



Presented by

ROSSDALES EQUINE PRACTICE

Beaufort Cottage Stables
High Street, Newmarket
Suffolk CB8 8JS
Tel: 01638 663150
email: practice@rossdales.com

www.rossdales.com



NO FOOT NO HORSE

By Lucy Grieve MA VetMB MRCVS

The foot is an important and complex part of the horse's anatomy. There is rarely a quick-fix for foot problems, so sometimes you have to be prepared for long-term strategies in order to achieve the end goal of healthy, sound feet.

Not all foot issues are obviously painful: some conditions are more chronic in nature and damage may be long term and difficult to treat. Working as a team with your farrier to monitor for changes and react appropriately is vital in maintaining a sound horse. Your vet is usually called when something has already gone wrong, so continuing to work as a team is essential.

Some commonly encountered foot problems are covered here.

Poor quality horn: genes or environment?

Horses hooves usually cope best on well-drained, sandy soil, and suffer most on wet, heavy clay. The horn is weakened by excessive moisture, which allows bacteria and fungi to penetrate inside and break it down, causing further structural weakening and a resultant vicious circle. Weak, broken hooves lose their shape easily as they grow, often splaying, splitting and becoming flat in



Regular shoeing and working as a team with your farrier is vital to maintaining a sound horse.

appearance.

The genetics/breed of the horse is also influential. Whilst you can't change genes, you can consider hoof quality when choosing a horse, and take into account where you will be keeping it.

Improve the quality of horn:

- ✓ **Keep the feet clean and dry as possible** (choose your field and bedding carefully).
- ✓ **Keep stables well mucked out** - faeces and urine reduce horn quality.
- ✓ **Clean mud from the feet** and allow them to dry if your horse comes in to be stabled.
- ✓ **Disinfect feet with an appropriate product** to kill off the microbes that cause damage. 'Rossdales Hoof Spray' is 1 part iodine solution: 2 parts surgical spirit. Used

daily, this gives excellent results very quickly and is economical.

- ✓ **Feed a Biotin/hoof supplement with sufficient levels of good quality biotin**, plus other contributing vitamins and minerals.

Abscesses

Bacteria can enter the hoof through an existing weakness (crack) or from a penetration (such as a nail or sharp stone) and rapidly create an abscess. Abscesses are most commonly found under the sole or along the white line. They build up pressure in the hoof and can be unbearably painful, sometimes non-weight bearing. If left, the abscess can breach its walls and spread into other tissues. Some abscesses track up the inside of the hoof wall and burst out the coronet band. This risks

damaging the hoof wall growth for a long time and can also result in the infection extending rapidly through the soft tissues of the lower leg.

What can I do?

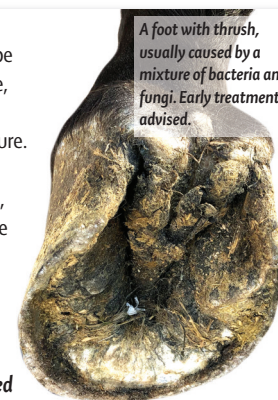
- ✓ **Contact your vet immediately.** Farriers can deal with superficial abscesses if they do not involve the sensitive tissues. However, deeper exploration legally can only be performed by a vet. These cases often need prescribed medication, so work together as an 'owner-farrier-vet team' where possible.
- ✓ **The abscess needs locating, draining and flushing as soon as possible** to avoid it spreading to vital structures where infection could be life-threatening, such as the bones, joints, tendons or ligaments.
- ✓ **Flush the abscess with diluted hydrogen peroxide** (3% diluted 50:50 with water) to kill off any infection.
- ✓ **The foot should be 'poulticed' daily** until the resulting discharge is no longer indicative of infection.
- ✓ **Hot-tubbing with Epsom salts**

Thrush

Thrush is often used to describe superficial infection of the sole, sulci and frog cleft which is characteristically smelly in nature. There is usually a mixture of bacterial and fungal infections, and often the more chronic the infection, the harder it is to treat.

Treating thrush:

- ✓ **Ask your farrier or vet to pare away dead, disintegrated horn and frog material.**
- ✓ **Spray the freshly exposed hoof with a disinfectant and hardening agent**, such as the iodine-surgical spirit mix or a formaldehyde-based product (e.g. Keratex or Thrush Buster).
- ✓ **Keep feet dry and clean**, repeating the above topical treatment daily and ask your farrier to attend regularly until the infection is under control.



A foot with thrush, usually caused by a mixture of bacteria and fungi. Early treatment is advised.

is useful for cleaning and 'drawing' the infection. Dry bandage to protect the foot in between sessions.

- ✓ **Iodine dressings are good for keeping sensitive areas clean** and disinfected until the area keratinises over with healthy hoof.
- ✓ **Use poultice boots or appropriate dressings** to keep the foot dry.

