TETANUS

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Spores from the tetanus bacteria enter the body through puncture wounds, lacerations or the umbilicus of newborn foals.

Although not contagious from horse to horse, tetanus poses a constant threat to horses as this is particularly important because the tetanus bacteria lives without oxygen.



## TETANUS

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Symptoms may include:

- Muscle stiffness and rigidity
- Flared nostrils
- Hypersensitivity (overly sensitive to sound and touch)
- Legs stiffly held in a sawhorse stance
- Eyelid prolapse (third eyelid covers the eye and does not return to normal)



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## TETANUS

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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.





## TETANUS

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- All horses should be immunized annually against tetanus.
- Your veterinarian may recommend additional boosters for mares and foals.
- Available tetanus toxoid vaccines (given to previously tetanus-vaccinated horses) are safe and provide good protection.
- Booster tetanus after puncture wound.

*Tetanus antitoxin should only be given to unvaccinated horses.*



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## ENCEPHALOMYELITIS (*Sleeping Sickness*)

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



# HORSE HEALTH EDUCATION: IMMUNIZATION

## ENCEPHALOMYELITIS (*Sleeping Sickness*)

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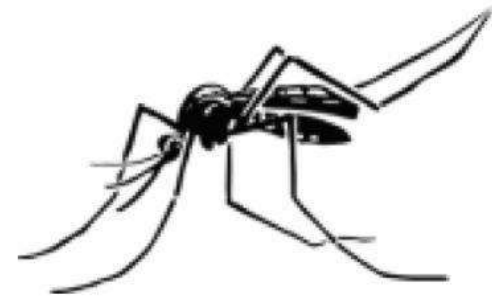
Throughout North America, WEE has been noted, while EEE appears only in the east and southeast. VEE has not been seen in the U.S. for many years.



## WEST NILE VIRUS (WNV)

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**West Nile virus (WNV)** – A neurological disease that is transmitted by various species of mosquitoes that can cause inflammation of the brain and spinal cord.





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

## WEST NILE VIRUS (WNV)

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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. Some horses may die from this disease, but others may recover completely or with residual neurological signs.



## WEST NILE VIRUS (WNV)

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Mosquitoes act as a vector (transmitter or carrier) 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 for most sleeping sickness and WNV, meaning a horse or human cannot pass the diseases on to others.



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## WEST NILE VIRUS (WNV)

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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 or the inability to stand in the later stages



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About 20 to 50 percent of horses infected with WEE die, and the death rate is 75 to 100 percent of animals infected with EEE.

Though not seen in the U.S., the mortality rate for VEE is 40 to 80 percent.

The mortality rate for WNV is 25 to 35 percent.





## VACCINATIONS NEEDED

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- All horses need an EEE and WEE vaccine at least annually. Pregnant mares and foals may require additional vaccinations.
- Vaccination for West Nile virus should be administered at least annually and bi-annually in high-risk areas.

*Areas or locations with more persistent mosquito populations may require more aggressive vaccinations for sleeping sickness and WNV.*



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## VACCINATIONS NEEDED

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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.



## RABIES

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**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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## RABIES

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Exposure occurs through the bite of an infected (rabid) animal, typically a wildlife source such as a raccoon, fox, skunk or bat. Bites to horses occur most often on the muzzle, face and lower limbs. The virus migrates via nerves to the brain where it initiates rapidly progressive, invariable fatal encephalitis.



## INFLUENZA

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**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 four to eight days) over distances as far as 30 yards.



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## INFLUENZA

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Signs to watch for may include:

- Dry cough
- Nasal discharge
- Fever
- Depression
- Loss of appetite





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## INFLUENZA

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With proper care, most horses recover within 10 days. Others may show symptoms for weeks, especially if put back to work too soon.

Influenza is not only expensive to treat, but results in lots of "down time" and indirect financial loss, not to mention discomfort to your horse.



## INFLUENZA

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Influenza viruses are constantly changing in an effort to bypass the horse's immune defense.

Duration of protection is short-lived and revaccination is recommended every three to six months, depending on disease risk factors.





# HORSE HEALTH EDUCATION: IMMUNIZATION

## INFLUENZA

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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.





# HORSE HEALTH EDUCATION: IMMUNIZATION

## INFLUENZA

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- Horses less than five 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.



# HORSE HEALTH EDUCATION: IMMUNIZATION

## RHINOPNEUMONITIS

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**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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## RHINOPNEUMONITIS

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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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## RHINOPNEUMONITIS

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Rhinopneumonitis is spread by aerosol and by direct contact with secretions, equipment (tack, buckets, grooming tools) or drinking water.

The virus may also be spread by latent or silent carriers. The carrier animal does not show symptoms of the disease.



# HORSE HEALTH EDUCATION: IMMUNIZATION

## RHINOPNEUMONITIS



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





## RHINOPNEUMONITIS

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- Immune protection is short.
- Pregnant mares vaccinate at five, seven and nine month gestation with a vaccine specifically formulated to protect against EHV-1. *A regular flu-rhino combo vaccine will not protect mares against abortion.*
- Young horses at high risk need a booster at least every six months and possibly more frequently depending upon disease risk factors.



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## OTHER DISEASE THREATS

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**Rotavirus** is another disease that can cause debilitating diarrhea in young horses, especially in densely populated horse farms. A vaccine is available and may be recommended by your veterinarian.

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





## OTHER DISEASE THREATS

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Draining lymph nodes.

**Strangles** – A highly contagious but rarely fatal 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.



## OTHER DISEASE THREATS

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**Botulism** – Known as “shaker foal syndrome” in young horses, this disease can be potentially serious.

Botulism in adult horses “forage poisoning” also can be fatal. Vaccines are not available for all types of botulism, but pregnant mares can be vaccinated in endemic areas.



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## OTHER DISEASE THREATS

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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

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



## OTHER DISEASE THREATS

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**Potomac Horse Fever** – This particular illness is seasonal with geographic factors. The mortality rate varies from five to 30 percent.

Follow your veterinarian's recommendations.



# HORSE HEALTH EDUCATION: IMMUNIZATION

## IN A NUTSHELL

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For primary immunization, an initial series of vaccinations is required, followed by appropriately spaced boosters.

For the complete list of vaccination guidelines, according to the AAEP, visit [www.aaep.org/vaccination\\_guidelines.htm](http://www.aaep.org/vaccination_guidelines.htm).





# HORSE HEALTH EDUCATION: IMMUNIZATION



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 happy and healthy for many years to come.



# HORSE HEALTH EDUCATION: IMMUNIZATION

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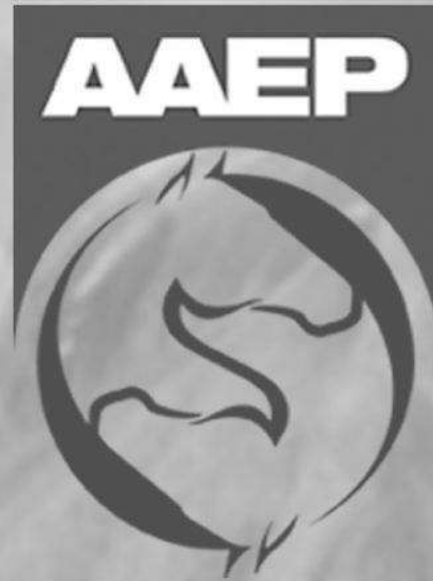
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