

**A**s a new year begins and spring is right around the corner, horse owners begin to think about vaccines. Vaccinating can be a confusing aspect of horse care. Every year new vaccines claiming protection from a number of diseases are available from a long list of companies. It's important to consult your veterinarian about a vaccination program and vaccines that will best protect your horse(s).

A common misunderstanding is that vaccines prevent your horse from getting a particular disease. When used properly, vaccines can prevent most diseases, however no vaccine is 100% effective.

It is important to remember that all horses are not alike when it comes to a proper vaccination program. Young foals with an immature immune system are at a greater risk for particular diseases, as are aged performance horses on the show circuit in constant contact with a changing horse population. There are basic vaccines that can be added to tailor a program to protect horses in particular situations.

All horses should be immunized for West Nile virus, eastern and western encephalomyelitis (EEE and WEE), tetanus, rabies, botulism, and influenza. Other vaccines that may be needed in particular situations include strangles, Potomac horse fever, rhinopneumonitis (rhino), equine viral arteritis (EVA), and equine protozoal myeloencephalitis (EPM).

**Note:** The term *neurologic disease*, used in this article, can mean any set of symptoms from the horse's not knowing where it's legs are to stumbling, falling, head tilt, facial paralysis, seizures, head pressing, dementia, loss of bladder control, inability to get up, etc. Because the symptoms are dependent on the portion of the nervous system affected by the disease, they may be different for each horse and each case.

## West Nile

West Nile disease, with a 40% fatality rate, is a rapidly progressing neurologic disease of horse and man. The virus is spread by mosquitoes from infected birds, *Not* from horse to

horse. This disease is very prevalent in Kentucky with hundreds of confirmed cases last year. The vast majority of West Nile Virus cases seen last year was in unvaccinated horses. The current vaccine is very safe and has proven to prevent the disease in areas where there were outbreaks.

**Application:** In Kentucky, the vaccine is recommended in the spring and fall after 2 initial shots 3 weeks apart. It is recommended that the spring booster be given in March, well before the mosquito season. Horses that haven't been vaccinated for West Nile should be vaccinated as soon as possible to avoid possible exposure in the spring.

## Strangles

Strangles is an infectious bacterial respiratory disease of the lymph nodes of the head and neck. It can affect horses of all ages, especially those in boarding stables or at shows. It is important to isolate new horses before introducing them into a closed herd. The mortality rate for this disease is low. There are two vaccines available, an intramuscular (IM) vaccine and an intranasal (IN) vaccine. Neither of the vaccines is very efficacious. They may lessen the severity of the disease, but not necessarily prevent it. It's important to vaccinate only healthy horses for strangles and not those in an outbreak situation. Vaccinating a horse exposed to strangles can lead to a life threatening complication called *purpura hemorrhagica*. Purpura is characterized by extensive edema and hemorrhage beneath the skin.

## Eastern & Western Encephalomyelitis

EEE and WEE are fatal viral neurological diseases spread to horses by mosquitoes from infected birds. There is no horse-to-horse transmission of the disease. There is an intramuscular vaccine available effective at preventing the disease.

**Application:** The vaccine is recommended biannually in Kentucky. The first dose should be given in the spring before mosquito season and the second dose in late summer. Initially 2 doses 3 weeks apart are required to be protective in horses who haven't been vaccinated before or those with an unsure vaccination history.

Your horse's  
immunization  
program  
shouldn't be a  
shot in the dark.

## Tetanus

Tetanus is a clostridial organism that lives in the soil. Horses are extremely susceptible to this disease. The organism produces a toxin that causes muscle rigidity and spasms, especially around the neck and face. The most common way to introduce this organism into the horse is through a deep puncture wound. The disease is easy to prevent with the current vaccine and very difficult and expensive to treat. There are two types of tetanus vaccine, toxoid and antitoxin. The toxoid vaccine is the annual vaccine that stimulates the immune system to protect the body. Antitoxin can have serious complications, and should not be used unless exposure is confirmed.

**Application:** Annual tetanus vaccines are recommended in the spring. Again, in horses of unknown status, 2 doses 3 weeks apart are recommended to be protective. A horse vaccinated more than a month before a wound of any type should be boosted with tetanus toxoid as a safety measure.

## Rabies

Rabies is a rapidly fatal viral neurologic disease of mammals. The disease is spread from bite wounds of infected bats, fox, skunk and most commonly raccoons. The vaccine is extremely effective and safe at preventing the occurrence of disease.

**Application:** Annual vaccination is recommended in Kentucky.

## Potomac Horse Fever (PHF)

PHF is a disease of horses that causes severe diarrhea and a high fever. This disease is often fatal, and is difficult to treat. The mode of transmission of PHF is unknown at this time. The vaccine currently available is of questionable efficacy.

**Application:** Vaccination for this disease is not recommended in Kentucky at this time. As a new vaccine becomes available and more cases are seen in this area, that recommendation will change.

## Botulism

Botulism is caused by a clostridial organism found in the soil. All ages of horses can become infected with this disease, but young horses are the most susceptible. Toxin produced by the organism causes paralysis of

muscles. Untreated this disease can be fatal due to paralysis of the muscles of respiration. The vaccine currently available is effective at preventing the disease and is safe to use.

