

Laminitis



This complex disease is still not fully understood and a cure has yet to be found but, whatever the original cause of the disease, nutrition plays an important part in its management and the horse's recovery.

Laminitis occurs when the blood supply to the laminae within the hoof is disrupted. The laminae are the scaffold holding the pedal bone to the hoof wall and a reduced blood supply diminishes their supply of oxygen and nutrients. This ultimately leads to the degeneration of the supportive laminae bond between the hoof wall and the pedal bone, which can result in the downward rotation of the pedal bone, clearly associated with the recognisable laminitic stance.

Other clinical signs can include:

- Shifting weight
- Shuffling movement
- Reluctance to move
- Increased rectal temperature
- Heat around the coronary band



CAUSES

A number of possible trigger factors have been determined, including:

- **Excessive trauma** to the hooves due to over-working on hard surfaces, poor hoof balance or severe lameness can result in overloading of the hoof.
- **Existing or previous illness** such as colic, colitis or salmonella poisoning; retained placenta in broodmares; or long term use of corticosteroid medication can stimulate the release of endotoxins (harmful substances) from the cell walls of dead bacteria, which enter the bloodstream and can restrict supply to the hooves.
- **Consuming too much rich grass** can result in a fructan overload. Fructan is a soluble carbohydrate found in grass which is digested in the hindgut. Although small levels are fine, larger fructan intakes can result in high production of lactic acid which can make

the gut more acidic, resulting in the death of beneficial bacteria and the release of endotoxins into the blood.

- **A high cereal intake**, where the starch levels are typically very high, can result in an overflow of starch into the hindgut. This can also lead to increased acidity and subsequent endotoxin release.

- **Endocrine and metabolic disorders** are also thought to be underlying factors that increase the risk of laminitis. It has been suggested that hormone related disorders, such as Equine Metabolic Syndrome and PPID (Cushing's disease) could be responsible for up to 9 out of 10 cases.

- **Obesity** can be associated with laminitis through a number of potential influences: endocrine disorders (mainly hypothyroidism); aggravation of a pre-existing laminitis (e.g. pasture associated) and mechanical inadequacy due to the stress of too much weight on soft tissues of the leg.

Feeding Recommendations

It is important to remember that any horse that has suffered from laminitis will be predisposed to the problem recurring, regardless of the original cause (some studies suggesting recurrence in a third of cases). However, we are able to make some simple adjustments to the feeding regime that may reduce this risk.

- 1. Monitor weight and condition:** This should be done regularly, using weightapes and body condition scoring (aim for a body condition score of around 5 out of 9).
- 2. Ensure the diet is balanced:** Feeding recommended quantities for the horse's size and workload of a manufactured complete feed will provide a fully balanced diet for vitamins and minerals. Overfeeding can result in weight gain and an increased risk of laminitis, whereas underfeeding may mean that your horse is missing out on essential nutrients.
- 3. Feed little and often:** Horses are designed to be 'trickle feeders', so keeping meal sizes small can be beneficial in helping to reduce overload in the stomach and small intestine, and reduce the risk of starch overspill into the hindgut. As a guide, a single concentrate meal should not weigh more than 400g per 100kg of the horse's bodyweight. For example, a 500kg horse should not have meals of larger than 2kg (this accounts for the dry weight of any feeds which are soaked or wetted prior to feeding).
- 4. Digestive enhancers:** A fundamental part of laminitis prevention and recovery is to promote a healthy balance of bacteria in the hindgut, and therefore healthy gut function.
 - Probiotics** contain live bacteria – these are best fed short term after any event which has disturbed the hindgut's bacterial population (such as a bout of laminitis). Providing a probiotic will help to repopulate the hindgut with beneficial species.
 - Prebiotics** (such as Baileys Digest Plus) help to encourage the proliferation of existing useful bacteria. Where probiotics are generally recommended initially for short term use, prebiotics can be fed for longer periods of time (often after a probiotic to help maintain the balance).
- 5. Turnout:** It may be necessary to restrict your horse or pony's grazing, particularly if they are suffering from, or at a high risk of, developing laminitis, as this will help to reduce their fructan intake. This can include:
 - Strip grazing
 - Use of a grazing muzzle
 - Reduce turnout at the times of day when fructan levels are likely to be at their highest - it is recommended that horses are turned out either very late at night or very early in the morning and are brought in by mid-morning. Restricting access to grazing should not compromise the horse's fibre intake which must be maintained to ensure healthy gut function.

6. Keep starch and sugar intakes low: Avoiding high cereal-based diets is beneficial for horses and ponies suffering from laminitis, though it is important to make sure they are still receiving a suitably balanced diet to meet their nutritional requirements. Once their condition has stabilised and new feeds can be introduced, suitable products from the Baileys range could include:

- **No.14 Lo-Cal Balancer, No.19 Performance Balancer or Stud Balancer**

These will provide all the essential nutrients in a low calorie pellet. This means that starch, sugar and calorie contributions are kept to a minimum, making balancers particularly suitable for good-doers.



- **Keep Calm**

This is a fully balanced high fibre feed designed to provide non-heating energy to maintain condition, whilst helping encourage a calm temperament.

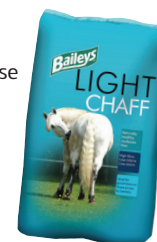
- **No. 21 Ease & Excel**

Lower in starch (8%) and sugar (6%) than many similar mixes on the market, this feed uses oil and fibre as the main sources of slow-release energy/calories for horses at risk of laminitis but who are struggling to hold weight and condition.

Additional fibre and/or calorie sources which would be suitable to include alongside any of the above feeds include:

- **Light Chaff**

A low calorie, unmolassed blend of alfalfa and oat straw, with additional peppermint to increase palatability.



- **Alfalfa Plus Oil**

With a calorie content similar to that of many conditioning feeds, this feed comprises unmolassed high temperature dried alfalfa which is coated in soya oil to provide a source of non-heating calories.

- **Speedi-Beet**

Unmolassed sugar beet pulp which provides slow-release energy and has been cooked in a way that means it requires a fraction of the soaking time of traditional sugar beet.

- **Fibre-Beet**

Combines the benefits of Speedi-Beet with additional alfalfa and oatfeed to increase the overall fibre content of the diet.

- **Outshine**

A high oil supplement that provides a very concentrated source of calories alongside the essential antioxidants required by the horse's body to utilise the oil effectively.

What to do if you suspect laminitis?

- Call your vet immediately, as all the serious changes associated with the disease occur within the first 72 hours.
- Any potential cause should be removed (e.g. pasture or hard feed).
- Initially feed clean forage with a low nutritional value (ideally late cut with a soluble carbohydrate level below 10%). However, if you are unable to get a consistent source of suitable hay, or to analyse the hay to give an idea of soluble carbohydrate content, another option is to soak hay for 12-16 hours to reduce soluble carbohydrate levels.
- When possible, a source of vitamins and minerals, like a balancer should be reintroduced to provide vitamins, minerals and amino acids that are lacking in the hay ration.
- Make use of feed company help lines when feeding the laminitic, particularly where more complicated cases are concerned - Baileys' friendly team can be reached on 01371 850247 (option 2).



Baileys Nutrition team -
01371 850 247 (option 2)
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