



# Environmental Mastitis

Environmental mastitis is mastitis that is derived from the environment in which the cow lives. The condition can be severe and prevention aimed at keeping the cow and her environment as clean and dry as possible is paramount.

## SPOT THE SIGNS EARLY

A cow with clots in the milk and a swollen udder spotted in the milking parlour allows treatment to be started as soon as possible.

## Environmental Pathogens

The primary contagious environmental pathogens include two types of bacteria: Coliform bacteria and Streptococci other than *Streptococcus agalactiae*.

In recent years environmental organisms have overtaken contagious organisms as the predominant causes of mastitis in UK herds.

Coliform infections tend to be short duration but occasionally can become persistent. Streptococcal infections are more likely to persist with approximately 20% of cases becoming chronic.

*E.coli* can cause many differing levels of mastitis, from very mild cases to chronic toxic mastitis.

## Diagnosis

- Changes to the milk such as watery milk or milk containing blood, clots or flakes can occur (but not always).
- Changes to the udder causing heat, pain or swelling indicate a deeper infection.
- Some of the cows can also be sick in themselves and may be depressed, off their food, have a mild temperature and in serious cases can be recumbent and unable to rise.
- Very mild cases of Mastitis occur.



## Treatment

Treatment depends on the severity of infection. Changes to only the milk means treatment may be sufficient using intramammary tubes. Deeper infections may need anti-inflammatory drugs and injectable antibiotics. In very severe cases fluid therapy and immediate veterinary intervention may be necessary. In all cases the full course of treatment should be given, even if the cow improves quickly.

Taking aseptic milk samples from clinical cases of mastitis may help to diagnose the main cause of mastitis on your farm and create a specific cost-effective treatment protocol.



Swollen udder



Gangrenous mastitis



Peracute mastitis

## FACTS

- Bacteria that cause environmental mastitis surround the cow, particularly in dirty and wet environments.
- Cows most at risk of disease are newly calved cows and cows that are sick, weak or short of energy to fight infection.
- Dry period management is critical as infections can lie dormant until the first period of lactation (normally the first month).
- Affected cows should be treated quickly using appropriate medicines supplied by your vet, in some cases the disease can be severe and vets may need to administer therapy.
- Prevention is aimed at keeping the cow and her environment as clean as possible. Good milking hygiene and dry cow therapy can also help to reduce the number of infections on your farm.



## Case Study

A severe case of toxic mastitis caused by *E.coli* in a newly calved dairy cow. The cow was down, depressed and had a high temperature and heart rate. Milk in one quarter was watery and the udder was hot and painful to the touch, the vet was called as soon as the cow was spotted in the field.

The cow was treated with intravenous non-steroidal anti-inflammatories, antibiotics and fluids given both in the vein and via a stomach tube. The affected quarter was stripped as frequently as possible and an intramammary tube inserted between stripplings.



By the following morning the cow was up and about, eating and drinking and much brighter.

Further antiinflammatories were given to try and reduce the toxins in the cows bloodstream and the full course of antibiotics was completed.

**Speed of treatment is vital in cases of Toxic Mastitis. Unfortunately a large proportion of affected cows may die.**

## Control and Prevention

Control and prevention relies on reducing teat end exposure to disease and maximising cow udder health. Methods include:

- Dry cow therapy including anti-biotics and/or teat sealants to prevent new infection
- Milking machine maintenance to reduce teat damage and liner slip
- Udder preparation to ensure teats are clean and dry prior to milking
- Pre-dipping then wiping to reduce the pathogens at the teat end
- Diet e.g. vitamins A,E and selenium and zinc help contribute to good udder health
- Dietary fibre helps stiffen faeces to keep cows cleaner and reduce the risk of subclinical acidosis
- Environmental cleanliness for lactating cows and also dry cows and calving cows. Consider the use of sand if appropriate
- Consider combination therapy
- A vaccine is available for *E.coli* but must be discussed with your vet

## Advice

- Look out for cows showing signs of mastitis: changes to the milk or udder, especially if the cow is sick in herself
- Treat cows promptly under guidance from your veterinary surgeon
- Monitor the cow to ensure she responds to the treatment and complete the full course
- Consider DairyCo's Mastitis Control Plan [www.mastitiscontrolplan.co.uk](http://www.mastitiscontrolplan.co.uk)

## AVERAGE COST

'An average case of clinical mastitis can cost between £140 - £200 depending predominately on the milk yield of the animal involved.

There are a number of components which contribute to the average cost. The losses consist of treatment costs which can vary depending on whether intramammary tubes are used alone or in combination with other treatments.

The volume of milk discarded will depend on the milk yield of the animal involved and the duration of the treatment, while there will always be a component of farm labour involved in treating the mastitis and sanitising the equipment afterwards.

All mastitis cases damage the milk secretory tissue and depending on the stage of the lactation, there will be varying consequential losses of milk yield which need to be accounted for.

Unfortunately some mastitis cases result in unplanned culling and therefore an average mastitis case needs to take account of a % of these culls.'

The Dairy Group (I.Ohnstad) 2011

An extreme example of poor milking hygiene



For further information contact your local XLVets practice:

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