



# EQUINE LAMINITIS

What causes laminitis?  
What are the signs of laminitis?  
What treatments are possible?  
Why does my pony keep getting laminitis?  
How can I prevent laminitis?



*Laminitis is a serious condition which affects horses, ponies and donkeys. Every case of laminitis should be dealt with promptly and the condition should never be underestimated.*

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## What causes laminitis?

There are many, many different causes of laminitis and it is a common misconception that laminitis is caused by over-eating grass only. Although many cases of laminitis result from the ingestion of lush pasture, the disease can be caused by an animal gorging on excess carbohydrate such as grain.

- **Good Grass** It is not just the quantity of grass that is important in the development of laminitis; it is the type of grass and the sugars which it contains. Nowadays, many horses and ponies are liveried on pasture which was once used for cattle. This type of grazing may have been heavily fertilised and re-sown with particular species of grass which are not suitable for horses and ponies.

- **Poor Pasture** Grass which is stressed by such things as an overnight frost or overgrazing will result in the formation of a type of sugar known as fructan. This sugar is the plant's form of storing energy in the form of carbohydrate and eating fructan can directly cause laminitis. The amount and the type of carbohydrate ingested are very important in the development of laminitis.

- **Underlying Disease** Laminitis can also result when an animal is sick for another reason. One example of this is when a mare fails to rid herself of the afterbirth (cleansing) after foaling. In these cases, mares can quickly develop an infection in the womb (known as metritis) and it is the toxins that are released from the metritis into the circulation which in turn lead to a cascade of events resulting in laminitis.

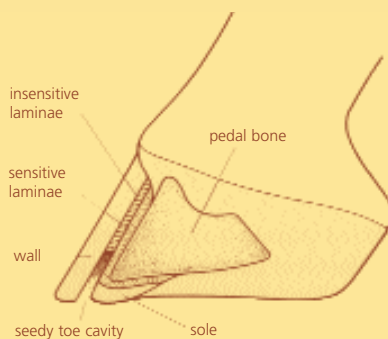
- **Dependent Laminitis** Occasionally, laminitis can develop in one limb where the opposite limb is painful for another reason. This is particularly a problem in heavy horses if they are affected by a foot abscess; the foot abscess causes the opposing limb to take more weight that it is accustomed to, resulting in laminitis.

- **Farriery** Delays between foot trimming or shoeing are an important cause of stress and damage to the laminae. Regular visits by the farrier will also pick up the early warning signs of laminitis.

- **Horses vs. Ponies** Another popular misconception is that it is only ponies which develop the disease. This is not so, and many horses are destroyed each year because of laminitis.

- **Equine Cushing's Disease (ECD)** ECD is a very common disease in equine animals from their mid-teens onwards, although it can be seen in animals as young as eight years old. Because of the hormonal changes in ECD, there is an increased risk of laminitis. The laminitis which develops secondary to ECD is very difficult to control unless the underlying disease is also treated and, unfortunately, the medicines used to treat ECD are expensive and not always effective. Owners with geriatric equines should be doubly careful about their animal's weight and liaise carefully with their vet or nutritionist to develop the best preventative strategy and grazing management.

- **Medicines** Certain drugs, including those which belong to the group of medicines known as corticosteroids, can in some cases result in laminitis. Corticosteroids are commonly injected into joints to relieve inflammation, although they can be used for a wide variety of purposes. Veterinary surgeons are particularly careful about their use, although in most cases the benefit of treating the horse with cortisone outweighs the very small potential risk.



## What are the signs of laminitis?

What does laminitis feel like? It is difficult to give a direct answer to this question because grazing, domesticated animals feel and show pain in a very different way to humans; however, suffice to say that the biological structures which hold the hoof in place are similar to those which hold our fingernails in place.

- **Which Feet are Affected?** Laminitis generally affects the fore feet but can affect one foot and can just affect the hind feet in some instances.
- **Digital Pulse** 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 sometimes heat in the hooves with an increased 'digital pulse'. A digital pulse can be difficult to find but this is a reliable indicator of laminitis, and you should ask your vet to show you how to find the digital pulse.
- **Pottery Gait** However, in milder cases, there may be only a slight change in the animal's gait, moving in a 'pottering' fashion. These animals will go on to deteriorate further, unless they are rested and treated correctly.
- **More Advanced Cases** In severe cases the animal will be unable to move, may be panting, sweating, resting back on his heels and, in the most severe cases, will be recumbent and unable to rise. These severe cases may have to be destroyed if their pain cannot be controlled. Even where there is a chance the animal may recover with time, euthanasia may have to be considered rather than letting the horse suffer for the weeks or months it might take for the pain to resolve. In a recent study, 1 in 5 horses and ponies with laminitis were destroyed.

