

Farm news

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Ischaemic Teat Necrosis- What is it, and what risks does it pose to your farm?

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Economic impacts are also large, with a single uncomplicated case costing £720 per cow, and a culled case costing around £2,133.

What causes ITN?

1) Dysbiosis of the teat skin

- Dysbiosis is an overgrowth of pathogenic bacteria due to unfavourable conditions (in this case the teat) for survival and growth of healthy bacteria, which also results in a reduced biodiversity in the population of bacteria (fewer species present).

Dysbiosis is caused by changes to the teat environment, including:

- Overuse of topical antibiotics
- Irritant chemicals (notably **peracetic acid in pre-dips**, which the study linked to more chapped teats)
- Hormonal and metabolic stress around calving
- Poor skin condition from chapping, wetness or trauma
- Damage to teats and udders through poorly maintained milking machines

2) Mannheimia Spp. - Pasteurellosis

- Previously, infectious links had been made to *Treponema* spp. (the bacteria that cause Digital Dermatitis) - however this study **ruled out the idea that Treponemes cause ITN**. Instead, it found significant links to a multifactorial combination of bacteria, with *Mannheimia* spp. (previously known as *Pasteurella*) present in all cases.
- *Mannheimia* spp. (known to cause pneumonia in youngstock) is commonly found in the nasopharynx of cattle, and is proposed to be introduced by cows licking their teats as a stress response. It is not known if the presence of *Mannheimia* on the teats of affected cattle is a cause or consequence of excessive licking.
- *Mannheimia* present release endotoxins, resulting in inflammation of local blood vessels (vasculitis) and cell death (cytotoxic infiltration of leukocytes) that can cause the clinical signs we see as part of ITN.

A PhD study, running from 2016 to 2023 and funded by AHDB, has investigated Ischaemic Teat Necrosis (ITN), a relatively new disease seen in dairy cattle. Many of you will have seen ITN cases on your farms, and vets across the UK are reporting it more often. This article aims to explain what ITN is, why cows get it, the impact it has, and—most importantly—what practical steps (if any) you can take to reduce the risk.

So, what is Ischaemic Teat Necrosis?

You might know it by one of its many other names: teat sores, summer sores, teat eczema, cracked teats, “black teat” etc. It is a serious disease of the teats, causing severe discomfort, itchiness and pain. Typically, it presents as dry red-black patches at the base of the teat (usually one teat affected), with fast-progressing crusting and scabbing. In severe cases the teat may partially or completely slough either on its own or due to self-trauma from the cow.

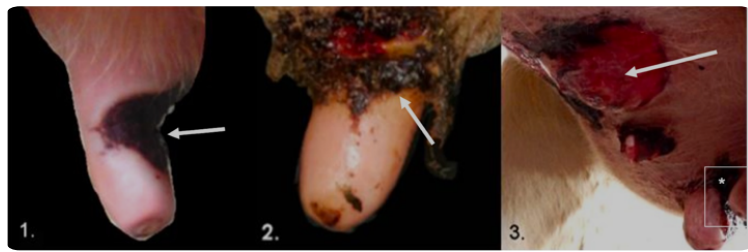
Which cows are most at risk of developing ITN lesions?

- Heifers (First lactation animals)
- Animals within the first 90 days in milk
- Presence of chapped teats and teat damage at herd level - dryness, chafing, trauma due to the milking machine
- Presence of Udder Cleft Dermatitis at herd level
- Udder oedema around the time of parturition - possibly causing udder/teat discomfort.

Why should you care?

- ITN has severe impacts on welfare.
- The clinical prognosis for cows with ITN in the study was as follows:
 - 20.8% recovered
 - 22.8% were culled directly due to the condition
 - 56.4% experienced further complications e.g. loss of a teat or chronic mastitis

What does ITN look like?



- **Grade 1:** A red/black, dry lesion of discolouration and necrosis on the teat and/or udder skin - most commonly 1 teat affected, but a few cases show up to 3 being affected.
- **Grade 2:** Proliferative crusting and scabbing around the teat base +/- bleeding from the lesion
- **Grade 3:** A red raw granulation tissue lesion, where the teat has sloughed off

If you see any of these signs, notify your vet!

Unfortunately, there is currently no specific treatment for ITN. It has been proven that antibiotics are ineffective and should not be used. Pain relief can help the cow, but most commonly surgical removal of the teat or culling is the chosen outcome.

Whilst there is no definitive treatment, there are sometimes preventative measures we can take. These are aimed at managing the risk factors previously mentioned and target the promotion of overall good teat skin health.

Actionable steps include:

- Replace liners as recommended to prevent pinching and teat-end damage
- Use a moisturising post-dip (look for glycerine, lanolin, sorbitol)
- Use disinfectants at the correct dilution
- Switch from peracetic acid if cows are getting chapped teats
- Monitor early-lactation cow teats closely
- Treat udder cleft dermatitis promptly
- Apply udder creams to dry/chapped teats

To conclude, if you recognise ITN consult your vet with any questions or for further guidance.

Twin Lamb Disease Chris Daykin MRCVS

Twin lamb disease (officially known as ovine pregnancy toxæmia) is a metabolic syndrome commonly found in ewes in their last 6 weeks of pregnancy, especially those that are carrying multiple lambs. Older animals, or those underconditioned or over-conditioned are most at risk.

When underconditioned, the risk of twin lamb disease is heightened by a period of inadequate nutrition, normally due to access to poor quality silage or inadequate amount of concentrates. The growth of the lambs in utero will also decrease the amount that a ewe can eat due to compression of the rumen. However, periods of high stress, adverse weather, handling, housing etc can also lead to clinical signs.

If a ewe can't gain the energy she needs in her last few weeks of pregnancy, she'll start to metabolise her own body fat reserves to facilitate glucose availability to the lambs. However, negative energy balance will overwhelm the liver's ability to generate glucose production, leading to a fatty liver, hypoglycaemia and clinical signs of twin lamb disease. Overconditioned ewes are particularly at risk of fat mobilization overwhelming the liver leading to hepatic lipidosis.

Early clinical signs include disorientation leading to them appearing isolated from the rest of the flock and not coming up for feed. Over the next 24-48 hours they become progressively depressed, blind, show head pressing/tremoring behaviour before progressing to recumbency and death.

Recommended treatment for ewes showing signs of twin lamb disease involve drenching with propylene glycol, B12, calcium and feeding fresh palatable food and fresh clean water to promote the appetite. Non-steroidal anti-inflammatories are also indicated as there is evidence to suggest that it is a painful condition. Where indicated, we can also treat with steroids (to induce parturition) and intravenous glucose.

Over the past few years, we have used Ewe-go as our twin lamb drench. Using Ewe-go has been an effective treatment. We now have access to a new product that we are recommending to our clients: Selekt Re-ewe-venate. We believe this provides a better prognosis for your ewes for multiple reasons. It provides more glucose precursors (glycerol and propylene glycol) than other products, as well as containing soluble calcium, potassium, B7 and B12. Glycerol provides a much faster correction of hypoglycaemia than propylene glycol alone, as well as reducing fat mobilization. B7 and B12 help promote the ability of rumen flora to produce propionic acid (a key precursor to glucose production). It is also more practical to drench with Selekt Re-ewe-venate as it can be given every 12 hours rather than every 8 hours.

These ewes are also often dehydrated so using Selekt Restore fluids will benefit and help improve their prognosis.

Prevention ultimately provides a better prognosis than treatment so we would also advise a pre-lambing blood screen to assess the nutritional status of your flock and gives you time to taper their nutrition appropriately.



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