Laminitis – A year round problem

By James Evans BVetMed, BAEDT, MRCVS

Laminitis is an extremely painful inflammatory condition of the feet in which there is weakening of the sensitive tissues (laminae) that bond the hoof wall to the pedal bone within the horse's hoof. It can affect any horse, pony or donkey of any age or sex, at any time of the year. Laminitis results in weakening of the supporting lamina within the hoof, leading to rotation and/or sinking of the pedal bone. In severe cases, it can lead to penetration of the pedal bone through the sole of the foot.

WHAT CAUSES LAMINITIS?

There are many different reasons for the onset of laminitis and these can be broadly categorised as follows:

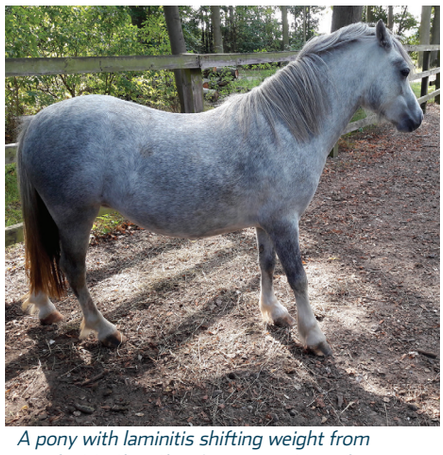
1. Hormonal: Recent research has shown that Equine Cushing's disease (Pars Pituitary Intermedia Dysfunction (PPID)), and Equine Metabolic Syndrome (EMS) cause most cases of laminitis in the UK and around the world.
2. Carbohydrates: Too much sugar and starch (e.g. spring grass, excessive concentrates).
3. Toxic: infections and severe inflammatory issues, such as a retained placenta after foaling, endotoxaemia, some types of colic or severe pneumonia can induce a bout of laminitis;
4. Mechanical: Too much length of toe, over-zealous foot trimming or improper shoeing, fast or prolonged work on hard surfaces; supporting limb laminitis due to foot abscess, fracture, joint infection, or soft tissue damage in the opposite limb.
5. Stress: Any stress, such as overworking unfit horses, a dramatic change in environment and/or frequent travelling, particularly for overweight animals, can trigger laminitis.

A recent study by the Animal Health Trust, in collaboration with the Royal Veterinary College and Rossdales Equine Hospital, funded by World Horse Welfare, showed that:

- laminitis was more than twice as likely to develop in horses/ponies that had recently gained weight; obesity is a risk factor for laminitis.
- horses/ponies that had a history of laminitis were more at risk at developing the disease again;
- horses/ponies with lengthy recovery periods after the previous bout of laminitis were more at risk;
- horses/ponies who were lame or foot-sore after routine shoeing were at increased risk
- there was a higher incidence of laminitis in horses/ponies who had longer than 8 week cycles between routine trimming/shoeing;
- native breeds to the UK and Ireland showed an increased risk of laminitis.

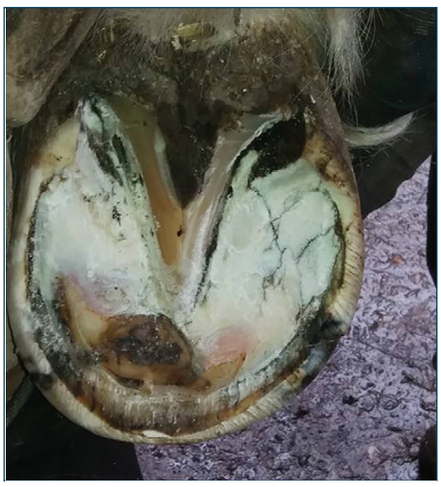
SIGNS OF LAMINITIS

Laminitis usually affects both front feet but can sometimes affect one foot, and occasionally hind



