

NADIS Sheep Disease Focus - Lameness not caused by Scald or Footrot

TOE ABSCESS (White line abscess; lamellar suppuration)

Toe abscess is a sporadic cause of acute onset, severe lameness, usually involving only one digit. Animals are usually non weight-bearing on the affected limb.

Abscesses are usually present a few mm from the point of the toe at the white line on either wall of the hoof. The affected digit is usually hot and the coronary band is sometimes swollen at the level of the abscess. Sinus tracts discharging pus are occasionally present at the coronary band. The abscesses can be difficult to find, but animals usually flinch when the affected area is squeezed.



TOE ABSCESS IN A BLACKFACE EWE

Outbreaks of toe abscesses are sometimes seen in autumn, associated with wet and muddy conditions. Culture of pus from the abscesses usually yields environmental bacteria. These bacteria gain access to the sensitive laminae through small fissures associated with wet and abrasive conditions underfoot. Shelly toe and overgrowth of the hooves associated with other foot diseases probably also predispose to toe abscess.

Most cases respond rapidly to careful paring to reveal and release the trapped pus. Pus is sometimes released under high pressure. It is then usually necessary to pare away under-run horn to open out the abscess. Excessive paring should be avoided, because it may predispose to infection of the distal interphalangeal joint. It is common practice to administer parenteral antibiotics.

OVERGROWTH AND SEPARATION OF THE HOOF WALL (Shelly toe)

Overgrowth and separation of the superficial hoof wall close to white line at the toe is commonly seen in sheep grazing on lush pasture. The condition is only associated with lameness when soil and faecal material are forced into the crack, placing pressure on the sensitive laminae. Hoof wall separation may predispose to toe abscessation.



OVERGROWTH AND SEPARATION OF THE HOOF WALL

OVINE DIGITAL DERMATITIS (Severe variant footrot)

A virulent, rapidly spreading foot disease similar to digital dermatitis in cattle has recently been described in sheep of all ages. The disease is characterised by a high morbidity rate and severe lameness in one or more limb. Unlike scald and footrot, which are characterised by inflammation of the interdigital space, the initial lesion appears to be ulceration of the skin of the coronary band. In some cases the interdigital space is also involved or the hoof wall is under-run and shed to expose the sensitive laminae. It is not uncommon for the entire hoof wall to be shed, exposing sensitive tissue which bleeds profusely when traumatised. Hair loss and ulceration are sometimes seen on the skin below the fetlock joints, which appears similar to ovine viral ulcerative dermatosis lesions. In some cases proliferative lesions at the coronary band appear similar to orf. However, orf virus has not consistently been identified in scab material from the lesions.



UNDER-RUNNING OF THE HOOF WALL
FROM THE CORONARY BAND



ULCERATION OF THE CORONARY BAND



TYPICAL SKIN LESION ON THE LOWER
LIMB



COMPLETE SHEDDING OF THE HOOF
WALL

While some of the lesions associated with ovine digital dermatitis might indicate a viral aetiology, an association has been made between cases of the disease and the presence of motile spirochaetes. However, motile spirochaetes may also be present on the lower limbs of healthy sheep and their contribution to foot diseases is unclear. It has been suggested that *Dichelobacter nodosus*, which causes ovine footrot, is not involved in the pathogenesis of ovine digital dermatitis.

The response to conventional footrot control measures such as foot trimming and foot-bathing in formalin or zinc sulphate solutions is poor. Lesions heal quickly after topical treatment with aureomycin aerosol sprays, but fresh lesions often develop on other limbs within a few days. There is anecdotal evidence to suggest that regular topical antibiotic treatment or foot-bathing for about 20 minutes in antibiotic solutions is effective for prevention and treatment of ovine digital dermatitis. Alternatively, antibiotic solution can be applied to the limbs of small numbers of sheep in a pen sheep using a pressurised garden weedkiller sprayer. Sheep should be allowed to

stand in a dry area afterwards so that the medication can dry onto the feet. Individual cases may also benefit from systemic antibiotic treatment.

POST DIPPING LAMENESS

Post dipping lameness is caused by *Erysipelothrix rhusiopathiae* and is seen in sheep of all ages. The disease is characterised by cellulitis at the coronary band and interdigital area affecting several animals 2 - 7 days after dipping.

Most cases resolve after a few days, but parenteral penicillin therapy is usually recommended, because in some cases bacteraemic spread results in swelling and painful non-suppurative arthritis in one or more joints about 2 – 3 weeks after dipping. The treatment response in these cases is poor.

The source of infection is faeces-contaminated dip, in which *E. rhusiopathiae* can multiply rapidly. Sheep should be daggged if required before dipping and run over slats or stones before dipping to remove excess soil and faecal material from the feet. Dip-compatible bacteriostats should be added when it is necessary for dip to stand overnight.

STRAWBERRY FOOTROT

Strawberry footrot is a rare cause of low-grade lameness caused by *Dermatophilus congolensis*. Orf virus may occasionally be involved in the pathogenesis of the disease.

The disease only occurs in exceptionally wet years and is characterised by proliferative scab formation above the coronary band at the back of the limbs. Fissures form to expose raw bleeding tissue and result in the characteristic 'strawberry' appearance.

In most cases treatment is not warranted, but topical antibiotic treatment with aureomycin aerosol sprays and foot bathing in zinc sulphate solution could be considered in severe outbreaks.



STRAWBERRY FOOTROT – NOTE EXTREMELY WET WEATHER CONDITIONS

LAMINITIS

Laminitis is a common problem in concentrate fed sheep. Affected animals typically spend long periods in recumbency and stand with all four limbs drawn under the body, while shifting their weight from limb to limb. Most cases recover spontaneously within a few days, but the problem may lead to pregnancy toxemia in late-pregnant ewes.

Laminitis also seen with systemic viral diseases, such as foot-and-mouth and bluetongue.

TOE GRANULOMA

Toe granulomas appear as smooth or strawberry-like growths, up to 3 cm across, associated with the sole or axial hoof wall close to the toe. Granulomas are often associated with injudicious, over-enthusiastic foot paring, but can also occur following toe abscessation or severe long-standing footrot.



TOE GRANULOMA ASSOCIATED WITH A FORMER TOE ABSCESS

Affected sheep are extremely lame and lesions bleed when handled. Toe granulomas do not recover without treatment. The granulomatous tissue needs to be cut back under local anaesthesia and adjacent loose horn pared. Wounds should be bandaged to prevent bleeding. Cautery of the base of the granuloma or repeated application of copper sulphate as an astringent have been recommended by some vets.

INTERDIGITAL FIBROMAS

Fibrous growths are commonly seen in the interdigital space of one or more foot. The prevalence of interdigital fibromas appears to be particularly high in the Suffolk breed. While uncomplicated growths seldom cause lameness, affected feet are prone to interdigital infections in the clefts between the growths and interdigital skin. These can be troublesome in rams at tupping time.



INTERDIGITAL FIBROMA

Removal of interdigital fibromas under local anaesthesia is sometimes advocated, but many subsequently re-grow. Most secondary infected cases respond to topical antibiotic treatment.

OTHER CAUSES OF FOOT LAMENESS

The list of other sporadic causes of foot lameness in sheep includes -

- soil and grass balling between the digits
- interdigital foreign bodies
- thorn injury to the sole (especially in young lambs)
- frost irritation of the interdigital space
- [foot-and-mouth](#)

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