

Vaccination



Vaccinations can be thought of as risk management by protecting against many fatal diseases, as well as non-fatal diseases that could require significant cost, loss of a show season or breeding season, effort to treat, and control of an outbreak. All horses in New Jersey should be vaccinated for Rabies, Eastern and Western Equine Encephalitis, Tetanus, and West Nile Encephalitis. Every horse should be protected against these diseases because transmission does not require contact with another horse and the mortality and loss of use rates from these diseases are high. Other vaccines, such as Influenza (flu), Rhinopneumonitis (equine herpes types 1 & 4), Strangles, Botulism, and Potomac horse fever are administered based on your horse's risk of exposure to these diseases based on their environment and travel history.

Scheduling of vaccinations is important to ensure year round protection and continued use of the horse. Although vaccines do not cause the disease they protect against, some vaccines may cause a slight fever or localized swelling or stiffness around the injection site. Vaccines usually take several weeks to fully stimulate the animal's immune system, therefore it is recommended to vaccinate approximately 1 month before shipping a horse to a new environment, such as a horse show or breeding farm.

Booster vaccinations are often required for animals being vaccinated for the first time. Boosters are usually given within a specific time frame after the initial vaccination. Failure to give the booster vaccine at the recommended time frame could result in an incomplete protection against the disease of the animal.

Eastern Equine Encephalitis (EEE)/Western Equine Encephalitis (WEE)/ Tetanus/ West Nile

- EWTW is a combination vaccine that is considered to be a core vaccine that is recommended in all horses.
- **EEE (Eastern Equine Encephalitis) and WEE (Western Equine Encephalitis)** are FATAL viral diseases transmitted by blood sucking insects,

most commonly **mosquitos**. Wild birds and rodents are natural carriers of these diseases. Humans are susceptible to getting EEE and WEE as well when the virus is transmitted to them by an infected mosquito. Signs for these diseases would include profound neurologic disease and acute death. In unvaccinated horses, it is a two dose series 4-6 weeks apart for the first year the vaccine is given, followed by yearly revaccination prior to the onset of the mosquito season in the spring.

- **Tetanus** is a disease caused by the bacterium **Clostridium tetani** and is often FATAL. Tetanus is commonly associated with wounds, especially punctures. Clostridium tetani can be found in the soil, as well as in the intestinal tract and feces of horses and other animals. Clostridium produces spores that can survive in the environment for a long time that can lead to contamination of any open wound, which can then lead to tetanus. The severity of the wound does not predict the risk of tetanus as it can be contracted even with superficial wounds. Treatment for tetanus is rarely successful. In unvaccinated horses, it is a two dose series 4-6 weeks apart for the first year the vaccine is given, followed by yearly boosters.
- **West Nile virus** is transmitted most commonly by **mosquitoes** and other blood sucking insects from a bird carrier. A bird can harbor and carry the virus for a long time and when the mosquito feeds on the bird, they can then become a carrier of this virus. Signs for this disease would include neurologic signs. Treatment for infected horses would be symptomatic and the goal would be to decrease inflammation within the nervous system. West Nile virus can lead to death in some horses and horses that do survive the infection can be left with gait abnormalities or behavioral changes. In unvaccinated horses, it is a two dose series 4-6 weeks apart for the first year the vaccine is given, followed by yearly revaccination prior to the onset of the mosquito season in the spring.

Rabies

- **Rabies** is a **progressive viral** disease that is highly fatal and leads to death in almost all cases. All mammals, including humans can contract the disease that is transmitted through saliva via a bite with an infected animal. Rabies is one of the core vaccines we recommend for all horses. Vaccination of horses against rabies not only protects the horse, but also provides an additional barrier between the human population and the natural carriers of the rabies disease (wildlife). If a vaccinated animal is bitten by or comes in contact with an infected animal, they must receive a booster Rabies vaccine almost immediately. If an unvaccinated animal is exposed to an infected animal, it is recommend to euthanize or alternatively quarantine for a 6 month period for observation of any signs consistent of rabies. Common signs seen with rabies can include acute behavioral changes, neurologic signs, progressive paralysis, aggression may develop, and hyperexcitability. If a horse shows signs of

rabies and has not been currently vaccinated, upon euthanasia their head must be submitted for rabies testing due to the risk of human exposure. The vaccine is very safe, effective, and inexpensive and is recommended to be administered every year.

