



# Dawson Creek Veterinary Clinic

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## Calf Scours

### What is Scours:

Scours is a disease calves get that is usually caused by an infectious agent (bacteria, protozoa or virus) that attacks and damages the lining of the intestines. When the intestines are damaged, they can't absorb nutrients or water properly and the calf gets diarrhea. The diarrhea causes the calf to become dehydrated and weak. Eventually it leads to death.

Scours in calves is responsible for one third of all death losses during the first month of life.

### Causes of Scours:

**#1- Management!! Scours is spread by oral-fecal contamination. This is why calves spread out in a pasture calving situation rarely have trouble with scours.**

Some of the common agents/organisms causing diarrhea are:

- 1) E. coli – this is a bacteria that usually affects calves that are 1-4 days old
- 2) Rotavirus – this is a virus that usually affects calves that are 5-15 days old
- 3) Coronavirus – this is a virus that usually affects calves that are 5-21 days old
- 4) Coccidiosis – this is a protozoa that usually affects calves that are over 30 days old
- 5) Cryptosporidium – this is a protozoa that usually affects calves that are between 5-35 days old
- 6) Salmonella – this is a bacteria that can affect any age of animal
- 7) Clostridia – this is a bacteria that can affect calves from 5-15 days old.

The only way to determine which agent is causing the diarrhea, is to send the fecal material to a laboratory where a culture is done. Fecal cultures are usually only recommended during a herd outbreak (>10% of calves have scours).

It is important to realize that some of these agents/organisms can also cause disease in people. It is very important to wash your hands thoroughly after handling a calf with scours.

### Clinical Signs of Scours and Dehydration:

- 1) Soft, watery manure that can be any color (the color of the diarrhea does not necessarily correspond to the agent causing it).
- 2) Weakness. The calf may even lay down and be unable to get up.
- 3) Dehydration is the reason calves with scours die. Signs of dehydration are:
  - a) Prolonged skin tent – pinch the loose skin on the calf's neck. If the skin takes more than 2-3 seconds to flatten out, the calf is dehydrated
  - b) Sunken eyes – the eyes will sink into the head as the calf gets more severely dehydrated
  - c) Tacky gums – the gums will be sticky when you touch your finger to them.

### Treatment of Scours:

Treating the dehydration is the most important part of treating scours. This can be done in several ways:

- 1) Oral electrolytes – if the calf is still fairly bright and will suck, electrolytes (*Revibe HE*) can be mixed with water and given in a bottle. Give 2 litres up to 4 times daily. If the calf is unable to suck, a stomach tube can be passed through a calf's mouth into its stomach and the electrolytes and water can

- be tubed directly into the stomach. Care must be used when tubing a calf to make sure that the tube is down the esophagus (food tube) and not down the trachea (windpipe). Consult your veterinarian on ways to make sure you have placed the tube properly. If a calf is very weak, it may not be able to swallow properly and there is more risk that it will breathe this fluid into its lungs leading to pneumonia.
- 2) Subcutaneous fluids – an electrolyte solution (Lactated Ringers or Normosol) can be injected under a calf's skin. The fluid is then absorbed into the bloodstream.
  - 3) Intravenous fluids – if a calf is severely dehydrated, oral or subcutaneous fluids may not be absorbed into the bloodstream properly or quickly enough. An electrolyte solution (Lactated Ringers or Normosol) can be given directly into the vein. This is usually done by a veterinarian.
  - 4) Milk- fresh cow's milk has recently been advocated to be the best source of energy for a scouring calf. Dextrose, found in commercial oral supplements, is suspected to be an inferior source of sugar and energy compared to milk. Therefore, consider mixing up to one third of oral electrolytes with fresh milk. Old theory's about milk feeding the infection have been proven false. Energy is very important to a scouring calf.

