



Laminitis

Horse professionals and amateurs all over the world use the term "laminitis" for both: Inflammation of the lamellae and position change of the coffin bone (also described as founder) within the hoof capsule interchangeably. But before we look into founder (the position change of the coffin bone within the hoof capsule) let's first look at the term laminitis in its original form. Every term ending in -itis indicates inflammation. Laminitis is the inflammation of the lamellar corium.



The lamellar corium is connected to the coffin bone by the periosteum and aids in the connection between the coffin bone and the hoof wall.



There is no room in the hoof capsule other than for the healthy structures of bones, coria, ligaments and tendons. When the lamellar corium gets inflamed, the inflammation causes swelling of the tissue, and as there is no space between the coffin bone and the hoof wall, this inflammation becomes very painful. The horse walks usually very carefully, pushing the hind feet far under the body to relieve the pressure on the front feet. He also tries not to put any weight onto the toes of the front feet and, if he moves at all, he does so in a hopping fashion, pushing himself off the hind feet and trying to land in the front heel first.

Laminitis goes together with the reluctance to move, aforementioned body posture, a pounding pulse, and hot (warm) hoof horn.



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Laminitis is triggered by:

A change in metabolism (a general condition)

Toxins (of unspecified nature)

- A reaction to multiple vaccinations
- A reaction to chemical wormers
- Bedding containing black walnut shavings

Mechanical influences

- Prolonged transportation
- Excessive work on hard surfaces
- Excessive work after not having been worked at all

Dietary problems

- High sugar load in spring grass
- High sugar load in stressed grass
- High sugar load in mowed grass (stressed)
- Carbohydrate overload (after a feed room raid)
- Bacterial upset in hindgut (after sudden feed changes)
- Excessive weight

Endocrine abnormalities:

- Cushing's syndrome (hyperadrenocorticism)



Insuline resistance (equine metabolic syndrome)
 Hypothyrodism
 Administration of glucocorticoid drugs

Renal (Kidney) Problems
 Immune disorders
 Respiratory problems

What to do:

Even with correct hoof form (low heel, short toe, adequate toe height) laminitis is very painful. Standing the horse in very cold (ice cold) water for about 20 minutes, also known as cryotherapy, helps to cool down the inflammation. This in return makes the horse move and once he can be hand walked, the inflammation gets circulated out of the painful tissue. Pain suppressing drugs are contraindicated, as the horse may not feel the severity of the pain and move more than the fragile, inflamed laminar connection can sustain.

It is really important to repeat this cryotherapy until the horse is pain free.

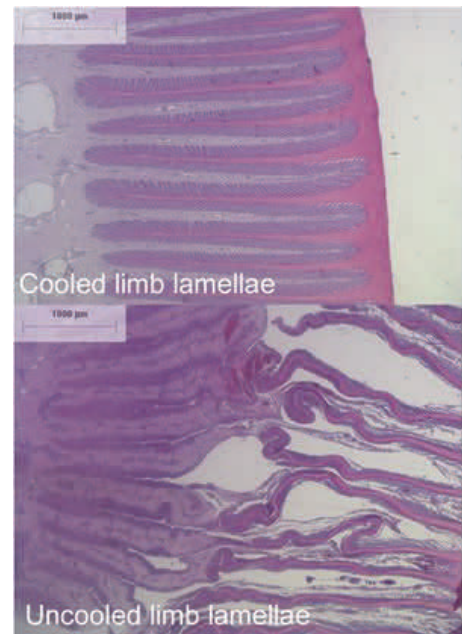
In a most severe case the lamellae of the corium surrounding the coffin bone will excrete wound serum, which will push the connection between the dermal and epidermal lamellae apart, resulting in a sunk coffin bone.

In this case the horse has to be kept quiet until some of the inflammation has subsided.

When we are talking about correcting the hoof form, this is especially difficult once the horse is in a full blown laminitis episode. Lifting a hoof to be trimmed is often not possible; trimming while the horse is lying down is often less than optimal. It is also real important to get the hoof not only medio-laterally balanced, but also anterior-posterior. If you have any imbalance on the hoof, the torque on the laminar attachment puts the horse in even more pain. Trimming with an angle grinder and a flap disc seems for many horses with acute inflammation to be much less painful than balancing the hoof with a rasp.

Cryotherapy is the local or general use of low temperatures in medical therapy or the removal of heat from a body part. The term "cryotherapy" comes from the Greek *cryo* (κρυο) meaning *cold* and the word *therapy* (θεραπεία) meaning *cure*. It has been around since the 1880-1890s.

Its goal is to decrease cellular metabolism, increase cellular survival, decrease inflammation, decrease pain and spasm, promote vasoconstriction, and when using extreme temperatures, to destroy cells by crystallizing the cytosol. The most prominent use of the term refers to the surgical treatment, specifically known as cryosurgery. Other therapies that use the term are cryogenic chamber therapy and ice pack therapy.



Most important:
 Remove the trigger that caused the inflammation in the first place.

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As a laminitic episode always is combined with inflammation and inflammation goes hand in hand with increased circulation, one will observe a founder ring a few weeks after such laminitic episode. The hoof just produces a lot of horn with the increased inflammation. Increased circulation results in increased horn production. As the hoof capsule grows down this ring will grow out if this is a one-time episode and usually there are no further problems noticeable. Having your horse trimmed by an experienced, trained hoof care professional who knows how to balance a hoof all around is your best bet in helping your horse getting through a laminitic episode without lasting problems.



Hoof with laminitic episode ca. 6 months ago. The horse had another change in lifestyle about 2 1/2 months ago, resulting in a second laminitic ring in the hoof wall



Same hoof almost restored to normal.