



Tacoma Equine Hospital

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Newsletter



Laminitis & Founder

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Greetings!

Spring is here! For most of us, this is the best time of year. For our horses, it can be a dangerous time of year. Most horse owners know the word "founder" or "laminitis," but many people are not quite sure what that means, what causes it, and how to prevent it.

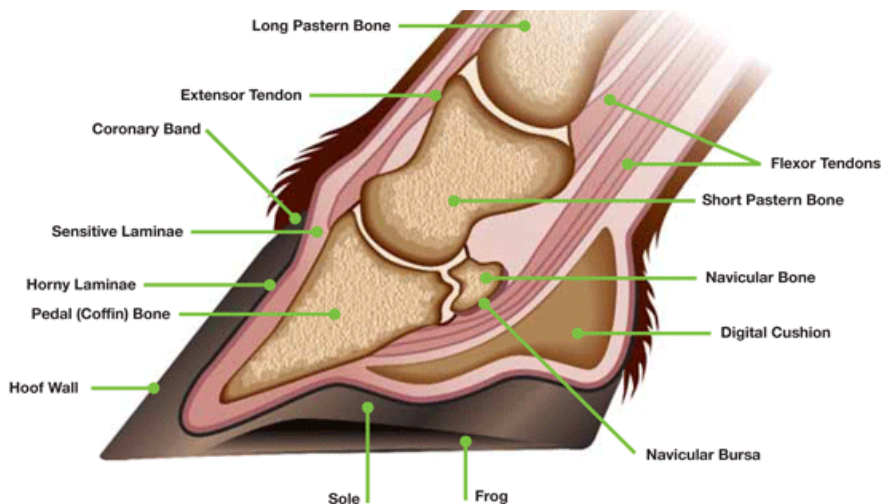
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First, The Definition of Laminitis

Laminae are the tiny attachments that keep the hoof wall connected to the bone in the hoof ('P3' or 'coffin bone'). Laminitis literally means inflammation of these Velcro-like structures, which causes disruption of the P3 and hoof wall attachment. I like to think of it this way: when the laminae become inflamed or lose their blood supply (potential causes listed below), it is similar to when your Velcro gets too much hair, mud, or fluffies in it, and loses a lot of its strength. Too much inflammation and the weight of the horse can override these compromised attachments, and the bone breaks free and rotates. Some people call it "founder" when P3 actually rotates, and "laminitis" simply when there is inflammation and pain without rotation (i.e. the Velcro is stretched and beat up, which is very painful, but manages to stay attached).



What Causes This?

This is the million-dollar question and there are several theories. A huge amount of research is currently being done to figure what happens on the cellular level, but we do know that there are several different "big picture" causes that lead to lamellar damage, and the key is to avoid these.

- Metabolic issues:** Diseases like insulin resistance and Cushing's put your horse at far greater risk for laminitis than a normal horse. These horses often can't handle even small amounts of the nice green grass we have here in the spring and fall. Again, we're not sure exactly why these horses are more susceptible, but the bottom line is that they are, and we need to limit their access to the sugar found in this delicious grass. (For more on Cushings/Insulin Resistance, [Click Here](#))
- Obesity:** This is intertwined with metabolic issues such as insulin resistance.
- Grain/carbohydrate overload:** When your horse gets into a large amount of grain or feed, you should worry. Immediate action should be taken (call the vet!), because the sudden digestion of a large amount of carbohydrates can cause toxins to be released within the bloodstream. This can cause laminitis and subsequent rotation extremely quickly. Also, large amounts of carbohydrate-rich grass can be dangerous even for horses that aren't overweight or have metabolic issues.
- Systemic illness:** This includes serious colic, infection and retained placenta. Again, disturbances of either the natural bacteria in the intestines or the circulation of bacteria from a significant infection can lead to lamellar disturbance and rotation of P3.
- Mechanical- decreased blood circulation:** Serious injury in one leg, which does not allow it to bear weight, can lead to laminitis in the opposite leg. The action of walking is one of the primary ways horses maintain blood flow to the hoof and laminae. When a horse can no longer do this, the laminae begin to starve for blood and oxygen.
- Mechanical- foot trim and concussion:** Horses with very long toes are prone to lamellar damage by just walking. Each time they break over the front of their foot, that long toe actually levers against the laminae. This causes microscopic damage to laminae that could eventually cause laminitis, or make a horse far more prone to rotation if he encounters one of the above situations. "Road founder" is generally a combination of long-toe trimming and excessive work on hard ground.