Note: if the average scouring calf is 110lbs(50kg) and is 10% dehydrated then it will be short 5 L of fluids in its body. If it continues to have diarrhea, it continues to lose fluids and the fluids need to be replaced.

$$(50\text{kg} \times 10\%) = 5\text{kg} = 5\text{L of missing bodily fluids})$$

### **Antibiotics:**

If a virus is the cause of the scours, antibiotics will not kill the virus. It is still a good idea to give antibiotics to a calf because if the intestines are very badly damaged, some of the normal bacteria in the intestines can get into the bloodstream and make the calf very ill or lead to joint ill or meningitis (brain infection)

Some of the common antibiotics used are:

*Borgal* ( 3cc/100#IM daily)  
*Nuflor* (6cc/100# SQ – good for four days)  
*Resfor* (6cc/100# SQ- nuflor plus Banamine)  
*Neo/ Sulfa bolus / Sulfa Sure bolus* (2 bolus/100# Orally)

Try to minimize stress on the calf and try to get it into a warm and dry environment.

### **Prevention:**

Prevention of scours is a very important part of cow-calf management. Most of the agents that cause scours in calves are spread through manure. If a calf's immune system isn't working properly, it will be more prone to developing scours and less likely to recover from it. Cold, wet weather can stress calves out and they will be at greater risk for developing scours.

#### **Cow Management:**

- 1) Provide adequate nutrition to pregnant cows – this will help improve the health of the calf and the quality and quantity of the colostrum the cow produces
  - 2) Use a scours vaccine in your cow herd ( Scour Bos, Scourguard).
- Scour bos 9 provides longer immunity to calves and the first dose should be given to heifers or previously unvaccinated cows anywhere from 8 to 16 weeks before calving. The booster should be given 4 weeks before calving and if Scour bos 9 is used for the first vaccine, Scourbos 4 can be used as a booster. If Scourguard is used, the first dose can be given 6-8 weeks before calving and the second dose should be given 2-3 weeks before calving. If Scourguard is used and there is a prolonged calving season, then another booster can be given 6-8 weeks into the season.

#### **Pasture/Calving Ground Management:**

- 1) If possible have a separate calving area and move cows into this area a couple of weeks before calving. Ideally this area should be well sheltered and have good drainage.
- 2) Try to provide plenty of clean, dry bedding
- 3) Try to prevent overcrowding of animals. "Ideally" 2000ft<sup>2</sup> (50ft x 40ft)/cow calf pair
- 4) Move cow-calf pairs to another pasture after calving if possible

## Calf Management:

- 1) Make sure calves get colostrum within 6-12 hours of birth. A calf's guts change after 12 hours so they can't absorb antibodies properly from the colostrum. For every 30 minutes after birth, antibody absorption decreases by 5%. A rule of thumb is that a calf should get 4-6 Liters (5-10% of it's body weight) of colostrum within 6-12 hours of birth. The sooner the better!!! This can be split into 2 or 3 feedings (eg 2L 2 hours after birth, 2 L 6 hours after birth and another 2 L 10 hours after birth) There are commercial colostrum products available but the best colostrum is from your own cows. It is a good idea to have some frozen colostrum available for emergency use. If a calf is up and sucking within a couple of hours of birth, it likely will get enough colostrum from the cow.
- 2) Try to isolate sick calves from healthy calves. The diarrhea contains billions of the infectious agents and if a healthy calf comes in contact with the diarrhea, they are more likely to become infected.
- 3) Clean bottles, stomach tubes, etc very thoroughly between calves in order to minimize the spread of the infectious agents. Rinse first with warm water, then clean with soap/bleach and hot water. Rinse thoroughly and allow to dry.

## Coccidiosis:

Occurs in calves that are 3wks and older and causes profuse bloody diarrhea and straining

Treatment:

- Borgal 3cc/100# IM daily for 4 days
- Amprolium- liquid form and premix available
- Bovatec C in the feed to your cows (helps decrease the shedding of the protozoa in the cow's manure)

Note: rectal prolapses and nervous coccidiosis are possible complications of coccidiosis

If there is a coccidiosis problem in your herd, you can feed Bovatec C (1oz/head/day) to your cow herd for 3 weeks before calving to minimize the contamination on your calving grounds.

If you have any questions or concerns regarding scours or any other diseases in your cow herd, please contact one of the veterinarians at the Dawson Creek Veterinary Clinic.