



**ANIMAL CARE HOSPITAL, 8565 Hwy 64, Somerville, TN 38068, (901) 466-9224**

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## Equine Technical Bulletin

### West Niles Virus Update:

As of November 20, the USDA-APHIS has confirmed a total of 413 equine cases of WNV in 17 states (12 States in September) and estimates the mortality rate in these cases at approximately 24% (down from 25% in September, 38% in August). Keep in mind when reviewing this data that only neurological horses are being tested for WNV, and we currently have no estimate for the actual infection rate in horses. The majority of cases have been identified in Florida (303 horses) and Georgia (37 horses). Tennessee has confirmed 1 case in Greene County (Eastern TN), Mississippi has confirmed 5 cases in Lee County, and Kentucky has 8 confirmed cases. WNV has been report in the states to our west and is expected to reach California by Spring 2003. USDA-APHIS regularly updates surveillance data on [www.aphis.usda.gov](http://www.aphis.usda.gov).

Due to the rapid spread of this virus, many states are now recommending the vaccination of horses. I like to vaccinate horses in Feb/ Mar prior to the spring bird migrations. Since the WNV has been isolated from birds in the Midsouth, I am recommending vaccinating all horses against the WNV starting this spring. The cost of the vaccine is \$20 per dose, and an initial 2 dose series followed by semi-annual boosting is recommended. The Fort Dodge Vaccine is under Conditional License, and the level of protection acquired by using this product is unknown, but initial testing is looking promising.

### Pregnant Mares:

All Fescue forages (including hay) should be removed from Broodmares expecting in March. Less than 10% Fescue in a mare's diet during the last 3 months of gestation has caused abortions. An antidote to Fescue Toxicosis is available; however, prevention is the best cure for this disease.

In January, Broodmares expecting in March, May, & July should be vaccinated against Abortive Rhinopneumonitis. Also, vaccinating a mare during the last month of pregnancy will increase the colostral antibodies passed to the foal.

Information on Fescue Toxicosis, Vaccinations, and Broodmare & Foal Care is available at the Hospital.

### Equine Botulism:

I recently diagnosed a case of Botulism in a horse in the New Bethel Community between Rossville and Macon. Botulism is the highly fatal disease caused by the toxin of the *Clostridium botulinum* bacteria. These bacteria can be found in most areas of the USA in decaying animal and plant material, and under the right conditions will thrive producing a toxin, which is lethal to most mammals and birds, including humans. Horses and cattle are particularly susceptible to the toxin. Pigs, dogs, and cats appear to be resistant.

The clinical signs of the disease usually follow ingestion of the toxin (not the bacteria) which effects the muscles and nerves causing a *limp* paralysis. A progressive weakening of the body muscles is first seen as *drooling* and the *inability to eat*, followed by *shaking, muscle tremors*, and difficulty walking. The horse will then go down and become unable to lift its head & neck. If allowed to continue, the horse will suffocate when its respiratory muscles fail.

Treatment of Botulism is impractical for most owners since the treatment of choice is Equine Origin Botulism Antitoxin. This treatment is expensive (@ \$1500 per dose), is not readily available in the Midsouth, and must be given as soon as a diagnosis is made. Recumbent horses have less than a 25% chance of survival. Horses that survive the initial toxic insult usually require at least 2 weeks of intensive hospitalization and another month of restriction while the nerves and muscles recuperate.

Cases of Botulism are rare and are usually isolated to a single animal within a herd; however, certain areas are known to have higher incidences of this disease (e.g. Certain counties in Kentucky have high rates of Foal Botulism.). In addition to the case I recent diagnosed, another case of Equine Botulism was diagnosed in the New Bethel Community about 5 years ago, and discussions with other local veterinarians have revealed other suspected cases in the Midsouth.

An effective vaccination against Botulism is available. The initial vaccination series consists of 3 doses given 1 month apart and is followed by annual boosting to maintain immunity. The cost of vaccination is \$20 per dose and will be available at ACH in January. I personally live in the New Bethel Community and will be vaccinating my horses. For farms in the Macon-Rossville Area, I recommend vaccinating horses of high economic or emotional value.

