

## Section 6

# Pneumonia



### Introduction

Pneumonia is the second most common health problem affecting young calves. Pneumonia is an inflammation of the lungs, which can cause permanent damage and even death. It can be viral or bacterial in origin. In most instances viral infection occurs first, followed by bacterial infection. High risk periods occur after grouping or mixing of groups; after weaning off milk or milk replacer; and in unfavourable or changeable weather conditions.

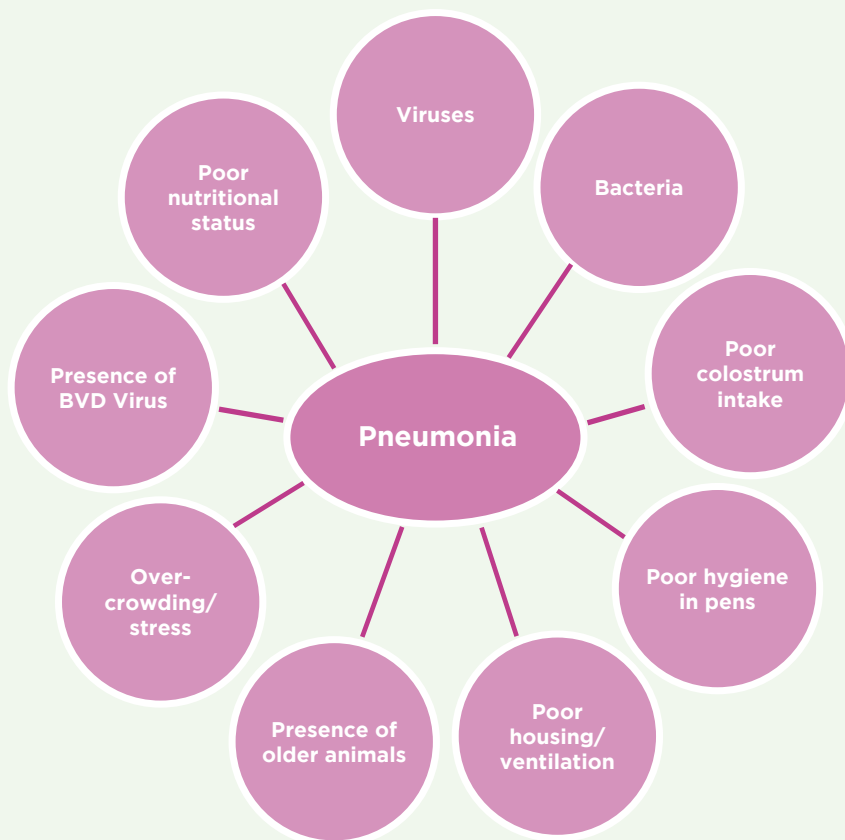
- ① Cause of pneumonia in calves.
- ② Symptoms of pneumonia.
- ③ Diagnosis.
- ④ Treatment of pneumonia.
- ⑤ Preventative measures.

# Pneumonia

## ① Causes of pneumonia in calves.

Pneumonia is the most common disease associated with housed calves. Approximately 3% of calves born die from pneumonia in the first 12 weeks of life.

Pneumonia may be caused by a number of different things; therefore it is often termed a 'multifactorial disease'. Factors leading to pneumonia include:



Common causal viruses and bacteria:

<b>Viruses</b>	<i>Respiratory syncytial virus (RSV)</i>	Present in most herds, most common.
	<i>Parainfluenza type 3 (Pi3)</i>	
	<i>Bovine rhinotracheitis (IBR) (Bovine Herpes Virus 1)</i>	Less prevalent, more typically seen in older calves. Occurs from mixing or housing of groups of cattle from different sources.
	Bovine viral diarrhoea (BVD)	Does not cause damage to the lungs and airways, but can impair the calf's disease resistance.
<b>Bacteria</b>	<i>Mannheimia haemolytica</i>	Start to colonise the upper respiratory tract and move down towards the lungs, triggering pneumonia. Toxins produced cause tissue damage which can prove fatal.
	<i>Pasteurella multocida</i>	
	<i>Trueperella pyogenes</i>	
	<i>Histophilus somni</i>	
	<i>Mycoplasma bovis</i>	
<b>Parasites</b>	Lungworm	Particular concern for young calves who have been put out on grass early.

## 2 Symptoms.

It usually takes two to three days for initial infection to develop into bacterial colonisation and pneumonia but stock can deteriorate quickly from being apparently healthy to seriously ill within hours. Therefore, early diagnosis is essential for successful treatment. Initial signs of pneumonia may include:

- Reduced feed intake/ appetite (usually the first sign).
- Being 'Off form'.
- Dullness, drooping ears.
- 'Hollow sides'.
- Fever (over 39.5°C).
- Cough.

Other later signs may include:

- Increased respiratory rate (rapid and laboured breathing).
- Watery discharge from the nose and eyes.

By the time these symptoms are visible the disease is advanced. Where there are one or two calves showing obvious signs of pneumonia, four to five times more in the same group are likely to be in the early stages of infection and experiencing high temperatures.

## 3 Diagnosis.

Careful observation of calves at a time when they are resting is necessary to observe signs of ill-health. Checking the calves at feeding times only can reduce the likelihood of detection as the signs of pneumonia may not be so easy to observe at that time.



*In severe pneumonia cases, veterinary intervention may be required.*

## 4 Treatment of pneumonia.

Pneumonia may easily be treated and prevented by isolating sick calves, using proper management techniques, vaccinating young calves, providing good ventilation, and using antibiotics as necessary.

- Veterinary advice should be sought on the treatment and control of suspected pneumonia outbreaks.
- Antibiotics are ineffective against viral infections. However, where bacterial involvement is suspected, antibiotic treatment is required.
- In rare cases, lungworm may be causing pneumonia in young calves and these will not respond to antibiotic treatment.

## 5 Preventive measures.

- Practice good hygiene at calving and remove the calf immediately from the calving pen.
- Ensure good colostrum intake after birth and good nutrition for growing calves.
- Check for nutritional deficiencies such as vitamin E and selenium, which will weaken the animal's immune system.
- Provide appropriate calf housing with good ventilation; plenty of air, no draughts and a well bedded dry lying area.
- Prevent scour and manage outbreaks properly if they occur.
- Prevent BVD in the herd through culling and testing practices.
- Minimise stress.
- If forming groups, put animals of about the same age and size together. Keep groups stable.
- Outdoor reared calves are generally at lower risk of pneumonia.
- Implement vaccination policy. Calves can be vaccinated from two weeks of age (i.e. IBR vaccine). The vaccination program is two shots, four weeks apart. A booster dose should be given before the next risk period.

### KEY FACTS:



Calves that have suffered from scour are more likely to develop pneumonia later in life.