A pony with laminitis shifting weight from one foot to the other. Image courtesy of Dr D Pollard, AHT

feet. In most instances the affected animal will shift its weight from one limb to another, will be reluctant to move, may lie down and there is often excessive heat in the hooves with a strong 'digital pulse' felt at the back of the fetlock (the palmar or plantar digital arteries). Ask your vet to demonstrate how to feel for pulses if you are unsure. Lameness will be exaggerated when turning on a hard surface. In cases of chronic laminitis, there will be changes to the hoof. Signs include horizontal ridges around the hoof, which are wider at the heels, and an overly flat or convex sole. An abscess can present similar clinical signs to laminitis, such as lameness, excessive heat in the foot and a bounding digital pulse, but usually only affects a single foot. However, recurrent abscesses are more likely to occur in feet compromised by chronic laminitis. In milder cases, there may be only a slight change in the animal's gait, with the horse moving in a 'pottery', short-striding or 'stiff' fashion. These animals will go on to deteriorate further, unless they are rested and treated promptly.

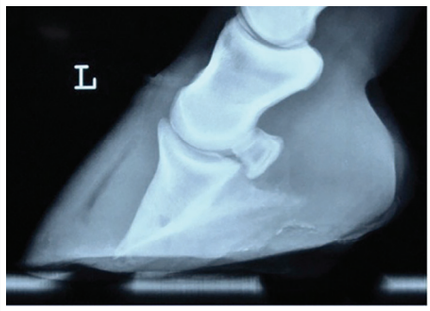


Recurrent abscesses are more likely to occur in feet compromised by chronic laminitis. Image courtesy of Dr D Pollard, AHT

DIAGNOSIS

Diagnosis can frequently be made by clinical signs alone. X-rays are often required to determine whether there has been any rotation or dropping of the pedal bone. It is essential to involve your farrier in discussions with your vet, working as a team, and sharing the X-rays to help determine future trimming and/or shoeing plans for your horse.

When trying to evaluate whether there is concurrent hormonal disease, blood testing for PPID or EMS may need to be delayed until the horse/pony is comfortable again, as severe pain and inflammation during an acute laminitic episode could cause false positives to be seen on blood tests. For this reason it is often necessary to re-test bloods once the laminitic episode has resolved.



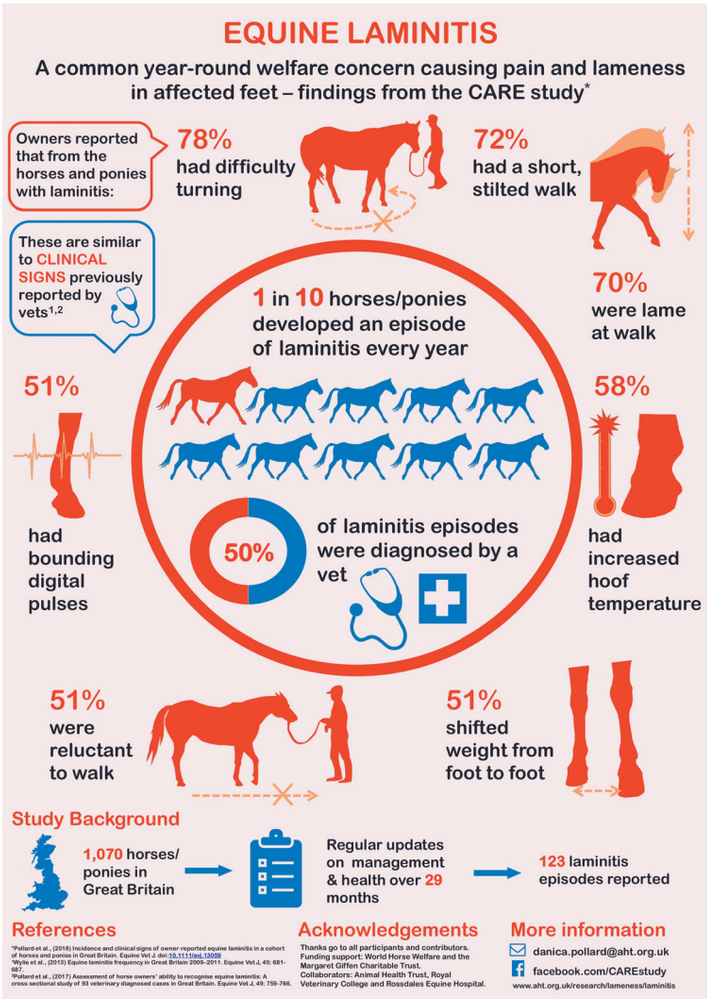
An x-ray showing a horse with a rotated pedal bone

