

NADIS Sheep Disease Focus

Joint Ill, Navel Ill and Meningitis in Lambs

There have been several reports of joint ill, navel ill and meningitis, mostly in lambs born during the second half of the lambing period. These diseases are caused by opportunistic bacterial invasion of the tonsils and gut followed by bacterial multiplication in the navel, joints or brain, and are common in colostrum-deprived lambs born into an unhygienic environment.

Joint ill

Joint ill is seen in lambs as young as 5 days old and is characterised by sudden onset lameness with pain, heat and fluctuating swelling of one or more limb joint, leading to poor suckling behaviour and ill-thrift. At post mortem examination, incised joints contain pus, synovial membranes are thickened and congested and articular surfaces eroded.

During the past few years, the bacterium *Streptococcus dysgalactiae* has been identified as an important cause of joint ill in lowland flocks. Infection may be acquired from the dam's teats or milk and large numbers of animals can be affected, despite good hygiene and colostrum management. In many flocks, the disease recurs in subsequent years.

Treatment with high doses of antibiotics can be successful when cases are recognised early, but treatment of advanced cases seldom successful and euthanasia is frequently indicated.

Navel ill

Lambs with navel ill may adopt a hunched-back stance, with poor body condition and hollow flanks due poor suckling behaviour. The navel is moist, swollen and painful and may exude purulent material. Swelling may continue internally to the bladder or to the liver, detected by pain on palpation. Concurrent signs of systemic infection may also be noted. The antibiotic and anti-inflammatory treatment response is dependent on the extent and duration of infection.

Meningitis

Bacterial meningitis most commonly affects lambs 2 - 4 weeks old. The clinical signs are isolation from the dam and failure to suckle, with congestion of the blood vessels around the eyes, lack of a suck reflex, weakness, altered gait and depression.

The treatment response to corticosteroids and high doses of antibiotics is poor.

Your vet can advise you about the treatment of joint ill, navel ill and meningitis in your flock.

Management practices to prevent meningitis, joint ill and navel ill

Correct maternal nutrition, control of abortion and the prevention of dystocia are essential to ensure optimal physiological adaptation to extra-uterine life. To further minimise the prevalence of infectious diseases -

- ✓ employ sufficient skilled assistants to monitor all neonatal lambs, to detect and investigate disease and instigate early treatment
- ✓ install good access to lambing pens and good lighting
- ✓ aim for a compact lambing period to maximise the use of labour and minimise the potential for build-up of disease in the lambing environment. This strategy depends on correct feeding of ewes and rams pre-mating and a good sound ram:ewe ratio
- ✓ maintain strict hygiene of lambing accommodation. In the case of housed ewes, it is important that both the lambing courts and individual pens are kept clean, to minimise contamination of ewes' fleeces and udders. Buildings should be well ventilated and drained. Individual pens should be well-lit, easily accessible and cleaned between occupants. Hoggs and long-tailed ewes should be dagged prior to entering lambing accommodation.
- ✓ the stocking rate of housed lambing accommodation should not exceed one ewe per 1.1 m² and the area of individual pens should be at least 3.0 m². Provision of one individual pen per 8 housed ewes is recommended
- ✓ dip all lambs' navels in strong iodine solution at birth (and again four hours later). Dipping is preferable to spraying with oxytetracycline
- ✓ ensure that all lambs receive adequate colostrum within the first 4 hours of life. If in doubt, administer 50 ml/kg of colostrum or colostrum substitute by stomach tube
- ✓ hot water and a full clean lambing kit should be readily available
- ✓ check all penned lambs regularly for signs of brightness and full stomachs. Navels should be brittle by 36 hours-old

Alternatives to fresh colostrum

Ewes frequently have more colostrum than is immediately required by their own lambs. Excess **ewe colostrum** can be milked, batched and stored or frozen in suitable small quantities. Care is needed not to overheat frozen colostrum during the thawing process. Cow colostrum, procured in advance of the lambing season and frozen in small containers is a useful alternative to ewe colostrum. **Cow colostrum** contains approximately 20% less energy per ml than ewe colostrum, hence correspondingly larger volumes are required. It contains useful antibodies, however may not protect against specific pathogens in an individual flock. Clostridial antigens can be boosted by prior immunisation of the cow with an ovine clostridial vaccine. Rarely, cow colostrum contains antibodies against antigens on the lamb's red blood cells, causing severe and usually fatal anaemia at 10 - 20 days-old. Laboratory tests are available to screen for anaemia-producing antibodies in cow colostrum. Alternatively, pooling of colostrum from several cows will dilute the effect of any anti-sheep red blood cell antibodies present. Most proprietary **powdered colostrum** substitutes are derived from cow colostrum, tested for anaemia-producing antibodies. Some are derived from ewe colostrum and, therefore superior. Powdered colostrum is convenient, although cost precludes its widespread use.

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