**Laminitis** -Lamin (lamina) itis (inflammation)  
Tanya French

Laminitis is the second biggest killer of horses after colic! Not necessarily because of the laminitis but because people think that the best thing for them is to put them to sleep, this is not always the best thing and now more horses are being saved because we have a much better understanding of how the hoof works! Secretariat and Sunline where both put to sleep because of laminitis. It can happen to any horse!

**Anatomy of the hoof/How the hoof is put together**

- There are about 600 insensitive lamina and 600 sensitive lamina in the hoof, they join together like a zip (picture right)
- They should not carry the horses weight because they are not made for it and are only joined to the bone by soft peanut butter like tissues, they supply the hoof wall tubials with its blood and nutrients.
- Lamina make tubials. The hoof wall!
- They are joined to the coffin bone by corium (tissue filled with blood vessels)

- On the left is a normal hoof.
- Below is a lamenitic hoof, the “zip” has come undone.
There are 3 different types of laminitis.

Acute – Sudden, this can happen if the horse breaks into the grain bin, from colic, mental stress, concussion to the hoof/ jumping and galloping on hard surfaces (road founder), snake bite, metabolic issues (Cushing’s and or insulin resistance) and pregnancy toxemia (retained placenta).

Chronic – long-term/ongoing, untreated acute laminitis, unnoticed subclinical laminitis.

Sub clinical Laminitis – The horse won’t show the normal signs of laminitis but it will have some or all of these symptoms:

- Sore after a trim
- Seems to performs better in shoes
- Doesn’t move well on concrete or bitumen
- Doesn’t stand well to be trimmed on a hard surface
- The front part of the sole becomes flatter
- The heels grow faster than the rest of the foot
- The hoof has rings around it

So what actually happens when the horse gets laminitis?

Some symptoms you can look for are...

- Shifting weight from one foot to the other
- Lameness, at walk and or trot and turning
- Hot feet
- Strong digital pulse (pulse in the fetlock)
- Reluctance to walk
- Pain from pressure at the front of the sole
- Leaning back
- Swelling in the lower legs
- Increased heart and respiratory rate
- Trembling, sweating and looking distressed
- Bruised soles
- Separation of the sole and wall
- “flat” looking soles
- A dish or “slipper” toe
- Rings or grooves around the hoof wall
- A thick cresty neck
When a horse eats feeds rich in starches and sugars (like fresh young green grass and grain) it can cause a digestive upset in the large intestine. These energy rich nutrients are usually digested in the small intestine, however if eaten in excess they spill over into the large intestine, where they are fermented by certain species of 'bad' bacteria. This results in production of lactic acid in the bowel.

As the acid builds up and the normal bacteria in the bowel die, toxic substances known as 'endotoxins' are released and enter the bloodstream. It is these endotoxins which are thought to damage the laminae. *Information supplied by Virbac (Australia) Pty Limited*

Basically toxins enter the blood stream and move down into the hoof and damage the basement membrane (the stuff that holds the “zip” together).

This allows the coffin bone to rotate down, or if you are being correct the hoof capsule to rise and rotate. Sometimes the bone can push through the sole of the hoof, this is called solar penetration. This is, despite what a lot of people will tell you, fixable. As long as you can keep the hoof really clean. This is where a rehab centre comes in really handy as there is constant boot and bandage changing to be done.

If however the bone has remodeled or started to change because of the pressure on it and the lack of blood supply getting to the tissues underneath, pieces at the tip of the bone can break off and “float” around in the hoof. This is not good and usually means the horse cannot be saved.

**What can you do about it?**

Prevention is always better than cure and there is no “cure” for laminitis, there is only treatment and long term treatment at that, your horse will have to grow a whole new hoof! It will take about 3 to 4 months for the heels to grow down so the horse is happy to walk again and 8 to 9 months to grow a new hoof! If your horse has had chronic laminitis the damage to the blood vessels will most likely be permanent!
Laminitis is incredibly painful, there is a lot of inflammation/swelling and it is unbearable for the horse. It will relive its pain however it can, by leaning back off its feet or laying down. And it needs to, so never make a laminitic horse walk if it doesn’t want to and if it needs to lay down let it.

If the horse already has suspected Laminitis...

1: Ring the vet! Always because laminitis is very serious and what may not seem like much today may be full blown tomorrow. You may need pain killers for your horse at first too. Be careful using Bute as it has been found to stop the healing process in the lamina. You can get some fantastic herbal pain killers that actually work really well. The vet will also be wanting to take x-rays (if you can afford it, this is very helpful!) It will show you how much the bone has rotated and or remodeled (changed).

2: Get rid of the cause! If it's green grass, get the horse off the grass, if its grain, take it away! If it’s a snake bite get your parent to pull off the snake, don’t try to pull it off yourself. You get the idea. The only time you can skip this step is if the horse has mechanical laminitis, the hoof wall is left too long or hasn’t been trimmed for a while and is actually pulling the lamina apart (like pulling your finger nail away from your finger), if this is the case skip to no. 3.

No matter how the horse got laminitis you should change its diet immediately! You can’t make it completely sugar free but the best thing to do is feed soaked hay (1hr in cold water or ½ an hr in hot) and soaked speedi beet. Vitamin E, salt and Linseed should also be added. Don’t feed your horse any fruit, grain, Lucerne or processed feed (most have molasses in them) even treats like apples shouldn’t be given.

3: Get someone out to trim your horse, I say trim because if you use shoes the horse won’t be able to grow that new hoof and it will be very painful, think about it if you have something swollen and sore do you want to put weight on it? Shoes make the horse put all its weight directly on all that sore lamina!

4: Get some hoof boots and padding for your horse, it needs to be able to move comfortably so the blood can start to flow back through under the coffin bone and not let all the tissues die. I know I’d much rather stand on soft rubber than hard dirt if I have sore feet. The boots should not come above the hoof wall or else they will rub, the horse will have to wear them about 12hrs a day so they need to fit well and be comfortable.

5: keep getting that trimmer out, they may need to come out every 3 to 4 days to start off and after that once a week until you get some healthy hoof growing back. Your horse may also abscess, this is normal as long as it doesn’t keep happening (1 or 2 abbesses is “normal”), the body it getting rid of any dead tissues and toxins.

6: Get a masseur or body worker out, after standing for days to keep the weight off its feet (leaning back) your horse will be very sore in its body (try leaning on one leg all day and see how sore you are, ouch). Relaxing all those muscles will encourage your horse to move properly and help the blood flow even more.
You can also (if the horse is up to standing on 3 legs), pull the front legs forward one at a time and stretch out the Deep digital Flexor Tendon (the tendon at the back of the leg that attaches to the coffin bone) and the muscle attached to it, you need to try and hold it for about 3 minutes, this changes the muscles memory and keeps it “looser” even after you put the leg down, this will give your horse a great amount of relief and is a much better way of taking the pressure off than raising the heels of your horse (many farriers will want to do this but if you raise the heels what happens to the coffin bone? It points more downward! Exactly the way we don’t want it to go). The other way is to get some deep sand or pea gavel for your horse to bury its toes into, this will let the horse adjust the height of its heels itself while still supporting the rest of its hoof.

Always remember prevention will save your horse from a lot of pain and you from a lot of stress and empty piggy bank syndrome!

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