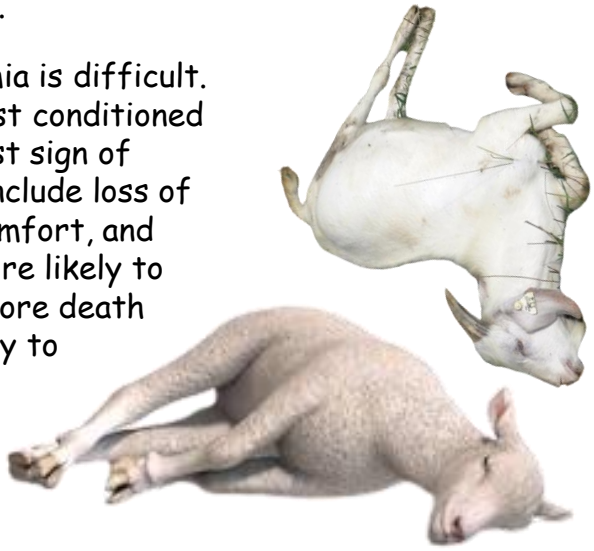
Type D Enterotoxemia

Type D enterotoxemia is "classic" overeating disease in sheep/goats. It is caused by *clostridium perfringins* Type D: bacteria that are part of the normal microflora of healthy sheep/goats, but under specific conditions multiply rapidly in the gut, producing large quantities of deadly toxins. The disease is also called pulpy kidney disease.

Young animals are most susceptible to type D enterotoxemia. Adults have usually built-up immunity to the toxins. Disease is most common in lambs/kids fed diets rich in carbohydrates (especially grain) and low in roughage. It is a common feedlot disease but can occur on lush pasture and in lambs/kids with heavy milking dams. It has been hypothesized that heavy loads of tapeworms (which impact gut motility) could predispose animals to enterotoxemia.

Diagnosis of enterotoxemia is difficult. Sudden deaths of the best conditioned animals are often the first sign of disease. Symptoms may include loss of appetite, abdominal discomfort, and depression. Lambs are more likely to show neurologic signs before death while goats are more likely to experience diarrhea. Diagnosis is confirmed by necropsy. Treatment is often not unsuccessful,



The first defense against overeating disease is to avoid situations that predispose animals to bacterial growth and toxin production. Dietary changes, especially those involving grain and grain products, should be slow and gradual. You should limit grain intake, if possible. Whole grain feeding lessens the risk of enterotoxemia in grain-fed animals.

In combination with good management practices, vaccination will significantly reduce losses to enterotoxemia. All sheep and goats, especially young ones, should be vaccinated for *Clostridium perfringins* type D and other clostridial diseases. The antitoxin (if available) can provide immediate short-term immunity in the face of an outbreak or treat suspected cases.

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