

LAMINITIS

And what you can do about it.



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WHAT CAUSES LAMINITIS?

Laminitis is a condition that has been well-known in veterinary medicine for a long time. However, in recent years, it has been appearing more frequently in horses that would not typically be considered at risk.

What's Behind Laminitis?

Laminitis refers to inflammation of the laminae that connect the coffin bone to the hoof wall. The horse's foot is suspended within the hoof by these laminae.

The laminae are interwoven with tiny capillaries and are highly vascularized. When inflammation occurs, blood clots can form, blocking these capillaries and potentially causing small infarcts in the hoof, leading to tissue necrosis.

Fluid may also leak from the blood vessels, causing edema within the hoof, which can be equally devastating to the tissue due to the pressure conditions within the horn capsule.

If left untreated, this can lead to separation of the laminae from the hoof wall.

As a result, the coffin bone is no longer held in its natural position - parallel to the hoof wall - but rotates downward due to the pull of the deep digital flexor tendon.



How Do I Recognize Laminitis?

The first visible sign of laminitis is horses showing foot sensitivity and trying to relieve pressure on their toes. This is especially noticeable during breakover. Strides shorten significantly, and they avoid turning on the spot or walking on hard, uneven ground. In the early stages, horses are commonly described as being “footy,” having “tender feet,” or showing sensitivity from “thin soles”.

Your farrier or equine podiatrist can often detect early warning signs during trimming. If left untreated, symptoms worsen - horses increasingly shift weight off their feet, spend more time lying down, and refuse to trot. Symptoms are more pronounced on hard ground. In severe cases, horses avoid all movement and spend most of their time lying down - they may even eat their hay while in this position.

WHAT CAN TRIGGER (METABOLIC) LAMINITIS?

→ **Fructans in Pasture Grass**

Fructans are storage carbohydrates that plants produce during cold weather and stress, making grazing particularly dangerous in spring and autumn. While fructans themselves aren't toxic, they reach the large intestine where, in an already compromised gut microbiome, they cause a sudden proliferation of lactic-acid-producing microorganisms. This rapid acidification kills natural gut symbionts, releasing their contents known as endotoxins. When absorbed by the horse, these endotoxins can trigger laminitis.

→ **Toxic Plants**

Horses can be exposed to toxic plants in two ways: through contaminated hay (as some plants retain their toxicity even when dried), or when horses resort to eating poisonous plants in overgrazed pastures or paddocks if not provided with sufficient hay.

→ **Excess Sugar/Starch**

Insulin dysregulation / resistance is more widespread in horses than commonly recognized, affecting not only overweight animals. Feeding grains or other sugar-rich feeds – even hay with a high sugar content – can trigger a laminitic episode at any time.

Early Diagnosis is Crucial

Without treatment or with delayed intervention, laminitis is often fatal, sometimes within just a few weeks. Additionally, improper treatment or lack thereof frequently leads to chronic laminitis, leaving horses permanently unable to move normally or access pasture. Due to the numerous different causes, triggers, and types of laminitis, combined with inadequate metabolic diagnostic tools for horses, even well-managed cases often have fatal outcomes.

Laminitis as a Result of Metabolic Disorders

The most common form is toxin-related laminitis. This doesn't always result from direct ingestion of poisonous plants or other toxins, but rather is a general term for cases resulting from metabolic overload, referred to as “internal toxicity” or “endotoxicity”. In Chinese medicine, skin and hooves are considered the body's auxiliary kidneys. Therefore, when kidneys are overloaded, symptoms often manifest in the hooves in forms of inflammation, or laminitis. Even thrush, hoof abscesses, or mud fever indicate stressed kidneys and the body's attempt to eliminate toxins through skin or hooves.

→ **Medication Effects**

Particularly sedatives, anesthetics, and steroids significantly stress the kidneys, often manifesting early as “rings” in the hoof.

→ **Hindgut Dysbiosis**

Caused by inappropriate feeding practices including chaff, concentrates, haylage, beet pulp or even restricted hay feeding management.

→ **Feed-Related Pectins**

Lush pasture, fruits and vegetables like apples and carrots, as well as many compound feed ingredients such as apple pomace or beet pulp, promote acid-producing microorganisms in the large intestine. Even gradual introduction to pasture can then be enough to trigger endotoxin-related laminitis.