Occasionally the diagnosis of laminitis can be difficult, particularly where the signs are subtle. In most cases the disease is obvious; however, the vet may recommend radiographs (x-rays) to help with choosing the best course of treatment. It is important that the vet examines the horse thoroughly; with the aid of x-rays of the feet, the vet can give the owner an indication of how severe the laminitis is as well as helping the farrier trim the feet appropriately. Sometimes blood tests are necessary to determine the underlying cause of the disease.

## What treatments are possible?

It is absolutely essential that you contact your vet should your horse or pony show signs of laminitis. The treatment of this disease is time-consuming and can be difficult, with a poor outcome in some cases. Some animals can be making good progress only to deteriorate rapidly and have to be destroyed. The treatment can be expensive and involves a lot of commitment from horse owners. If your animal develops laminitis, you should be prepared to treat him correctly and change his management for the foreseeable future, perhaps even for the rest of his life.

- **Therapy** There are a variety of medicines which can be used to help and these include phenylbutazone ('bute') and acepromazine (ACP). Both of these medicines are available on prescription only and must not be used without speaking to your vet. Laminitis is such a serious disease that just giving medicines is not enough.
- **Box Rest** If humans could develop laminitis, they would be confined to their bed with their feet in the air for several months! Fortunately we don't develop this condition, but the fact is that affected animals may not recover completely unless they are given strict box rest. Although many cases of laminitis do recover despite mistreatment, the animal's chances of a full recovery are reduced and the recovery period is longer if box rest is ignored. Any form of exercise increases the risk of founder. The box should be well bedded down, ideally with a depth of 18 inches of clean dry wood shavings over the entire surface area of the stable. The standard advice is 30 days of box rest after the horse or pony is moving around the stable freely, but this may vary depending on the affected animal's condition. Some horses that founder may have to be stabled for up to a year after the initial bout of laminitis.
- **Weight Loss** It is absolutely crucial that the affected animal loses weight in a controlled fashion and owners should consult their vet or equine nutritionist about the most appropriate diet.
- **Frog Supports** These are available from your vet or farrier and they are used to relieve pressure on the laminae. If you are unsure about how to fit the frog supports correctly, then you should speak to your vet or farrier first before applying them.
- **Farriery** This is vitally important for the treatment of laminitis. The farrier may decide to remove a small portion of the front of the hoof wall and, with veterinary involvement, may remove the entire front wall of the hoof, usually known as a 'dorsal wall resection'.

Horses or ponies with laminitis **should not** be forced to walk or be exercised. Affected animals **must not** have their feet placed in cold baths, streams or ice unless under veterinary direction. **Do not** starve overweight horses in an attempt at inducing rapid weight loss.

## Why does my pony keep getting laminitis?

One of the most common reasons why either affected animals fail to recover or the laminitis recurs is that the owners have turned the horse out too soon, or resumed ridden work too soon. It is vitally important that the rest period is adhered to. A further complication of laminitis is founder. This is where the coffin (pedal) bone sinks or rotates within the hoof, leading to permanent damage to the foot. These cases often require many months of box rest and corrective farriery to stand any chance of recovery.



## How can I prevent laminitis?

Clearly prevention is preferable to treating the disease, and the key to the prevention of laminitis is weight control.

- **Weight Control** Being overweight is the most important known risk factor for the development of laminitis. Just being fat will not in itself cause the disease, but it puts the animal at such a high risk of succumbing to laminitis that any additional stress (such as transport or inclement weather) could cause the full blown disease. If you are concerned about your animal's weight, then speak to your veterinary surgeon. Measure and record your horse's weight using a weigh band. Remember that all equine animals, especially native ponies, will gain weight in the summer and it is natural for them to lose weight over the winter months. **Do not** allow your horse or pony to enter the spring in fat condition; ideally, you should try to keep the animal's weight consistent throughout the year, avoiding weight loss and gain. As a general rule-of-thumb you shouldn't be able to see the ribs, but should be able to feel them easily when you run your hand along the horse's side. The horse should not be carrying a fat crest or fat pads over the loins or around the tail head. Grazing muzzles are well tolerated by most horses and ponies, electric fences should be used to restrict access to grazing and, where possible, permanent pastures should be sown with grasses which are horse-friendly. Be careful! Do not let your horse become too thin; try to get the balance right. Horses and ponies that are prone to laminitis should avoid being grazed when there has been a frost overnight, as low temperatures favour the development of fructans in the grass.