

Botulism – FAQ's

1. Q: What is botulism?

A: Botulism is a disease caused by the toxin-producing bacteria *Clostridium botulinum*. The disease causes rapidly progressive weakness and paralysis. Horses are the most sensitive of all mammals to the botulism toxin. Death generally occurs in 12-48 hours after ingestion of the toxin.

2. Q: Is my horse at risk?

A: *C. botulinum* is regionally prevalent in the soil throughout the East, South, and Northwest United States. There is a zone of increased incidence of botulism that extends from Kentucky through the Virginias and up through **Pennsylvania**, New York, and the Northeast (our area). This is presumed to be due to the clay-based soils in this area, which are very dense. Loamy or sandy soils are too loose and aerated to harbor the bacteria as well.

Botulism toxin may be formed when animal carcasses or other decaying matter is inadvertently baled up into hay or has contact with hay while in storage. Haylage and silage, which is made by fermenting feedstuff like grasses and grains, also contains high amounts of botulism toxin.

3. Q: What are some signs of botulism?

A: The amount of toxin ingested determines the severity and the progression of the disease. The first signs may include decreased tongue or tail tone. The horse may have a decreased palpebral reflex. (If you tap around the horse's eyes, the horse should blink – this blinking response may be slow or absent.) Horses typically lose the ability to swallow, so you may see water coming from the nostrils or draining back out of the mouth when the horse is drinking, or you may notice that food drops from the horse's mouth as he is trying to eat. If left untreated, the horse most often becomes so weak that he cannot stand. Death is ultimately caused by suffocation, due to paralysis of the diaphragm.

4. Q: Is botulism treatable?

A: If there is any chance for successful treatment, botulism antitoxin must be administered via intravenous catheter as soon as a presumptive diagnosis of botulism is made. The toxin causes paralysis by preventing the nerves and muscles from communicating. The antitoxin must compete in the bloodstream with the toxin for any nerve-muscle junctions that are not yet occupied by the toxin. Therefore, the horse's condition may continue to deteriorate for 24-36 hours after the antitoxin is administered. If the horse continues to weaken and is unable to stand, the chances of survival are very slim. Furthermore, treatment does not ensure survival. Treatment costs commonly run into the thousands.

5. Q: Is botulism preventable?

A: Botulism can be easily prevented by vaccination. The initial vaccine series is a set of three doses, each given one month apart. After that, a single, annual vaccination can be administered to protect your horse. The cost for vaccination is minimal compared to the cost of attempting treatment. There have been no reported adverse events associated with the botulism vaccine itself, therefore it is very safe to administer.

6. Q: How do I incorporate the botulism series into my current vaccine strategy?

A: Please contact us at (717) 361-8700 to speak with one of our doctors to figure out how to best implement the botulism vaccination into your individual plan.