EQUESTRIAN

Laminitis is a condition which most horse owners will have come across, but what actually causes it and how can it be prevented? Veterinary surgeon **Gemma Lamble**, of Scarsdale Veterinary Group, Derby, explains.

Prevention is better than cure

The exact causes and disease processes involved in laminitis are still unclear. Laminitis, in its simplest form, is inflammation of the sensitive layers (laminae) of the hoof resulting in pain, inflammation and, in some cases, damage to the laminae.

The laminae are interwoven specialised 'leaves' of tissue which suspend the pedal bone within the hoof.

In very mild cases, appropriate treatment will resolve the problem with no lasting effect. If the inflammation is more severe and progressive, the sensitive laminae may lose their blood supply, resulting in loss of support between the pedal bone and horny hoof wall. This can lead to separation of the pedal bone from the hoof with rotation and/or sinking of the bone within the hoof. In severe cases penetration of the sole by the tip of the pedal bone can follow.

There are many different reasons why horses come down with laminitis, including pasture-associated (for example too much spring grass), weight bearing laminitis (too much weight placed on one foot because of pain in the opposite one), equine metabolic syndrome, equine Cushing's disease, and endotoxemia.

The exact reason why some horses develop laminitis and others do not is still unclear, although we now have more information about the risk factors and underlying causes. More recent research has demonstrated underlying metabolic disorders play an important role in a much higher percentage of cases than previously thought.

Clinical signs

Some of the clinical signs of an acute case of laminitis are easily recognised. The horse or pony will stand, rocking back onto the heels to take the weight off the toe, or they will weight shift from one foot to another. The hoof will feel warm to touch and bounding digital pulses can be felt over the back of the fetlock joint.

However, not all cases are so acute and can be more difficult to recognise. Some cases of laminitis will start with mild stiffness when the horse is walked out, particularly when turned in a circle, or when it is ridden on hard ground. It is important to pick up and act on these signs as the earlier a horse is diagnosed, the more effectively it can be treated.

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> GEMMA LAMBLE

First aid treatment on the first day signs of laminitis are noted is vital in improving the overall outcome of the condition. The vet should be contacted straight away if signs of laminitis are noticed.

While waiting for the vet to arrive, the horse should be moved into a stable with a deep bed of shavings. It is best not to walk the horse far. If it is out in the middle of the field the use of the trailer to bring it back into the stable is advised if possible.

Treatment consists of anti-inflammatory medication to reduce the inflammation within the feet and to provide much-needed pain relief for the horse. This is also sometimes combined with a sedative called acepromazine, which keeps the horse quiet and also causes dilation of the peripheral blood vessels, which may help to improve the blood supply to the foot.

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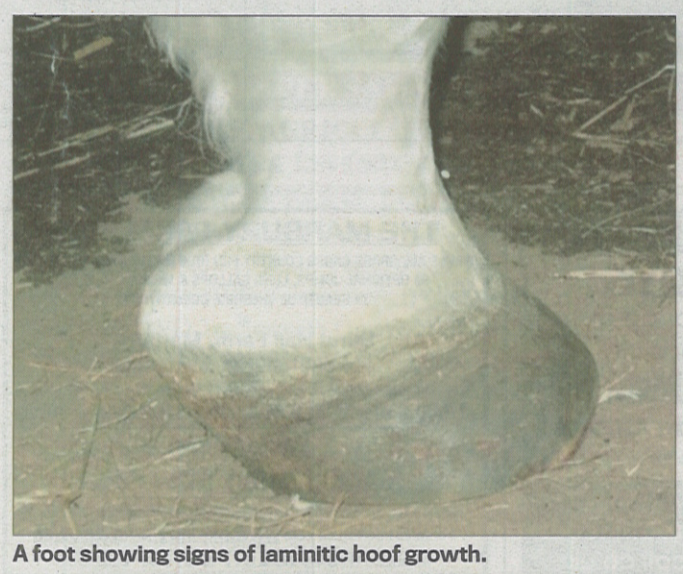

A foot showing signs of laminitic hoof growth.

Damage to the laminae can cause the pedal bone to rotate and/or sink within the hoof so x-rays should be obtained.

Pedal bone support

In cases where there is concern there has already been, or is risk of, movement of the pedal bone sole, supports can be used to help prevent rotation or founder (sinking) of the pedal bone.

Appropriate medication needs to be continued and the horse's progress monitored closely. Once the horse is stabilised, part of this includes x-rays of affected hooves.

These are needed to analyse the position of the pedal bone within the hoof capsule. These x-rays can also then be used to allow the farrier to trim the foot appropriately and for specialist shoes to be fitted if required.

Treatment for laminitis can take a long time, and means weeks of box rest and a slow rehabilitation process. Treatment in severe cases is sadly not always successful if the degree of movement of the pedal bone is too severe and even milder cases can be left with long-term lameness. It is for these reasons prevention really is better than cure and as vets we are always striving to help clients prevent their horses from getting laminitis.

Metabolic disorders are one of the biggest underlying factors which lead to laminitis and something we can often control to prevent future cases.

The two metabolic disorders we can monitor are equine metabolic syndrome (EMS) and equine Cushing's disease.

EMS is a syndrome in which horses have excess fat stores and become insulin resistant. Normally it occurs following too much food over a period of time, but some horses are naturally predisposed to the condition and not all horses will be overweight.

Clinical signs of metabolic syndrome include excess weight, particularly in the neck area, they are usually middle-aged horses (normally five to 15), very good doers and suffer repeated bouts of laminitis.

These horses are predisposed to laminitis due to their high insulin levels, and a simple blood test can tell us if a horse or pony is at risk of the condition. Treatment involves reducing insulin resistance. One way is by using drugs, but exercise and diet are the most important methods.

The more a horse is exercised, the more its insulin sensitivities are increased. Exercise is not always possible once a horse has laminitis, so keeping weight down and doing regular exercise is an important way to prevent them getting laminitis in the first place.

Equine Cushing's disease is also an important disease to monitor in laminitic horses. Cushing's is caused by a dysfunction of the pituitary gland within a horse's brain. It creates an imbalance of hormones, of which the important ones for laminitis are insulin and cortisol.

Clinical signs of the disease include a long curly coat, normally seen in horses 15 years or older, excessive drinking and urination, abnormal fat stores, weight and muscle loss, and increased predisposition to infections.

Diagnosis

Cushing's can be diagnosed with a single blood sample for ACTH and treated with pergolide, a dopamine receptor agonist. For older horses, which have either single or repeated bouts of laminitis, particularly in the winter, this could be caused by Cushings's.

In these cases laminitis can often be difficult to get under control until the disease is controlled. Often owners struggle to manage these horses on a day-to-day basis due to the repeated bouts of laminitis, so it is important we test and identify these horses.

New information is becoming available about laminitis all the time. Remember prevention is better than cure and for the latest information consult your local equine practice.

Laminitis low down

- Laminitis is one of the most common conditions which affects horses, ponies and donkeys, and can cause long-term severe pain and lameness
- Laminitis refers to inflammation, loss of blood supply and damage to the sensitive laminae within the foot. They form the vital attachment of the pedal bone to the hoof wall
- The exact mechanisms by which laminitis is caused are not known, but we do know about risk factors which predispose horses to getting the condition
- Pasture-associated laminitis is common when lush green grass is present, so avoiding too much grass for at risk animals is important
- Underlying metabolic disorders, such as equine Cushing's disease and equine metabolic syndrome are important risk factors and treating these can reduce the risk of a horse getting laminitis and also aid in the recovery of horses with the condition
- Appropriate diet and exercise and avoiding obesity are important to prevent laminitis