



Rochester Veterinary Practice, 72 Lowry Street Rochester 3561, Phone (03) 54842255 admin@rochyvet.com.au

Overview of Bloat (Ruminal) in Cattle

This condition occurs when there is over-distention of the ruminoreticulum (First two stomachs) with gas of fermentation or stable foam. Ruminal bloat is considered an **emergency!**

The cause of bloat can be divided into two basic processes:

Primary ruminal bloat is associated with the feeding of lush, immature, rapidly growing legumes such as clover and lucerne or finely ground grain (feedlot bloat), which results in excessive production and entrapment of gas in the rumen that in a stable and persistent foam. The condition can develop within 1 hour of grazing 'risky' pastures.

Secondary ruminal bloat results from an inability to eliminate gas from the rumen by burping secondary to other conditions such as milk fever, choking, warts in the oesophagus, and acute ruminal acidosis.

The primary sign of ruminal bloat is ruminal distension that results in the distension of the left paralumbar fossa. As the distention progresses the animal becomes more uncomfortable and shows signs of discomfort, including bellowing, rising up and down and kicking at their abdomen, open mouth breathing, salivation and protrusion of tongue, feces may be expelled and vomiting of frothy rumen content. In the very late stages, the animal will collapse and die due to asphyxiation and/or acute heart failure.

Treatment of ruminal bloat will vary depending on the severity of the condition and the underlying cause.

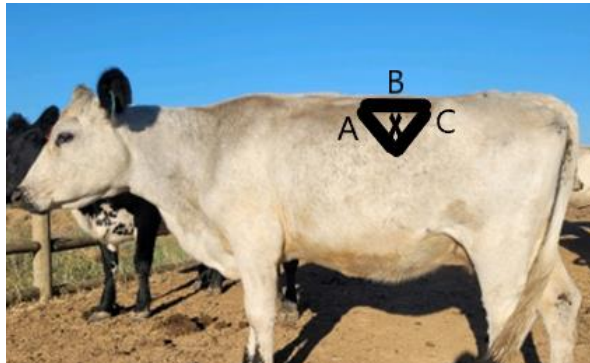
Treatment of primary ruminal bloat in the non- stressed animal:

- Passing a stomach tube to relieve the built up gas.
- Walk the affected animals back to shed for oral treatment with pluronic or alcohol ethoxylate-based drench.
- If distention is still present after 1 hour, administration of an anti-foaming dose (500ml of paraffin oil/ mineral oil or vegetable oil).

Treatment of primary ruminal bloat in the stressed animal:

- If the animal collapses and remains in recumbency (sternal or lateral), death may be minutes away.

- Emergency rumenotomy ('stabbing') is recommended, ideally with a guarded knife. The knife is stabbed into the **LEFT** paralumbar fossa and twisted to relieve the gas.
- Location: Approximately a hands width from spine and hands width from tuber coxae or hands width behind the last rib.



** Black triangle indicates the left paralumbar fossa for placement of rumen trocar and cannula. Other landmarks to assist in positioning of the rumen trocar include A) 13th Rib, B) Transverse processors of lumbar vertebrae and C) Tuber coxae.

- Note: anatomical locations maybe difficult to locate on the grossly distended abdomen.
- The wound created is always considered contaminated, therefore it is recommended that the veterinary attention is sought to assess the cow.

It should be noted that most cows that have had an emergency rumenotomy will have a reduction in milk production for a few days after the event. However, a number of animals will completely dry off and some animals may die despite aggressive treatment due to extensive contamination of abdomen.

Treatment of secondary ruminal bloat:

- Gaseous bloat may be relieved by passing of a stomach tube and possible remove obstruction (remove potato/ turnip etc).
- Failing this, a rumen trocar and cannula can be used and then an investigation into the underlying cause.

When it comes to prevention of bloat, there are three types of oral therapies that are commonly used to aid in the prevention of primary bloat. These are:

- Anti-foaming agents- These include anti-bloat oil, paraffin oil, and tallow.
- Detergents- These include pluronic and alcohol ethoxylate compounds (these compounds may be preferred due to the extended activity against ruminal froth formation).
- Rumen fermentation modifiers- Monensin is commonly used. Monensin reduces methane production and numbers of protozoa in the rumen (particularly one species that actively removes anti-foaming fats and oils within plant material). However, the use of monensin does not prevent bloat in severe challenges.

There is range of methods of delivering the preventative options. These include:

1. Individual drenching of anti-bloat agents to all animals.
2. Administering anti-bloat capsules to all animals.

3. Feeding milking cows in the bail at milking with a preventive medication (such as monensin, bloat oil etc)
4. Flank application of bloat oil. This method relies on the animals licking the bloat oil off themselves and/or other herd mates (this option therefore maybe unreliable). It required 30-70ml of thick bloat oil to be applied to flank with a brush.
5. Spraying the whole day's ration of pasture with an anti-foaming agent (such as paraffin oil emulsified in water). Each day's grazing should be allocated to the animals in 3-4 strips to ensure each individual animal's intake of an anti-foaming agent is continuous.
6. Water trough application of detergents. The detergents need to be gradually introduced to the animals due to palatability issues. The water and detergent mix need to be the only water source for the herd. Individual animal intake may affect efficacy.
7. Placing out bloat blocks that contain Terric 12A23B with molasses. The blocks are placed at camp areas or near water points. The individual animal intake will be variable and therefore efficacy may be variable.
8. Adjusting grazing practices to strip graze pastures once the dew is off the pasture and feed cattle hay prior to entering pastures.
9. Planting bloat safe species of plants that have lower protein degradability.