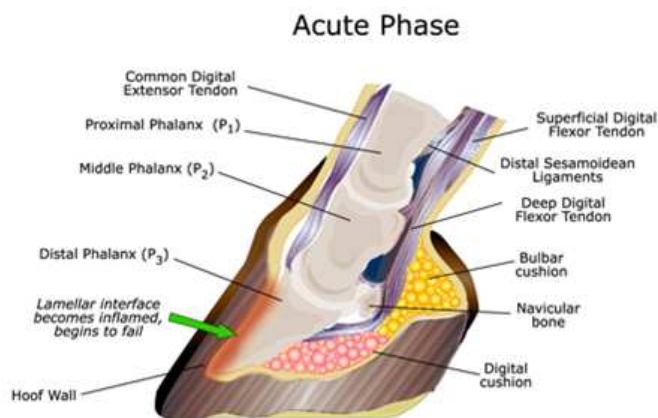


What are the Warning Signs?

Severe (sudden onset/acute):

Most people can recognize the classic signs of acute laminitis: the horse has his front legs stretched out in front, is rocking back on his hind end, and is very reluctant to walk. In some cases the horse may just be unwilling to move. The horse is probably showing signs of severe pain, including sweating and both a high heart and respiratory rate. There is also an extremely strong pulse felt in the artery running along the back of their pastern ('digital pulse').

Moderate (Acute episode or a flare up of



a chronic problem):

Some other signs are less apparent but suspect for laminitis. These include constantly shifting weight from one front foot to the other (normal in the hind legs, abnormal in the front), rocking back on the hind end to walk, and especially to turn, and tenderness to walk on rocks or firm surfaces when this has not previously been an issue. A strong digital pulse can also be felt at this time.

Mild (Chronic, low-level issue):

Horses with chronic low-level laminitis or those who have previously foundered often have signs that aren't as obvious. *It is especially important to recognize these more subtle signs because these horses are extremely sensitive to developing an acute and debilitating episode.*

Signs of chronic laminitis include difficulty turning or pivoting on one or both feet, a stiff or choppy gait in the front, and changes in hoof shape and hoof growth, such as 'founder rings' (distinctive rings in the hoof wall), widening and stretching of the white line, and divergent hoof wall growth.

If you know your horse is at risk, be aware of these signs and be vigilant in noticing them. Prevention and early intervention are worth their weight in gold!

What Should I Do If I See These Signs?

**You already know what I'm going to say -- Call the Vet!
An episode of acute laminitis is an emergency!**

Early intervention can prevent or minimize irreparable damage (complete tearing of the "Velcro," or laminae, and thus rotation of P3). Once the acute episode has been diagnosed and stabilized (or a case of chronic founder is identified), the next step is to enlist the help of a knowledgeable and experienced farrier.



If you suspect your horse currently has low-level laminitis or has previously foundered, x-rays should be taken to diagnose and better manage your horse in the present, as well as in the unfortunate case of any future problem.

What Can I Do While I'm Waiting for the Vet?

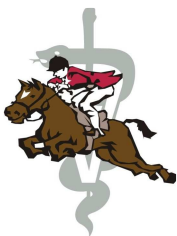


After speaking to the vet, she/he will likely advise you to confine your horse (i.e don't force him to walk!). They may also suggest placing both feet in ice water and/or give an anti-inflammatory such as phenylbutazone. This is not the only treatment, though. It is very important to provide mechanical support to the foot, which your veterinarian can do. This can prevent initial or further rotation of P3, which greatly affects your horse's prognosis.

The key to conquering laminitis is prevention! Keep your horse fit and at a healthy weight. If you have an overweight horse, one predisposed to foundering, or one with a history of laminitis, make sure to limit his access to grass, especially in the spring and fall. Also keep all grain under lock and key- one loose horse could equal a disaster! Diligent foot maintenance and keeping your horse's hooves at proper angles will also help prevent internal damage that weakens the foot.

While we love to see our clients, we all would rather visit under more favorable circumstances!

If you have any further questions regarding laminitis or think your horse may be foundering, please don't hesitate to contact Dr. Meg deGravelles at 253-535-6999 or info@tacomaequine.com.



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