

Bovine Clostridial Diseases

What are they and how can we protect against them?

We have recently seen a resurgence of bovine deaths due to clostridial within our practice, both within the beef and dairy industry. This makes it a great time to break down what clostridial diseases are, how your cattle get infected and how disease can be prevented.

What are they?

Clostridium are gram positive bacteria that can be either living cells or dormant spores. Their natural habitat is in soil, areas with previous freestanding water or excavation are highly at risk as the spores can stay viable in the soil for years. They are also found in the intestinal tract of healthy cattle. The active bacteria produce toxins that cause severe illness.

Clostridial Diseases of Cattle are a group of diseases that cause rapid deterioration of the animal and are almost always fatal.

Blackleg is caused by *Cl. Chauvaei* which is orally consumed, travels through the gastrointestinal tract, is absorbed in the blood stream and goes to large muscle where it can stay dormant. When activated in the muscle it causes swelling, emphysema (air in tissues), and can cause sudden death often without any signs within 12-48 hours.

Malignant Edema is primarily caused by *Cl. septicum* which infects the cow through the contamination of wounds with soil or activation of dormant spores. Risk factors include needling with a dirty needle, needling through dirty hide, uterine prolapse, or castration. Blackleg and malignant edema can not be differentiated on postmortem and are the most common and deadly of the clostridial diseases.



Tetanus which is often referred to as “lockjaw” and is caused by *Cl. tetani* which enters the body through wounds. Incisions, castrations and uterine prolapses are high risk examples. Symptoms include stiffness (common in jaw muscles and back legs) and muscle spasms, eventually leading to respiratory failure and death. Quick and aggressive treatment is critical and can sometimes result in a more positive outcome. *Botulism* is a Clostridial disease we see less frequently in cattle and is caused by *Cl. botulinum*. It affects the nervous system causing paralysis in cattle. It is contracted from ingesting toxins in contaminated feed, such as silage, which has not been properly stored. Botulism causes difficult swallowing, drooping eyelids, weakness, and progressive paralysis resulting in respiratory failure.

Treatment and Prevention of Clostridial Disease:

If you see clinical signs and you are suspicious of a clostridial infection, please call the clinic immediately to be advised on prompt treatment. If you experience any sudden death in cattle, please call the clinic or your herd veterinarian to promptly get a postmortem examination done. This can help determine if clostridium disease was the cause of death and if further prevention measures should be taken to protect your herd.

Several preventive measures can help reduce the risk of outbreaks in cattle herds.

1. **Vaccination:** One of the most effective ways to prevent clostridial diseases is through vaccination. Clostridial vaccines, which protect against multiple strains of the bacteria, are widely available. These vaccines stimulate the immune system to produce antibodies that provide protection against the toxins produced by the bacteria. Cattle should be vaccinated in consultation with a veterinarian, with the initial vaccination followed by a booster shot. We are also very fortunate that clostridial vaccines (like Tasvax 8) are one of the more affordable vaccines we offer.
2. **Cleanliness:** Since clostridial bacteria enter through cuts and wounds, prompt, proper wound care is essential. Consult with your veterinarian before using antibiotics if you think the wound would benefit from antibiotic treatment. Disinfect any open wounds to reduce the risk of infection. Single use needling or frequently changing multi-use needles can help decrease exposure.

Bovine clostridial diseases represent a serious threat to cattle health, but with proper vaccination and wound care these diseases can be effectively prevented. By incorporating these preventive measures into herd management practices, producers can reduce the risk of clostridial infections and protect the well-being of their cattle. Consult with your veterinarian for setting up preventive strategies and protecting the health of your herd.

Dr. Lisa Sharko

Upcoming Holiday Hours

The clinic will be closed Friday April 18, 2025 for Good Friday. As always, veterinarians will be available 24-7 for emergency service.