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Laminitis

Laminitis is one of the most painful and crippling diseases of the horse. It describes the breakdown of the bond between the hoof capsule and the pedal bone in the horse's hoof. The bond is formed by laminae shown as parallel lines in the diagrams below.



Normal relationship between pedal bone and hoof wall



Rotation of pedal bone relative to hoof wall due to damage to the laminae.



Sinking of pedal bone within the hoof capsule

• Causes of Laminitis

There are however many factors that can cause or contribute to laminitis, nearly all of them are not linked directly to the feet.

Until recent years it was thought laminitis was mainly seen in ponies eating excess lush Spring grass, but we are finding there are two conditions that nearly all horses with laminitis have one or both of:

1. **Equine Metabolic Syndrome:** horses that are overweight have a much higher risk of developing laminitis. This risk increases with the time the horse is overweight – and is known as Equine Metabolic Syndrome (EMS). EMS is in some ways similar to Type II human Diabetes. (see EMS info sheet for more).

2. **Cushings:** Older horses often develop Cushings – a disease caused by an increase in the size part of the Pituitary Gland. Cushings is common in horses in their teens or older, and affects the horse in many ways – . One of the facts we know now are that horses with Cushings are around 5 times more likely to develop laminitis, so controlling Cushings can help control laminitis. (See our Cushings information sheet for more details)

There can be other factors that can lead to laminitis:

- Overfeeding – excess grain or lush pasture,
- Sudden reduction in work load,
- Severe Illness,
- Retained afterbirth after foaling,
- Lack of proper footcare,
- Severe Trauma,
- Mechanical causes e.g. very lame on opposite foot,
- Drugs – high or prolonged use of steroids,
- Stress – e.g. transport

But it should be noted less than 5% of the horses do not have one of the first two conditions.

• Signs

Signs of laminitis can vary from:

- subtle lameness in one foot
- a stiff gait and placing the heel of the hoof on the floor before the toe
- refusing to pick up feet
- laying down a lot
- leaning back onto the hindlegs with the forelimbs stretched out in front
- difficulty turning

There may be sweating or an increase in heart rate and the rate of breathing due to pain.

Often there is an increase in pulse intensity over the arteries as they course over the back of the fetlock joint.

It is important to recognise the above signs of laminitis early in the course of the disease because early treatment can make a huge difference to the final outcome.

- **Signs (continued)**

Normally the sole of the foot is concave or flat. If the sole in front of the frog changes in appearance or becomes convex then this is very serious.

- **Treatment**

Treatment of laminitis can be both financially and emotionally draining.

- **Laminitis should be treated as an emergency.** Changes can occur in the foot within hours. The pedal bone loses its support from the hoof capsule and becomes unstable.
- It is of paramount importance that the horse is **box rested** on a deep bed. If the laminitis occurs when away from home, it would be better to travel the horse home in a trailer or box – not walking. The instability within the hoof capsule will lead to rotation or sinking of the pedal bone if the horse is forced to move.



Chronic laminitic before shoeing

- The use of a **registered farrier** is of paramount importance. Corrective trimming is essential for the long-term maintenance of chronic laminitic horses and ponies.
- Laminitic horses and ponies may require foot trimming and reshoeing as often as every 4 weeks.

A horse or pony that is suffering from chronic laminitis often has rings on the hoof wall that widen towards the heel. They demonstrate a change in hoof growth, the heel growing faster than the toe.

- **Early treatment** can improve the chances of the animal returning to an athletic career.
- Anti-inflammatories, sedalin and **frog supports / sole support** are all treatments often instigated by the veterinary surgeon.
- Recently treatments with drugs such as **Metformin** (commonly used in humans) can reduce insulin levels in horses with EMS – and can be useful in some horses on box rest with laminitis.



Chronic laminitic after corrective shoeing

- Often long term therapy requires the vet and farrier working together. Remedial farriery often involves the use of specialist shoes which are applied with the help of x-rays.
- Dorsal wall resection - sometimes all or part of the front of the hoof wall requires removal.

- **Prevention and control**

Sadly treatment of laminitis does not always lead to a cure. Prevention is always the best way. Some rarer causes are difficult to avoid such as severe illness, retained afterbirth or severe lameness in another limb – however your vet will advise on prevention in these situations.

1. **Attention to weight is most important.** Most horses seen by the practice are overweight – to the point that we have started routinely taking your horses weight with **weigh tapes** at routine vaccinations. In nearly all cases of laminitis we see the horse or pony is overweight – so monitor our horses weight and ask for advice if you are struggling. Reducing weight can be difficult and a long process especially in native breeds.
We recommend you weight your horse monthly and record their weight. In addition it is useful to condition score your horse. Weigh tapes and condition score cards are available from the practice. A guide to average weights for horses and ponies are 250-275kg for a 12.2hh pony and 500-550kg for a 15hh horse but these can vary according to type.
2. Try to keep your horse in **at least a low level of work** – this can be difficult in the Winter but even walking every day can help prevent laminitis caused by Equine Metabolic Syndrome.
3. If your horse has a **change in work routine** remember to change the diet accordingly. Make all dietary changes slowly. Ensure high fibre intake and keep bucket feeds small. There is a trend towards more cases of laminitis during the Winter – probably due to higher quality hay and haylage fed to horses.
4. **Care should be taken during the grazing season.** Spring and autumn grazing can lead to a flush in grass growth, and also an increase in fructan content and an upset in bacteria in the hindgut. There are plenty of muzzles on the market that allow the horse to drink and graze but just slow down the amount of grass ingested – although remember many horses still need restricted grazing time with a muzzle. Well managed fields with grazing consisting of low stems and more leaf such as those grazed by sheep are much better. Probiotics can help to maintain a healthy intestine.
5. **Cushings Testing:** any horse which has laminitis and is above 12 years of age is advised to have a blood test to check if they have Cushings. There is a prescription medication that can help control Cushings – and reduce the risk of laminitis or recurrence of laminitis. (see our Cushings advice sheet for more details)
6. **Regular attention to footcare** is of paramount importance. Use of a registered farrier at all times is essential. He or she may spot the early signs of laminitis before you may be aware of a problem.

Should you require any advice regarding laminitis please feel free to contact us on 01254 888600, or e mail info@equine-vet.co.uk .