

Section 7

Diseases of Young Calves

by James O'Shaughnessy



Introduction

Young calves are vulnerable to a range of diseases; careful management can prevent unnecessary mortality.

- ① What are the key points in protecting calf health?
- ② How do I manage scour/diarrhoea?
- ③ How do I manage pneumonia?
- ④ How do I manage navel ill/joint ill?
- ⑤ How do I manage coccidiosis?
- ⑥ How do I manage clostridial diseases (older calves)?

Diseases of Young Calves

① What are the key points in protecting calf health?

Colostrum

Ensure the calf receives sufficient colostrum (see chapter on colostrum).

Navel treatment

Treatment of navels is outlined in the section on calving and neonatal care.

Environment

The calf's environment needs to be clean, dry and well ventilated. Particular attention should be paid to the calving pens and creep areas. Bedding should be regularly added to these areas. You should be able to kneel on the bedding without your knees getting wet. All areas where calves are should be cleaned out and disinfected between batches of calves. All equipment (e.g. stomach tubes, calving ropes, buckets) used should be cleaned and disinfected after use. Consult with your vet on an appropriate disinfectant.

Early identification and removal of sick calves

Any calves showing signs of sickness (scour, pneumonia etc.) should be removed immediately along with their dam and placed in a pen which is designated for sick animals only. They should only return to the group when the calf has recovered from illness. The pen which is used for sick animals must be cleaned and disinfected after each use. It must not be also used as an isolation facility for purchased animals/returning from shows.

Mixing of different age groups

Try and avoid unnecessary mixing of calves of different age groups. Older calves, which have been exposed to more disease causing agents, can potentially transmit disease to younger calves. This is especially important at herd events (TB testing, scanning or dosing) where different groups of cattle are brought together. At herd events such as these keep groups from mixing with each other.

Avoid overstocking

Have adequate space, both at housing and at pasture for calves. For example, having too many calves in the one creep area will make it more difficult to keep it clean and well-bedded but will also act as a stressor for these calves. Stressors such as overcrowding make calves more susceptible to disease.

Vaccination

Advice should be sought from your vet when deciding on a vaccination programme for a particular disease. This includes advice on vaccine type, dose, timing of vaccination, and method of administration. The use of vaccines is the main method in preventing clostridial diseases (blackleg, tetanus etc.) but should not be regarded as the sole method of prevention of calf scour and pneumonia.

② How do I manage scour/diarrhoea?

What causes calf scour?

Viruses (rotavirus, coronavirus).

Bacteria (E. coli, salmonella).

Parasites (cryptosporidia, coccidiosis).*

**Coccidiosis* causes scour in older calves (three weeks and older).

What are the two most common causes of calf scour in Ireland?

Rotavirus and cryptosporidia.

Where do my calves 'pick up' calf scour?

- A calf picks up these infections in either the calving pens or any other calf housing areas. All the agents that cause calf scour (viruses, bacteria and parasites) are passed out in the dung from other cows and calves. Without regular cleaning and disinfecting of all calf areas (e.g. calving pens, creep areas), these agents build up in the calf's environment.

What is the first thing to do when I see a calf with scour?

- Remove that calf along with its mother from the rest of the group and place in the pen designated for sick animals only. *Note that this pen for sick animals must be cleaned and disinfected after every time that it's used.*

How do I treat a calf with scour?

- Allow the calf full access to the cow (do not take the calf off milk)
- Provide extra fluids/electrolytes to replace the fluids lost by the calf. Give the calf at least one electrolyte feed during the day (in 2 litres of water) and depending on the severity of the scour, a second feed can be given later in the day.



Does a calf with scour need antibiotics?

In general they don't. As most cases of scour are caused by viruses and parasites (which don't respond to antibiotics), the use of anti-bacterials is a waste of money and may lead to bacterial resistance on your farm.

So when do I give a calf with scour antibiotics?

- A calf with scour requires antibiotics (+ veterinary assistance) in the following cases:
- If the calf's temperature is outside the normal range (38.5-39.5°Celsius).
- If the calf is weak, unable to stand, has sunken eyes.
- If the calf won't suck.
- If the calf is passing blood in its dung.

Should I take dung samples from calves with scour and send to the laboratory?

Yes, in the following cases:

- Calf scour is a regular problem on my farm.
- A number of calves have scour at the one time.
- The treatment that I normally use doesn't work.

What about vaccination?

- Vaccination can help in the prevention of calf scour, but:
- It should not be seen as the sole answer to prevention.
- For vaccination to work, the calf has to be given adequate volumes of colostrum as soon as possible after calving.

3 How do I manage pneumonia?

Any calf with signs of several or all of the following:

- Nasal discharge, coughing, heavy breathing, increased breathing rate ('blowing'/panting), in addition to signs such as dullness, reduced appetite, drooped ears and fever.

What are the main disease causing agents?

Viruses (RSV, PI3, IBR, BRCV and BVDV)

Bacteria (Pasteurella, Haemophilus and Mycoplasma).

How does pneumonia spread?

- Droplets coughed up by or exhaled from other cattle/calves.

What are the key risks?