**Application:** In a horse not yet vaccinated for this disease, a series of 3 shots three weeks apart, followed by annual vaccination is required for protection.

## Influenza

Influenza is a respiratory disease of horses, especially those housed together for training or shows. Horses with this disease have a cough, a runny nose and a fever. Influenza is a viral disease, though often with secondary bacterial infections. The bacterial infections complicate the disease and often require antibiotics. Most commonly influenza is not a serious disease, but time off is required for the respiratory tract to heal properly. Those horses kept in training during the disease have a decrease in performance, take longer to heal than those who are allowed to rest, and have potentially serious complications such as pneumonia. There are two vaccines available at this time, an intramuscular and an intranasal product.

**Application:** The intranasal product is a more expensive vaccine, but is more effective and lasts up to six months. Biannual vaccination with the intranasal product is recommended, though three times a year may be better for those horses in heavy training and showing. The intramuscular vaccine is also a good product, especially for those horses not traveling much. It is recommended that horses be vaccinated every 2-4 months with the intramuscular product. Initially 2 doses 3 weeks apart are required to be protective.

## Equine Rhinopneumonitis - EHV 1 & 4

Equine Herpes Virus 1 and 4 are closely related viruses associated with a range of clinical syndromes including respiratory disease and abortion. EHV 1 can also cause a neurologic form of the disease not prevented with the vaccine. The vaccine is good at preventing the respiratory disease and abortions. This vaccine is very important to use in pregnant mares at 5, 7, and 9 months to prevent abortions caused by the EH virus.

**Application:** Horses kept on farms with pregnant mares should be vaccinated every 3 months with the intramuscular vaccine. The initial series is 2 shots 3 weeks apart followed by boosters at the same intervals as recommended for the influenza vaccine.

## Equine Protozoal Myeloencephalitis ( EPM )

EPM is a progressive neurologic disease affecting horses of all ages. Horses ingest sporocysts from opossum feces contaminating their water or feed source. There are no horse-to-horse infections. Horses are the dead end hosts. The protozoa damage the nerves or spinal cord irreversibly. The treatment of choice is Marquis, an extremely expensive drug, and may not return the horse to its previous function. The only vaccine available at this time is very safe, but its efficacy is not yet proven. The vaccine is the only possibility for preventing this disease. Therefore, it is cheap insurance, if it does work.

**Application:** This vaccine is recommended in young horses as well as in those who did not have the benefit as young horses. An initial series of 2 doses 3 weeks apart is required to be protective, followed by annual vaccination.

## Equine Viral Arteritis ( EVA )

EVA is a viral disease of horses causing inflammation and damage of blood vessel walls. There are two disease syndromes of EVA, a respiratory disease and abortions. Those pregnant mares exposed to EVA have a 50% abortion rate. EVA is a disease that once infected causes some stallions to become chronic shedders in their semen. There is a high prevalence of this disease in some warmblood breeds, as well as moderate prevalence in standardbreds. It is important to check the status of a stallion to be bred well before breeding. Check the mare's EVA immune status, and if negative obtain a certificate to that effect before vaccinating.

**Application:** One vaccination is sufficient to be

protective. Stallions may also be vaccinated prior to breeding, in order to prevent becoming carriers. Annual vaccination for stallions and breeding mares is recommended.

**P**roper vaccinations are a critical piece of an effective equine health care program. With the help of your veterinarian a vaccine plan can be instituted to help protect your horse from many of the infectious diseases affecting horses in Kentucky. The needs of the individual horse must be kept in mind, from the young foal, the pregnant mare, to the 5 year old in full training. The following chart describes a sample vaccination program for foals and weanlings, performance horses going to shows and boarding in barns with a changing population, pleasure horses spending the majority of their time at home, and pregnant mares. ♦

Julie Cook, DVM, is a KDA member and contributing writer for *Impulsion*. She can be reached at [Lexdvm@aol.com](mailto:Lexdvm@aol.com).

### Suggested schedule for Kentucky

May also apply elsewhere. Consult your local veterinarian.

Vaccines	Foals/Weanlings	Performance Horse	Pleasure Horse	Broodmares
<b>Tetanus</b>	6mo, 7mo, 12mo	Annual	Annual	Annual and last month of gestation
<b>WEE/EEE</b>	6mo, 7mo, 12mo	Biannual	Biannual	Biannual and last month of gestation
<b>Influenza</b>	6mo, 7mo, 12mo	Intranasal: Biannual IM every 2-4 mo	Biannual	Biannual and last month of gestation
<b>Rhino</b>	6mo, 7mo, 12mo	2-4X a year	Biannual	5,7, 9mo gestation
<b>West Nile</b>	6mo, 7mo, 12mo	Biannual	Biannual	Biannual
<b>Botulism</b>	6mo, 7mo, 8mo, 12mo,	Annual	Annual	Annual and last month of gestation
<b>EPM</b>	6mo, 7mo, 12mo	Annual	Annual	Annual