→ **Grass Endophytes**

These symbiotic fungi in grass multiply especially when the grass is stressed through overgrazing, drought, cold temperatures, or physical damage. This presents particular risks during spring and fall seasons, as well as in dry summer periods. Winter grazing should be strictly avoided to prevent the proliferation of those toxic endophytes.





Insufficient grass or field management can be a cause of laminitis due to a high sugar content, endophytes, or fructans in the grass.

MANAGING ACUTE LAMINITIS

Step 1: Call Your Veterinarian

For acute laminitis, the first step is always to call your veterinarian. They will determine appropriate treatment based on the symptoms. In mild cases, shoes are usually removed to promote hoof mechanics. If horses are already refusing to move, therapeutic shoeing or hoof boots with therapeutic pads may be prescribed to relieve pressure on the toe.

Helpful Measures in Acute Stages

During acute stages, **OKAPI Prodic** has proven effective, as most laminitis cases are related to hindgut dysbiosis issues or toxic overload from the hindgut. **OKAPI Prodic** binds these substances in the intestine, allowing them to be eliminated with the manure. At this stage, it's essential to also administer **OKAPI HoofCool forte**, which combines anti-inflammatory components with plant-based substances that dissolve blood clots and dilate blood vessels. Laminitis can also be a symptom of metabolic disorders and undiagnosed insulin resistance. Therefore, the next step should always involve consulting a therapist.

Step 2: Support Veterinary Treatment

The second step should focus on supporting the body's detoxification process with **OKAPI Spirulina** (available as powder or pellets). Spirulina binds toxins in the body, facilitating their elimination. When combined with **OKAPI Detox Herbs**, which

support kidney function, it enhances waste elimination and relieves stress on the liver-kidney system. These products can effectively complement veterinary treatment. Simultaneously, potential underlying causes such as Kryptopyrroluria (KPU) or insulin dysregulation / resistance should be investigated.

Step 3: Address Root Causes

For sustainable treatment of laminitis, the underlying cause must be identified and eliminated. While this isn't always possible with medication-induced cases, efforts should focus on avoiding additional stressors and supporting the body's detoxification processes. Hay, paddocks, and pastures should be checked for toxic plants, and hay should also be examined for sugar content and mold. Newly harvested hay should be stored dry for 12 weeks before feeding. Haylage is generally unsuitable for horses and can cause laminitis long-term. Overgrazed pastures should be closed off, even when dry weather makes continued use tempting.

In spring and autumn, horses should only be turned out after midday, possibly with a grazing muzzle, when sunlight has already reduced fructan levels. Feeding should be optimized and gut health restored. In many horses, chronic gut issues are the long-simmering cause of laminitis, which then manifests through an acute overload. Thus, the "obvious" reason for the acute laminitis episode is often merely the trigger for a metabolic derailment that has existed for years but remained invisible.



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Step 4: Colon Restoration and Feed Adjustment

For hindgut restoration, we recommend combining **OKAPI Lapacho Bark** with **OKAPI Bitter Herbs** for 6 weeks to support hindgut microbiome regeneration. Together with optimized feeding, this leads to digestive system recovery and reduces stress on the entire metabolism, including the kidneys. The feeding management should avoid haylage as well as chaff, and concentrates that are usually high in sugar and starch content.

Carrots should be completely avoided during acute phases and later limited to 2-3 pieces per day due to their high sugar and pectin content. Feed changes should be implemented gradually over approximately 14 days to avoid additional stress on the microbiome and metabolism. This approach enables sustainable therapy and helps prevent future laminitic episodes.

Rotating **OKAPI Detox Herbs**, **OKAPI Bitter Herbs**, and **OKAPI Immuno Herbs** every two weeks for the first six months after acute laminitis helps maintain long-term metabolic balance. As a long-term alternative to concentrates, we recommend **OKAPI**

Four Seasons Feed, a pure herbal feed containing season-appropriate supportive herbs that serves as a healthy alternative.

Please contact us before starting any therapy. We will be happy to connect you with a qualified therapist from the Sanoanimal network who can create an individualized treatment plan for your horse: office@sanoanimal.com.

Even horses with rotated coffin bones can achieve full recovery within about 2 years if you act quickly, eliminate all laminitis triggers and causes, and provide proper metabolic support.