- Calves not getting enough colostrum.
- Poorly-ventilated buildings (favours spread of disease).
- Stress (Overcrowded cattle sheds, mixing of different groups of cattle, sudden changes in weather/diet).
- Unnecessary mixing of calves of different age groups (older calves can act as carriers of many of the agents that cause pneumonia).
- In older calves at pasture, lungworm can act as the 'trigger' in calves developing pneumonia.

What do I do if I have a calf with pneumonia?

- Remove this calf along with its dam and place in the sick pen. Treat the calf under instructions from your vet. Once the calf has been removed from the group, take another look at the rest of the calves in that group. As pneumonia tends to spread rapidly in a group of calves, you may have to treat all the calves in the same pen (under veterinary advice/supervision).

If calf pneumonia is a regular problem on my farm what should I do?

- You need to discuss with your vet all the key risks mentioned above. Some or all of these will be contributing to your problems with calf pneumonia.

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Should my vet also take samples from calves?

- Yes if calf pneumonia is a regular problem on the farm. This may help in deciding what vaccine to subsequently use on the farm.

Should I regard vaccination as the most important tool in combating calf pneumonia?

- **No.** Most of the agents that cause calf pneumonia are widespread in the cattle population. So although vaccination will help, it is highly important that you (in conjunction with your vet) try and determine the underlying problem on the farm that is causing you to have regular cases of calf pneumonia. Is it a lack of colostrum? Is it due to overcrowding? Is ventilation in the shed poor? etc.

4 How do I manage navel ill/joint ill?

How can I reduce the number of cases of these on my farm?

- Ensure calves get enough colostrum.
- Improve the hygiene of the calf's environment. Regular cleaning and disinfection of calving pens and creep areas. Provide ample bedding for calves as referred to earlier in this chapter.
- Navel treatment (the principles of navel care are referred to in the section on care of the newborn calf).

Improving these three key factors above will have the added benefit of improving overall calf health.

5 How do I manage coccidiosis?

What is coccidiosis?

Coccidiosis is a parasitic disease of calves (three weeks of age and older), weanlings, yearlings and, less commonly, older cattle. It results in damage to the intestinal lining as a result of the parasite multiplying in the intestine.

What are the clinical signs?

- The clinical signs can vary from mild diarrhoea to severe blood-stained diarrhoea accompanied by the calf straining. Often the only sign noticed is a calf with a wet/soiled tail.

How is the disease spread?

- The disease is spread by the faecal-oral route. Calves ingest oocysts (the environmental stage) that have been passed in the dung by other calves/cows. The calf ingests these oocysts, which if ingested in high doses, results in the development of clinical signs of disease. It takes about three weeks from the time a calf ingests these oocysts before clinical signs appear.

What are the main risk factors for coccidiosis?

Environmental hygiene

- Wet and dirty bedding.
- Overcrowding (both at housing and at pasture).
- Badly-ventilated sheds.
- Dirty feed and water troughs.
- Calved heifers and cows with long dirty tails (major risk factor for very young calves who are trying to suckle).

Stress

- Avoid stressors on the calf. Mixing of different age groups or sudden changes in diet can act as stressors.

Nutrition

- Calves that have not received enough colostrum or are not getting enough milk from their dams have a reduced ability to deal with infection.

How can I reduce the incidence of disease in my herd? Hygiene

- Ensure all housing and creep areas are clean, dry and well ventilated. Clean and disinfect housing areas between batches of calves. This parasite is resistant to most disinfectants. Discuss with your vet the most appropriate disinfectant to use.
- Avoid overcrowding at housing.
- Water and feed troughs need to be kept clean. Remove all faecal material.
- Ensure the tails of all cows and heifers at calving are trimmed. This reduces the risk of the calf ingesting faecal material when trying to suckle.

Avoid stressors

- The unnecessary mixing of different age groups or sudden changes in diet.

Nutrition

- Ensure calves receive adequate colostrum and are well nourished subsequently.

Preventive treatments

- Discuss with your vet the options available for using preventive and therapeutic measures.

6 How do I manage clostridial diseases in older calves?

What is clostridial disease?

Clostridia are a family of soil-borne bacteria that cause a number of conditions in cattle. One of the most common conditions is blackleg. What do I need to know about blackleg?

Blackleg is mainly a disease of grazing animals. It can also occur in housed animals that have grazed infected pastures. It mostly affects cattle from six months to two years of age. It can, however, occur in calves a few months old.

Spores produced by the bacteria are eaten by the animal during grazing. These spores, after ingestion, can be found in muscle, liver and spleen. If that area of muscle where the spores are located is subsequently damaged (injury, bulling etc.), the spores germinate and produce a fatal toxæmia.

Generally the animal is found dead. On rare occasions, the animal may still be alive. If the area of muscle damage (lesion) is in a limb, the animal will be severely lame. As the disease progresses, there will be a build up of gas in the area where the lesion is. The lesion will be spongy to feel and you can hear gas crackling when you press on the lesion.

What about treatment?

On the rare occasion an animal is still alive contact your vet immediately. He or she will prescribe the necessary antibiotic that you need to use.

The best form of treatment is prevention. If your farm has a history of blackleg, vaccinate stock before they go to pasture. Depending on the vaccine you use, follow the instructions as per the information leaflet that accompanies the product.

For further information on calf health, go to www.animalhealthireland.ie