Rhinopneumonitis

- **Rhinopneumonitis** is a **viral** respiratory disease caused by the **equine herpes virus (EHV)**. Two different equine herpes viruses (EHV 1 & 4) can cause respiratory disease in the horse. Respiratory infections from rhinopneumonitis are most common in weanlings, yearlings, and young horses that travel, show, exposed to changing environments, or even under stress. Signs of respiratory illness can include fever, nasal discharge, and coughing. Most adult horses develop immunity to the respiratory disease and do not become seriously ill when infected. In addition, EHV-1 can cause a paralytic neurologic disease and contagious abortion in pregnant mares. Neurologic signs would include weakness, loss of balance, and hind end paralysis. Horses however, do not develop immunity to the abortion and neurologic form of the disease nor do vaccines adequately protect the mare against abortion. Rhinopneumonitis vaccines protect the horse for a relatively short time period, so pregnant mares should be vaccinated at 5, 7, and 9 months of pregnancy.
- Once a horse is infected with equine herpes virus, it stays in their body system for life. When under stress, the virus will become active again and the horse can either become ill and/or shed the virus to other horses. In summary, EHV can cause abortion in pregnant mares, respiratory disease in horses of any age, and less commonly neurologic disease. Vaccination cannot completely prevent illness of EHV, but can lessen the incidence of infection. Rhinopneumonitis vaccine is generally recommended for any horse that may have contact with other horses. In unvaccinated horses, it is a three dose series 4-6 weeks apart for the first year the vaccine is given, followed by revaccinating semi-annually (every 6 months) in horses used for performance, shows, on breeding farms, in contact with pregnant mares, less than 5 years of age, to annually if none of the above.

Influenza (“Flu”)

- **Influenza** in horses is highly contagious and causes a **viral respiratory disease** in horses. Signs characterized of influenza can include fever, coughing, and nasal discharge that can last for several weeks. The vaccine, like rhinopneumonitis (equine herpes) protects the horse only for a short time period. Vaccination for influenza is recommended for any horse that has any contact with other horses. In unvaccinated horses, it is a three dose series 4-6 weeks apart for the first year the vaccine is given, followed by revaccination semi-annually to annually based on ongoing risk of exposure with horses used for performance, shows, or traveling.

Strangles (Streptococcus Equi Equi)

- **Strangles** is caused by the **bacterium Streptococcus equi equi** which is highly contagious and characterized by fever, thick nasal discharge, lymph node abscessation, and could result in respiratory distress if severe. The nasal secretion of sick horses can contain a large amount of number of bacteria, which can be easily transmitted by contact with nasal secretion and abscess drainage. Vaccination against Strangles depend on individual conditions and is recommended for horses with a heavy show schedule, a disease outbreak in the surrounding area, or for the desire of more protection would warrant vaccination against this. Vaccination is recommended once a year to decrease the severity of signs if infected.

Potomac Horse Fever (PHF)

- **Potomac Horse Fever** is a non-contagious disease caused by the **bacterium Neorickettsia risticii**. PHF is characterized by depression, fever, diarrhea, and laminitis. The disease is commonly seen in the spring, summer, and early fall. It is most commonly associated with pastures that border creeks or rivers due to the freshwater snail being the carrier and infecting the horse. Horses with PHF can be treated with antibiotics, fluids, and anti-inflammatory medications. Vaccination for PHF can be effective in reducing the severity of illness, but does not prevent the disease. Vaccination requires semi-annual (every 6 months) to annual boosters.

Botulism

- **Botulism** is caused by the **bacterium Clostridium botulinum** that is commonly found in the soil. Botulism is characterized by ascending paralysis, which can progress to death by suffocation by paralyzing muscles the horse uses to breath. The disease is caused by an preformed toxin most commonly from decaying carcasses, vegetable materials such as decaying grass, hay, grain, or spoiled silage. Treatment would consist of administering an anti-toxin, supportive care, tube feeding, and IV fluids are usually necessary. In unvaccinated horses, it is a three dose series 4-6 weeks apart for the first year the vaccine is given, followed by revaccination yearly.

Insect/ Tick Borne Diseases



Tick Borne disease are becoming much more common and are currently on the rise for different reasons including climate change and increased movement of animals. Two main tick borne diseases that can affect horses are Lyme disease and Anaplasmosis.

Lyme Disease

- **Lyme disease** is caused by a **bacterium Borrelia burgdorferi** that is transmitted by **ticks** (black legged tick) and is commonly seen in New Jersey. Clinical signs of Lyme disease can be quite variable in horses that can include stiffness, joint swelling, weight loss, shifting leg lameness, and performance decline. Blood tests are helpful to determine if a horse was exposed to lyme and if treatment is needed. Treatment is generally successful with antibiotics and supportive care and many horses are infected for a long duration even after treatment. There is no protective immunity so horses can become re-infected repeatedly. It is recommended to inspect horses regularly and remove any ticks. Pasture management can help reduce the number of ticks within the environment.

Anaplasmosis

- **Granulocytic Ehrlichiosis** is caused by **Anaplasma phagocytophilum** that is transmitted by **ticks**. Anaplasma clinical signs can be characterized by fever, depression, and anemia most commonly. Blood tests are helpful to determine if a horse was exposed and if treatment is needed. Treatment is generally successful with antibiotics. No vaccine is available to help prevent infection with this tick borne disease.