TREATMENT

Laminitis is an emergency: your veterinary surgeon should be contacted as soon as a case of laminitis is suspected. Pain relief is a key part of treatment and usually involves the use of non-steroidal anti-inflammatories (NSAIDs) such as phenylbutazone (bute) or flunixin. A recent study also described paracetamol as a useful short-term adjunctive analgesic when treating laminitis alongside NSAIDs. Acepromazine (Sedalin)is also sometimes prescribed to reduce the blood pressure in the laminar vessels.

The horse should be stabled immediately and foot support is a vital part of the treatment to limit movement of the pedal bone and to reduce pain. A deep bed that extends all the way to the door should be provided to relieve pressure on the feet. Twice daily monitoring of the feet and digital pulses is essential.

Discuss with your farrier therapeutic trimming and/or shoeing to relieve pressure on the toe and to prevent further damage to the feet. The use of frog supports, such as Lilypads or TLC Frog Supports, or frog and sole combined supports, such as dental impression material or styrofoam pads, may be helpful. Imprint shoes are also



Infographic from CARE Study - courtesy of Dr D Pollard, AHT

Consistent weight and body condition recording is important to identify any weight gain before it negatively impacts the health of your horse.

commonly used by farriers for laminitic cases. These are based on a heart-bar design and described as nail-less shoes which mould perfectly with the individual shape and contours of a horse's hoof, providing maximum support.

Box rest along with dietary changes are very important to aid recovery. Grass should be avoided and instead low-nutritional hay should be fed in small amounts several times a day to provide the required roughage. Hay should be soaked for 4 hours out of sunlight to remove as much of the soluble sugars as possible, without risking growth of bacteria and fungus which increase if you soak for longer or in sunlight. Hard feed should be limited to a low-calorie balancer only. This ensures the essential vitamins and minerals are being provided without any excessive carbohydrates. There are other 'laminitis-friendly' feeds available, but seek advice from a vet or qualified nutritionist.

If the laminitis is the result of an underlying condition, such as an endocrine disorder, that disease should be treated accordingly, as advised by your vet.

If there is damage to the hoof caused by an abscess, this must be drained and treated with topical dressings, again as advised by your vet.

CONCLUSION

If you suspect a case of laminitis, contact your vet immediately. With early diagnosis, appropriate management and specialist farriery, horses can make a good recovery. However, if hoof damage occurs, this can be irreversible and lead to ongoing problems. Previously affected horses must be monitored closely and managed vigilantly to prevent recurrence of the disease.

The results of the AHT study emphasise the importance of consistent weight and body condition recording, so that undesirable weight gain can be recognised before it negatively impacts health. Owners need to review their animal's current diet, exercise and health management routines as soon as undesirable weight gain is detected and take action.

About The Author:
James Evans BVetMed, BAEDT, MRCVS

James joined Rossdales Hertfordshire as an ambulatory vet in 2017. He graduated from the Royal Veterinary College in 2011, where he then became part of the Equine Referral Hospital team as one of the Junior Clinical Training Scholars.

He subsequently worked in a number of equine and mixed practices in the Home Counties, working with a wide variety of horses and ponies across all disciplines.

Although James has experience in all aspects of equine veterinary work, he has a particular interest in equine dentistry and orthopaedics.

He is a qualified dental technician, having gained membership of the British Association of Equine Dental Technicians (BAEDT) by examination in 2019. He is also an FEI Permitted Treating Veterinarian.

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