

Hoof Abscesses



Painful for horses, frustrating for horse owners

with Andrew Bowe, Master Farrier and Equine Podiotherapist

Hoof abscesses are possibly the most common cause of acute lameness, especially in the wetter months.

What is a hoof abscess?

A hoof abscess is the body of pus that forms when invading bacteria breach the vascular 'live' tissue within a hoof and as the body's defences muster, a local infection develops. Pain arises from the inward pressure generated by the gathering volume of pus and can range from mild to 'broken leg' lame.

An abscess migrates along a path of least resistance, most commonly upwards along the laminar line where they are able to erupt at the structurally weak coronet band, thus expelling the detritus of infection.

Alternatively, abscesses may sometimes travel beneath the sole and erupt at the heel bulbs but they can occasionally even be resorbed by the body without erupting.

The greater the pressure, the greater the pain, but the quicker the resolution via an eruption. Often the pain is greatest just prior to the expulsion of pus and subsides rapidly as the internal pressure dissipates after eruption.

Where do hoof abscesses come from?

Opportunistic bacteria are everywhere in a horse's environment and are simply waiting for an opportunity to break into a hoof. Invasion comes most commonly through the laminar line which is the weakest part of the equine hoof, either through the open gate of a gross breakdown such as a seedy toe cavity, laminar separation or a cracked bar, but bacteria can also 'wick' into an otherwise well-connected hoof that is weakened and swollen by excess moisture. Bacteria

can also be introduced via a sharp object penetrating the sole or by a horseshoe nail that accidentally passes too close to the corium.

Hoof abscesses may also arise from sole bruises or acute laminitic episodes; scenarios which lead to the formation of necrotic tissue that the body needs to expel.

Treatment

Treatment needs to focus on releasing and draining the body of pus.

Firstly though, the exact position of an abscess needs to be located. This requires a clean and dry hoof (all hoof, no dirt) which can be done effectively with a wire brush and soapy water with a good towelling to dry it. Better still, nothing cleans the surface of a hoof like a good trim, which will show the presence of any black holes, damp spots or other obvious entry points.

Hoof testers are valuable at zeroing in on the site of pain if there is no obvious hoof breakage or if there appears to be more than one possible point of entry.

When the likely site of bacterial invasion is located, a small searching knife can then be used to excavate the external layers of hoof to hopefully expose the abscess, being very careful not to cut into vascular tissue. An abscess will usually appear as a tiny glistening of moisture that quickly becomes a globule when opened further, then finally a trickle of pus (red, brown, yellow or black depending on its age). However, you will notice that an experienced operator will be careful not to put their face too close to the work bench because abscesses can spurt surprisingly high.

It is vital to keep the cavity clean as there is always the risk of a secondary infection. For this reason, it is best to keep the recovering patient in a dry area if at all possible.

If you don't have the facilities to keep an abscessed hoof out of mud, a therapeutic hoof boot is a practical solution. When correctly fitted and used in conjunction with nappies, boots form a particularly effective barrier.



To treat or not to treat?

Sometimes the best treatment may be no treatment at all.

If an abscess is left untreated, it will eventually follow the path of least resistance. For this reason, some people suggest that abscesses should not be routinely treated. Maybe if an abscess is localised and the point of entry has been exposed and it is clearly travelling upwards towards the coronet band, it should be left to run its course.

The flipside to this argument is that, apart from the often excruciating pain of an abscess which should be dealt with for humane reasons if possible, there is a bacterial infection running rampant inside a hoof and complications can arise if it is not halted. If in doubt, cut it out.

All abscesses arising from puncture wounds should be considered potentially serious (it is unknown what structures may be infected) and require immediate veterinary intervention.



Things to NOT do

✗ **Don't delay treatment.** The aim is to release an abscess before it gets too deep, so if you suspect an abscess, get onto your hoof therapist or vet immediately.

✗ **Don't half do the treatment.** Don't just rely on a poultice that is applied to the outside of the hoof or try to control an abscess with anti-inflammatories without actively draining the pool of pus. Granted, such medicating will remove some pressure and therefore reduce the lameness, but it will likely just prolong the journey of an abscess through a hoof capsule.

✗ **It is important that the attending vet or hoof therapist doesn't cut too far when looking for a deep abscess.** Cutting beyond the epidermis and violating sensitive structures can be significantly more harmful than the original abscess. In this regard, an irony worth considering is that the deeper an abscess is seated, the closer it already is to exiting the capsule. Again, deep infections should not necessarily be chased down.

✗ **Don't make a drainage hole any larger than required.** It is a balancing act; the hole needs only to just be big enough to facilitate drainage, but not too big and it is far better to drain an infection laterally rather than through the sole. A hoof will need to recover from any hole that gets opened up and exposes soft inner tissue.

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Prevention

If we think about how most bacteria enter a hoof, then the aim of abscess prevention is to grow the tightest possible laminar connection and prevent any splitting. Regular trimming with the outer walls rolled off and the quarters contoured to the sole is the secret.

Of course, nothing works as well as horse owners maintenance trimming their horses' hooves themselves — a quick touch up trim with a rasp — every couple of weeks.

It is important to maintain the bars which are simply an extension of the hoof wall, and any cracks appearing at the end of the bars need to be trimmed out.

Traditional 'flat' trimming inevitably creates mechanical lever forces that lead to areas of separation along the laminar line, even if hooves are trimmed regularly. Equine hooves are not meant to be flat.

Worse still, neglected hooves that are simply waiting too long between visits from a pair of nippers are more likely to develop cracks that will grant bacteria open access into a hoof. Neglecting horses' hooves is the oldest form of false economy.

If there are any seedy toe cavities, be sure to treat them thoroughly and grow them out. Don't ignore seedy toe.



Even in the worst environments, the best hooves belong to those horses that move the most. Constant movement has the effect of stimulating hoof growth and consolidating the structural integrity of hoof capsules. Do whatever you can to maximise your horse's movement.

Horses have tough hooves and rarely get abscesses in dry environments. On the other hand, constant damp weakens a hoof capsule and the weakness is exacerbated by high humidity. If you live in a wet environment, consider making a dry night yard. A bed of loose pea-sized river pebbles four inches deep is ideal. 🐾