

# MOOSLETTER

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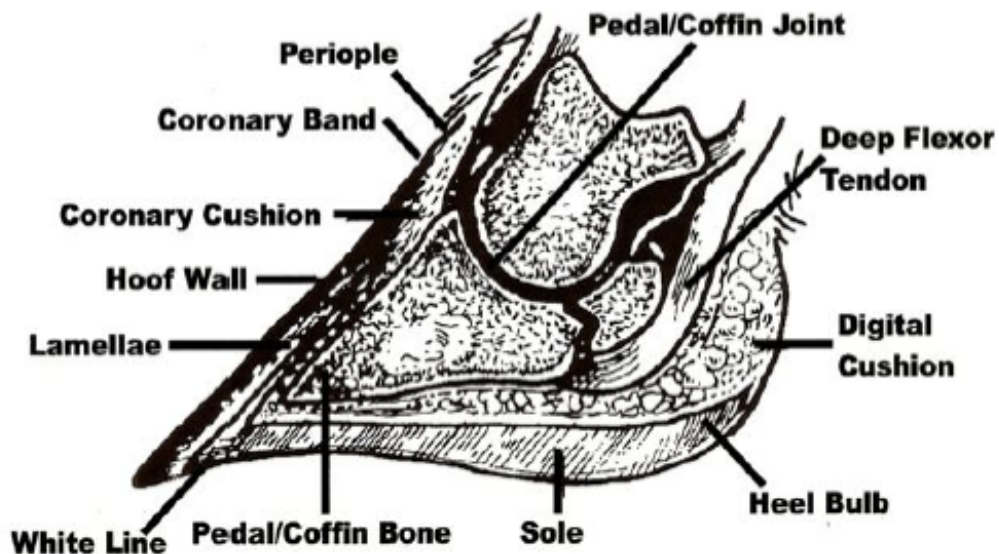
## Laminitis

Lameness remains a costly problem in the dairy industry. And the blame for much lameness can be sheeted home to Laminitis.

### What is Laminitis?

Laminitis is inflammation of the Lamina or Lamellae (the tissues between the hoof wall and the pedal bone) within the claw. It results in a reduction of the quantity and quality of hoof material in the hoof. The sole becomes yellowish and soft. This is drastic because the hoof material is the weight bearing contact between cow and ground.

Figure 1. Section through the Bovine foot



Most Laminitis is subclinical, and is rarely recognized when it is happening – there is no lameness at this stage. But in subsequent weeks and months it is commonly associated with and/or leads to the development of foot abscesses, sole ulcers, sole haemorrhages, White Line disease and growth abnormalities of the claws. So when lame cows are examined, we usually don't recognize the problems in the foot being directly related to Laminitis. But in fact the problems may be the result of soft or abnormal hoof tissue caused by Laminitis.

Figure 2 Haemorrhages (bleeding) and yellowing sole (yellowing difficult to see on some computer screens)

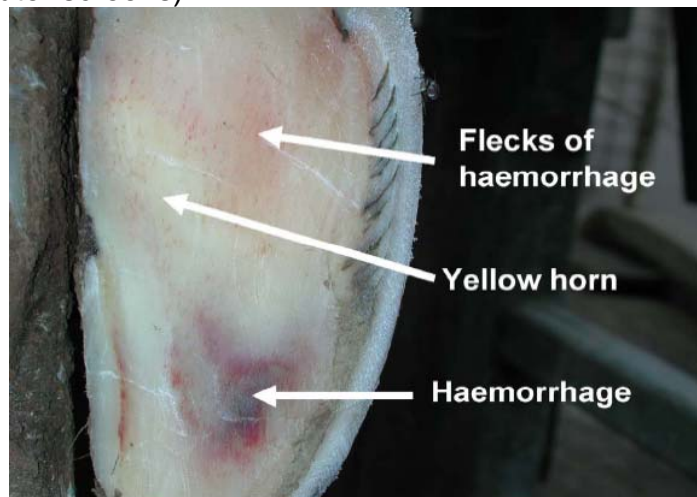


Figure 3 Haemorrhages and White line disease (foot abscess / underrun sole)



Occasionally acute Laminitis may be seen, usually associated with grain engorgement. In this form of Laminitis the cow will be sore on all feet, and may be seen to stand with her back feet tucked forward under her belly. Acute Laminitis (or Founder) is common in horses, especially fat ponies.

Chronic Laminitis is the culmination of protracted or successive bouts of subclinical or acute Laminitis. Chronic Laminitis is recognized by horizontal ripples or ridges on the wall of the hoof, curling up of the toe and a flat and wide sole. Severe cases are difficult and time consuming to treat effectively. The ripples or ridges are an indication that laminitis has occurred a few weeks previously.

Figure 4 Chronic Laminitis



Figure 5 Severe Chronic Laminitis



### **What causes Laminitis and can it be prevented?**

Most Laminitis is the result of the sudden introduction of rapidly fermentable feed (grain, lush pasture and inadequate fibre), causing rumen acidosis. The body, through the rumen, becomes acidic (known as acidosis) and there is damage to small blood vessels in sensitive tissues like the Lamina of the hoof wall. Acidosis

is common when cows change rations, for example from a transition diet to a milking ration, or when there is a change of ration during lactation. This highlights the need to be careful and take good advice about ration formulation, and even consider using additives such as Eskalin.

Other causes of Laminitis are sometimes less preventable, and include diseases such as acetonaemia, left stomach displacement (LDA) and fat cow syndrome.

Laminitis is not the only cause of foot problems and lameness in dairy cows. Issues such as track maintenance, yard and paddock conditions, weather and distance walked are obviously important in lameness. However laminitis is an important background factor in a good proportion of lameness. Significantly, most laminitis can be prevented through appropriate dietary management.