

## Laminitis

### What is Laminitis?

The laminae are the “Velcro-like” attachment between the pedal bone in the hoof and the hoof wall. Laminitis used to be defined as inflammation of the laminae, however with the three main causes being metabolic abnormalities, systemic inflammatory conditions and limb overloading, we should perhaps consider laminitis as damage to or failure of the lamellar attachment.

The loss of strength of the lamellar attachment may result in pedal bone movement within the hoof capsule. The pedal bone may either rotate away from the hoof wall or sink down towards the sole or both. Pedal bone movement can be excruciatingly painful for the horse and some cases may require euthanasia for humane reasons.

### What are the signs and symptoms?

The main clinical signs of laminitis are pain and lameness but these signs will range in severity from case to case. Some of the clinical signs noted below may be seen with other causes of foot lameness, however if you note any of the symptoms below you should contact your vet for advice.



#### Clinical signs

- Shortened stride length especially on hard, rough ground
- Reluctance to turn
- Stiff gait – walking on heels
- Increased hoof heat
- Bounding digital pulses
- Reluctance or refusal to move
- Lying down unable to get up
- Pain on solar pressure
- Abnormal stance
- Signs of Pain: increased heart and respiratory rate, sweating, nostril flaring

## What causes laminitis?

Veterinary surgeons will consider the three main causes of laminitis: Metabolic abnormalities, limb overloading or inflammatory syndromes.

### Overload Laminitis

This occurs when a severe non weight-bearing lameness (e.g. fracture or septic joint) can cause laminitis in the supporting limb. In non-weight bearing conditions attention should also be given to the supporting limb and solar supports applied.

### Inflammatory Laminitis

Laminitis can be caused by inflammatory diseases such as colitis (colon inflammation), pleuropneumonia, retained placenta after birth or as a consequence of grain overload: common to all of these is the absorption of toxins into the blood which have far reaching effects in the lamellae in the hoof and may result in laminitis.



### Endocrine Laminitis

It is currently thought that around 90% of laminitis cases have an endocrine cause either Cushing's Disease or Equine Metabolic Syndrome (EMS).

Cushing's Disease is usually associated with ageing, resulting in excessive secretion from part of the pituitary gland. The clinical signs of Cushing's disease are variable: a long hair coat, delayed or abnormal shedding of coat, patchy sweating, loss of muscle mass, and drinking and urinating excessively. Some of the hormones produced in excess in Cushing's disease can also affect carbohydrate metabolism and predispose to laminitis.

Equine Metabolic Syndrome tends to occur in genetically predisposed breeds (especially native ponies and cobs). EMS is worsened by obesity resulting in abnormal processing of dietary carbohydrate and excessive levels of insulin (Hyperinsulinaemia), which can predispose to laminitis. It is important to distinguish between the different types of laminitis, as the treatments are very different.

## Emergency treatment of laminitis

- Seek veterinary attention in order to investigate cause of laminitis
- Confine on box rest (with supportive bedding e.g. shavings or sand)
- Support feet with Styrofoam pads or impression compound
- Administer NSAIDs e.g. Bute, Danilon as pain relief
- Consider long acting nerve blocks to affected feet
- Consider cold therapy to feet to aid pain relief

## Management of laminitis

- Diagnose the cause of laminitis (e.g. Insulin, glucose and ACTH blood tests)
- Start appropriate treatment (e.g. Pergolide for Cushing's Disease / drugs to reduce high insulin levels in cases of EMS)
- Appropriate dietary management: weighing and soaking hay as advised by your veterinary surgeon (usually feeding a low calorie diet – hay with <10% non-structural carbohydrate content, a protein balancer and vitamin and mineral supplement)
- Foot x-rays to assess position of the pedal bone
- Trim hooves and consider remedial farriery when appropriate.
- Continue box rest or restriction as advised – this allows the lamellar bond to gain strength and help prevent the development of chronic laminitis.

## Preventing laminitis?

Ensuring your horse is not overweight can reduce the risk of laminitis. We recommend that you should assess and record your horse's body condition every two weeks – this allows you to make dietary, grazing & management changes before problems develop. Your vet can help you body condition score your horse at routine health checks and give advice on weight management.

Scientific studies show that horses and ponies in regular exercise are at a reduced risk of laminitis – if you are short on time research shows that lunging 4-5 times a week for 15-20 minutes so that the horses heart rate is elevated to 120 beats per minute will have a positive effect on their carbohydrate metabolism, reducing insulin levels and thus reducing the risk of laminitis.

If you would like any additional information please call us on 01577 841010.