

# Respiratory Disease of Adult Cattle

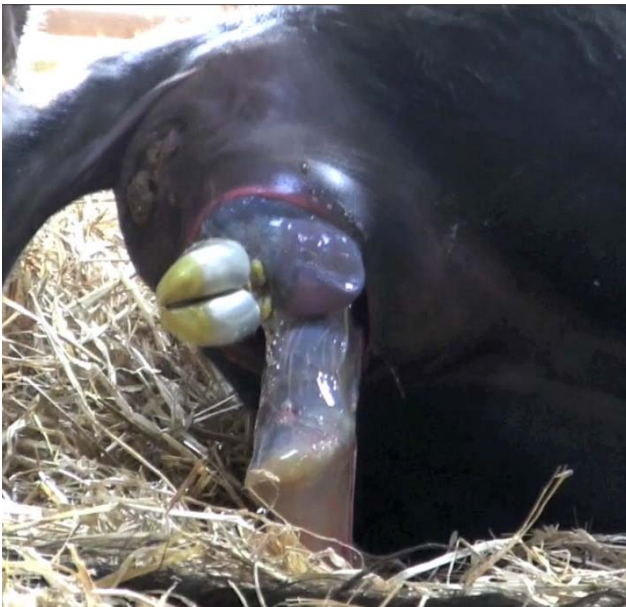
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## Chronic suppurative pulmonary disease

Chronic suppurative pulmonary disease develops as a result of unsuccessful treatment or incomplete recovery from earlier pneumonia episodes. Flare up of bacterial infection within the lungs is often associated with a stressful event such as transport, sale or, most commonly, calving. Salmonellosis, particularly *Salmonella Dublin* infection, and Johne's disease are other examples of recrudescence of infection following calving.



**Fig 1: Chronic suppurative pulmonary disease develops as a result of unsuccessful treatment or incomplete recovery from earlier pneumonia episodes as growing cattle.**



**Fig 2: Flare up of bacterial infection is most often associated with calving.**

## Clinical presentation

Typically affects first calvers which have a disappointing milk yield, are dull, in poorer condition than their peers, usually have a dry staring coat and have a variable rectal temperature up to 39.5°C. Affected animals cough frequently and have an

occasional nasal discharge. The respiratory rate is increased with an abdominal component to respiration. Some cattle stand with an arched back with the neck extended and the head held lowered suggestive of thoracic pain.



**Fig 3: Cattle may stand with an arched back with the neck extended and the head held lowered suggestive of thoracic pain.**



**Fig 4: Affected animals cough frequently and have a purulent nasal discharge.**

Your veterinary surgeon will check for other chronic bacterial infections including liver abscesses, endocarditis, hepatocaval thrombosis, and chronic peritonitis.

The most common isolate from lung lesions is *Arcanobacterium pyogenes* and treatment involves an extended course of procaine penicillin which is especially effective against this bacterium.

## Management/Prevention/Control measures

Prevention of chronic respiratory disease involves vaccination, and prompt veterinary treatment and monitoring of pneumonia cases in growing cattle. - All antibiotic treatments should be carefully monitored for efficacy. Maintain BVD/MD free herd status or vaccinate herd.





**Fig 5: Chronic suppurative pulmonary disease caused by persistent BVD infection.**

### Fog fever

Also referred to as atypical interstitial pneumonia of cattle/acute bovine pulmonary emphysema. Fog fever is an uncommon condition causing severe respiratory distress in adult cattle one to two weeks after moving on to a lush silage/hay aftermath in June/September. The present incidence in the UK is less common than 30 years ago which could be related to the change in predominant beef breed from Hereford to Limousin.

#### Cause

Circumstantial evidence links the disease with the ingestion of large amounts of the amino acid L-tryptophan and its conversion in the rumen to 3-methyl indole and indole acetic acid.



**Fig 6: Fog fever is an uncommon condition causing severe respiratory distress in adult cattle one to two weeks after moving on to a lush silage/hay aftermath in June/September.**

#### Clinical presentation

Usually not more than 2 to 5 per cent of cattle at risk are severely affected with sudden onset of severe respiratory distress. The animal stands with its neck extended, head lowered, and moves very reluctantly. The nostrils are flared and the animal breathes through its mouth. There is an expiratory grunt and frothy saliva around the protruding tongue. The rectal temperature is normal. Coughing is not a frequent feature of fog fever. The mortality rate in

severely affected cases is around 95% and often precipitated by movement or handling. Obvious subcutaneous emphysema develops over the chest and along the back in recovered cases.

Less severely affected animals slowly improve over a 10-14 day period.

Your veterinary surgeon will check for lungworm (Husk) in susceptible adults and nitrate poisoning. If cattle are simply found dead, causes of sudden death include hypomagnesaemia (grass staggers) and clostridial diseases such as Black disease.

There is no effective treatment.

#### Management/Prevention/Control measures

Controlled access to lush pasture poses management problems.

### Inhalation pneumonia (Aspiration pneumonia)

Inhalation pneumonia most commonly results from inhalation of rumen contents following hypocalcaemia especially if the cow had become cast and after the faulty administration of drenches. Sudden death may follow drenching but this is unusual.

#### Clinical presentation

Typically, the cow has a painful expression and stands with a roached back stance with the neck extended and the head held lowered and walks slowly. The animal does not eat. The rectal temperature is elevated within a range 39.5 to 40.0°C. There is a bilateral mucoid/purulent nasal discharge and the animal coughs frequently. The respiratory rate is elevated with an obvious abdominal component. The cow has halitosis. The milk yield is greatly reduced.



**Fig 7: Jersey cow with inhalation pneumonia following recumbency caused by milk fever.**

Your veterinary surgeon will check for reaction following faulty/contaminated calcium injection.

#### Other conditions to consider include:

Chronic suppurative respiratory disease exacerbated after calving

Pleurisy

Hepatocaval thrombosis

Endocarditis

Peritonitis/traumatic reticulitis (wire)

### Treatment

Treatment is unlikely to be effective but broad spectrum antibiotics plus NSAID such as flunixin meglumine should be administered with the cow re-examined the following day because humane destruction may be necessary for welfare reasons if the animal deteriorates further.



**Fig 8: Severe necrotic pneumonia and pleurisy (right lung) following inhalation of rumen content (see Jersey cow in above image).**

### Prevention/control measures

Care with drenching; appropriate supervision of calving cows with prompt treatment of hypocalcaemia.



**Fig 9: Chronic weight loss in an Aberdeen Angus bull with a massive pleural abscess.**

## Pleural abscesses

Pleural abscesses are uncommon but the true prevalence is unknown because diagnosis necessitates detailed clinical examination.

### Clinical presentation

There may be no history of respiratory disease. Affected cattle typically present with a history of poor growth, weight loss, and/or poor milk yield over several weeks.

Affected cattle often stand with a roached back stance with the neck extended and the head held lowered with a painful expression. The cow's appetite is reduced. The rectal temperature is only marginally elevated (39.0 to 39.5°C). There are no ocular or nasal discharges. The respiratory rate is elevated with an obvious abdominal component as the abscess often occupies a large proportion of the chest. A large pleural abscess may contain up to 50 litres of pus.



**Fig 11: Necropsy of the bull featured left confirmed a massive pleural abscess containing over 50 litres of pus.**

### Treatment

Drainage of pleural abscesses has been largely unsuccessful in cattle presumably due to the extensive nature of the lesion and thick capsule wall.

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