



LAMINITIS

Laminitis, commonly known as “founder”, is inflammation of the laminae within the hoof. These laminae are sensitive tissue structures that attach the inner surface of the hoof wall to the pedal/coffin bone (bone within the hoof). The sensitive laminae interlace with the insensitive laminae of the hoof wall and keep the pedal bone in place within the hoof capsule. During an episode of laminitis there will be reduced blood flow to these laminae resulting in death and detachment (tearing) of these tissues. Ultimately, this results in hoof wall separation and rotation of the pedal bone towards the ground which is extremely painful. In severe cases, the pedal bone can rotate through the sole of the hoof. Laminitis can be triggered by repeated concussion on hard ground (road founder), stress, poor hoof conformation or trimming, grain overload, hormonal imbalance (Cushing’s syndrome or Equine Metabolic Syndrome), certain drugs (corticosteroids), obesity and lush grass. Additionally, horses or ponies that have had previous laminitic episodes are at greater risk of laminitis in the future.

Grass founder occurs when sugars produced within rapidly growing grass stimulates the overgrowth of bacteria within the horse’s large intestine. These bacteria produce and release endotoxins which can enter the bloodstream and travel to the laminae in the hoof resulting in irreversible damage. During warmer daylight hours, the rapidly growing grass produces more energy than it needs and stores excess energy as sugars. Therefore, as the sugar content within grass increases in Spring there is a greater risk of a laminitic episode.

The clinical presentation of horses or ponies with laminitis may include:

1. History of any predisposing factors.
2. Overweight and/or cresty necked.
3. Horses greater than 10 years old.
4. Lameness- can range from mild head nod, to shuffling movement in front feet or all four feet.
5. Saw horse stance- where horse will place weight on hindfeet to reduce weight and pain in front feet (see picture attached).
6. Bounding digital pulses.
7. Increased heat to the hoof.

TREATMENT OF LAMINITIS INCLUDES:

- **Remove horse from pasture!!**
- **Pain relief:**
 - Phenylbutazone (bute) is often used as an anti-inflammatory and pain relief. Other medications like flunixin (anti-endotoxic properties) and acepromazine (vasodilation) can be used to assist with treatment in acute laminitic episodes.
- **Biomechanics of the hoof:** This is an *extremely* important part of the treatment.
 - **RADIOGRAPHS ARE INTEGRAL** to determine the position of the pedal bone, sole depth, balance and angles within the hoof, which aids us in formulating an appropriate treatment plan.
 - Trim feet to shorten toe as it reduces the lever effect on laminae.
 - Protecting soles allows greater sole preservation so the pedal bone is not as close to surface and less pressure on the toe region.
 - Support heels- deep sand bedding (20cm) or Ultimate boots with heel wedge- to reduce pull of the deep digital flexor tendon, which contributes to the rotation of the pedal bone.

- Can cold hose feet in the acute stages to constrict capillaries in hoof capsule and reduce further damage and endotoxin delivery to the hoof.
- **Diet: REDUCE SUGARS and PORTION CONTROL.**
 - Confinement to reduce pasture intake and finely control diet, also reduces movement and any further instability in hoof capsule.
 - EQUISHURE: hindgut buffer which acts to increase pH of hindgut→ favour bacteria in hindgut that do not produce lactic acid→ reduce mucosal inflammation→ reduce endotoxin release→ reduce ongoing contributors to laminitis.
 - Feed tested low sugar hay or soaked grass hay- to remove excess sugars.
 - Feed 1.5% body weight in dry matter per day (approx. 7.5kg for 500kg horse).
 - *HAY IS 90% DRY MATTER*
 - Low grain pelleted feed- Prydes Easisport or Hygain Zero for horses that need calories, and if obese feed only balancer pellet for vitamins and minerals.
 - Lucerne hay or chaff is safe to feed except if suspect Equine Metabolic Syndrome is suspected. Ponies do not generally require lucerne hay.
- **Identify underlying causes:**
 - Equine Metabolic Syndrome (Insulin resistance)
 - Diagnosis based on clinical presentation, history and blood tests for insulin and glucose.
 - Pars Pituitary Intermedia Dysfunction (PPID)/Equine Cushing's Disease
 - Diagnosis based on clinical presentation, history and a single blood test- for ACTH.
- **Strategies to reduce the risk of laminitis:**
 - Keep 'easy doers' and ponies off fast growing pastures until the grass has slowed down its growth, and/or dried off.
 - Avoid grazing horses on pastures that have been grazed very short during Winter (long grass does not equate to more sugars, typically shorter grasses will be higher in sugar).
 - Keep overweight horses stalled or strictly limited grazing until growth rate has slowed down, and introduce slowly to pasture over a few weeks.
 - Restrict grazing to only overnight or a few hours early in the morning when sugar content in the grass is lower.
 - Restrict the area that can be grazed either through strip grazing or track grazing.
 - Encourage your horse to fill up on hay before turning out on grass for a few hours.
 - If pasture time or size cannot be limited then using a muzzle to limit the amount of grass that can be consumed is also a viable option.

Laminitis is considered a medical emergency as it is a very painful condition and the consequences of not treating can be life threatening. Consequences of severe laminitis include chronic bacterial infection, rotation of the tip of the pedal bone through the sole of the hoof and destruction of the tip of the pedal bone. These conditions may be unmanageable and in severe cases euthanasia is often considered the most humane option. Therefore, it is important to promptly identify if your pony or horse is at risk of developing laminitis and seek veterinary intervention if you suspect they are uncomfortable on their feet.

If you have any questions or concerns please contact us on 0412 619 740.