## **Tetanus Antitoxin vs. Tetanus Toxoid:**

I often receive calls stating that a horse has been cut, and the owner has given the horse a “tetanus shot.” Was the horse given Tetanus Antitoxin, Tetanus Toxoid, or both? These products are different and are used in distinctly different situations.

What is Tetanus? “*Lockjaw!*” Talk to horsemen my father’s age, and they all have seen it. Talk to owners my age (or younger) and none have seen it. Tetanus is the fatal disease caused by the toxin of the bacteria *Clostridium tetani*. These bacteria are found in the soil worldwide and infects all mammals; however, the different species have varying susceptibilities to this disease. Horses & humans are very susceptible; goats, sheep, pigs, & cattle are susceptible; and disease is rarely seen in cats & dogs.

*Cl. tetani* lives as spores in the soil and requires an anaerobic (Airless) environment to grow and reproduce. The required anaerobic environment is found in the wounds of animals, and puncture wounds are the most common source of infection. Horses and livestock are also infected through contaminated castration, docking, shearing, and injection site wounds. In the wound, the bacteria reproduce and release their deadly toxins. The toxins effect the nervous system causing a progressive *rigid* paralysis. Common signs include sweating, stiff gait, sawhorse stance, and the ability to cause muscle spasms with sudden noise or light stimulation. Death follows paralysis of the respiratory muscles. This disease is one of the reasons why immediate wound care in horses is critical. Penicillin will effectively kill the bacteria; however, antibiotics have no effect on the toxins.

This is where Tetanus Antitoxin and Toxoid come into play and these products are the reason this disease is rare today.

**Tetanus Toxoid** is the vaccination that prevents infection by the *Cl. tetani* bacteria and is commonly given in combination with the Equine Viral Encephalitis vaccine (The T in EWT). This vaccine has proven efficacy & safety, provides long term immunity, is inexpensive, and is the primary means for preventing Tetanus. The vaccination is given to foals at 3, 4, & 12 months initially, and is boosted every 6–12 months. Vaccinating a broodmare during her last month of gestation will protect her foal for the first 3-4 month of life. It is an accepted practice to booster this vaccine on any injured horse that has not been vaccinated within the previous 6 months.

**Tetanus Antitoxin** is antibodies against the toxins produced by *Cl. tetani*. This product is effective at neutralizing tetanus toxins but must be given before signs of the disease are seen, has a very short life (1-2 weeks), and offers no residual protection to the horse. Antitoxin is given to unvaccinated injured horses, foals of unvaccinated broodmares (DAY 1), and injured horses with a questionable vaccination history. Vaccinated horses do not need to be treated with Antitoxin, and Serum Hepatitis (Liver Failure) is report infrequently after use of Tetanus Antitoxin. It is a common practice to give Tetanus Antitoxin and Tetanus Toxoid at the same time, but at different injection sites, to an unvaccinated injured horse, since Antitoxin alone provides no immunity against the bacteria.

The bottom line is that All horses should be vaccinated against Tetanus (with a Toxoid) at least annually. Vaccination prevents infection and make the use of Antitoxin unnecessary.

## **Castration:**

If you are considering castrating a colt or stallion, performing the procedure during the winter makes fly control unnecessary. Plan ahead, since the gelding must be forcibly exercised for 2 weeks for the best outcome.

## **Are you ready for the National Field Trial?**

If you are planning to ride at the Nationals this year and have not saddled your horse since September, please give your horse a few workouts before the first brace is let go. Three to six hours across Ames Plantation is stressful for all but very conditioned horses. A current Coggin’s Test is required to ride in the gallery, and I routinely booster the respiratory vaccinations (Flu, Rhino, & Strangles) on my horses 2-3 weeks prior to riding. This large gathering of horses is just what the Respiratory Bugs have ordered!

## **Coggin’s Testing:**

**During January, ACH will run Coggin’s Test for**  
**\$15 per horse at the Clinic,**  
**\$15 per horse on the Farm with 10 or more horses,**  
**\$15 per horse (+ Farm Call) on the Farm with 5-9 horses.**

If you have any questions, concerns, or suggestions, please call the hospital. Our job is serving you and your animals!