White Line Disease and Seedy Toe

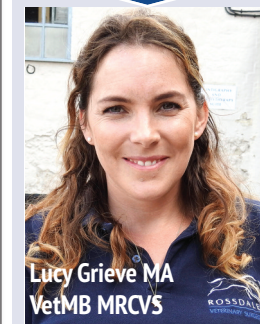
These are similar issues, but seedy toe seems to be restricted to the toe area rather than elsewhere along the white line. It is commonly caused by bacteria and fungi creating a subclinical (no obvious signs) infection which tracks up the white line. This usually results from a structural failure and weakening of the white line either through nutritional and environmental factors, or quite often it can be through mechanical stresses being placed on the toe. Long-toe conformation, especially where low heels are also an issue, will create excessive leverage at the toe when the horse 'breaks-over' the foot when moving. This physically pulls the hoof wall away from the underlying



An abscess being flushed with diluted hydrogen peroxide after being drained.

Continued overleaf...

VET PROFILE



Lucy Grieve is an ambulatory assistant at Rosssdales Equine Practice in Newmarket. After qualifying from Cambridge University in 2007, Lucy completed a diagnostic imaging internship at Rosssdales Equine Diagnostic Centre. She then spent seven years as an in-house vet for a large flat racing facility in Newmarket. She returned to Rosssdales in 2015, working mainly with pleasure horses and Thoroughbred horses in training. Her main areas of interest are lameness, diagnostic imaging and poor performance.

Lucy has been a member of the British Equine Veterinary Association (BEVA) Council since 2012, serving as chair of the Ethics and Welfare Committee and sitting on the Equestrian Sports Committee, liaising with regulatory bodies such as the BHA and FEI. She is also co-opted onto the Horserace Betting Levy Board (HBLB) Thoroughbred Research Consultation Group, and was recently invited to sit on the Federation of European Equine Veterinary Associations Welfare Group.

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structures, which damages the white line and often the laminar structures too. Foot balance and shape must be addressed immediately otherwise all topical treatment of infection will be futile. If disease tracks high up the wall it may be necessary to remove large portions of the wall. This carries a risk of complications, so any sign of a problem must be addressed promptly.

Laminitis

Laminitis is inflammation of the laminar structures which join the hoof wall/capsule to the underlying soft tissues and, importantly, to the pedal bone. There is no room for the tissue to swell so the horse becomes very painful and lame. The inflammation can result in compression of the laminae, which then causes the tissues to die. When this happens irreversible changes take place that can result in the horse being forever prone to further episodes of laminitis. If the condition is identified early and any underlying cause is addressed, (e.g. Cushings, Equine Metabolic Syndrome, poor foot balance/long toes, concussion of the feet), the horse can recover and permanent damage can be avoided.

If you suspect laminitis:

- ✓ **Call your vet immediately.** They will undertake investigations for a causative factor, administer pain relief and anti-inflammatory medication, and possibly take x-rays of the feet.
- ✓ **Stable your horse on a deep,**

soft bedding.

- ✓ **Do not exercise your horse.**
- ✓ **Your vet may instruct you to commence cold therapy** in the form of cold hosing, ice-boots, or standing the horse's feet in cold/ice water.
- ✓ **You, your vet and farrier must work closely as a team** to determine how the feet should be trimmed and if any shoes or pads should be used to provide support and comfort.

Poor foot balance

Foot balance is discussed in terms of dorso-palmar/plantar foot balance (from front to back) as well as medio-lateral foot balance (side to side). If a foot is boxy or clubbed, or conversely long in the toe with a low heel, these are examples of poor dorso-palmar foot balance, which will put abnormal strain on the lamina, coffin joint, navicular apparatus and the tendons and ligaments that run down the back of the leg. If the foot has a taller outside wall and a lower, collapsed inside wall, or vice-versa, this is described as poor medio-lateral foot balance. This creates issues with the joints of the foot and pastern (or higher up the leg if severe), and with the ligaments that hold those joints together. Unfortunately most horses with unbalanced feet have a combination of the above and so the resulting causes of lameness can be multiple and complex. When identified early, these horses often respond well to remedial or corrective farriery, sometimes with the aid of foot x-rays to assist the farrier. Horses which are left too long with



MRI is particularly useful for imaging the structures inside the horse's foot.



Horses with poor foot balance can respond well to remedial or corrective farriery.

unbalanced feet can suffer from grossly visible hoof damage, such as quarter cracks, but can also develop chronic and sometimes career-ending foot lameness. These cases can involve multiple structures and may only be diagnosed fully with the help of advanced imaging modalities like magnetic resonance imaging (MRI).

Bones, joints, tendons and ligaments

The horse's foot is not just the hoof. The intricate anatomy that exists inside that fairly thin

capsule of horn is very delicate and the possible issues are too numerous to discuss in this article. Everything you do to protect and maintain the health of the external hoof will aid the health of the foot's internal structures. The coffin joint, navicular bone, deep digital flexor tendon and all the other tiny parts of the foot that keep our horses sound will function better if we spend some time and effort in keeping the feet healthy, well-shaped and disease-free.