

PUS IN THE FOOT

‘Common things are common’ my old Professor said and he was right. Pus is the most common form of foot lameness but it is not a simple problem and the cause varies along with the clinical presentation. It can simulate a mild lameness or look like a broken leg! I vividly remember vaccinating a pony and watching its stable mate canter across the field and suddenly stop with a hind limb totally non weight bearing. Upon examination I released pus from a white line abscess much to the relief of owner and vet! All Farriers and Vets have been surprised, frustrated and humbled by this common affliction. Sometimes a scrape of the hoof knife releases pus and sometimes I cut a hole over 2cm in depth before finding some.

Pus causes pain by the fluid accumulation pressurising the neighbouring structures (an abscess). A very small amount of fluid can cause intense pressure equally as well as a large amount. When released it can spurt from the wound; reaching a metre or more on some occasions, yet even when not apparently under such pressure it can cause an individual intense discomfort.

Pus is actually an accumulation of white blood cells which are part of the bodies defence system. These white blood cells engulf foreign material and damaged tissues including bacteria and transport them away from the site. If the infection is too great these cells are killed and help form the pus. An abscess forms and the body walls it off with fibrous tissue to isolate it. Then as the pressure increases and finds the path of least resistance - it bursts out of the body. Because the hoof wall is so strong the abscess has to force its way beneath the hoof wall to break out at the coronary band or underneath the sole to break out at the heels. This process can take many days, during which the pain may be constant or fluctuate in severity.

How does the process start?

Poor foot conformation – low heels, thin flat soles along with inadequate or intermittent trimming will increase the risks but all feet are susceptible to abscessation.

The commonest cause is when bacteria or fungi invade the white line of the sole and work their way upwards towards the sensitive lamina. The white line is the bond between the hoof wall and the sole and is the weakest area. Hoof wall cracks at the ground surface are easy access points, so regular trimming is essential even in foals. The horse’s natural environment is a dry stony plain not a wet muddy field or damp stable! Infection can occur in both shod and unshod hooves because the bacteria or fungi slowly eat through the white line tissues. They need little or no oxygen to live so the hoof is an ideal home. Where hoof wall is poor and crumbles or there is ‘seedy toe’ or your farrier complains that the nails don’t hold well then infection or inadequate hoof nutrition is likely to be the cause. Use of hoof disinfectants and or specialist hoof nutrients can make a dramatic improvement but remember that it takes 9-12 months to grow a new hoof capsule so you must continue treating for at least this length of time.

Good stable management is essential as waterlogged hoof is much weaker than dry hoof. If the frog is ragged or smells then the conditions are too moist. Regular farriery is a must! Trimming / shoeing intervals vary with the individual horse - so be guided by your farrier.

This year has seen more cases of white line abscesses due to the wet conditions softening the hoof.

Hoof penetrations either from a sharp stone or nail etc can directly infect sensitive hoof tissues leading to abscess formation. These can be life threatening if synovial structures (joints and tendon sheaths) or tendons are involved. The worst site is around the middle third of the frog as under this area is the insertion of the deep flexor tendon and the navicular bursa / coffin joint.

Haematomas (Blood Blisters) or deep bruising can become infected leading to an abscess. Hoof tumours (Keratoma) can mimic an abscess due to the pressure they generate.

Treatments.

The basis of treating abscesses is to provide drainage. Hence in the hoof your farrier or vet will cut out the sole/ white line area until pus drains. The hole has to be large enough to allow drainage to continue. If the sole is under run by chronic abscessation then it is commonly removed allowing a new one to form. If under run sole is left in situ, grit and dirt can lodge underneath it and cause another infection to occur. Hot wet poultices will draw infection out and when no more is evident on the poultice a dry one/ clean dressing stops further contamination of the wound. At this time the horse should no longer be lame and the shoe could be replaced. Replacing the shoe or removing the dressing too quickly can allow pus to reform as the area had not healed enough. Poultice boots can reduce the amount of dressing materials required and hence pay for themselves quickly.

Tetanus coverage must be addressed either with an up to date vaccination programme or with Tetanus Antitoxin which gives immediate cover for 2-3 weeks. Antibiotics can be helpful but are not needed in all cases. Pain relief i.e. 'Bute' is also a good idea.

Both Bute and antibiotics will reduce the inflammatory process and are best not used until pus is draining.