



What is laminitis?

By Grayson Ross and Erika Driedger

At some point in their lives most horse owners are bound to encounter laminitis, a common lameness issue that affects horses of all ages. The source of severe pain and pressure is inflammation around the coffin bone in the horse's hoof. The location of the swelling is within the laminae — the layer of tissue that connects the coffin bone to the hoof wall.

A change in blood supply to the laminae can lead to a separation between the bone and hoof wall, and in serious cases, permanent rotation and/or sinking of the coffin bone will develop. Veterinarians use radiography to confirm changes in the coffin bone's orientation, which can be evident as early as three days after the initial incident.

Causes of laminitis

Several situations can lead to laminitis. Sudden changes in diet, particularly with feeds higher in carbohydrates, can cause changes in the microbial population of the large colon that leads to inflammation throughout the horse's body.

Colitis (inflammation of the cecum and/or colon) and metritis (inflammation of the uterus) as well as pituitary pars intermedia dysfunction (PPID) and equine metabolic syndrome are diseases that can lead to laminitis. Direct trauma to the foot, such as a severe hoof injury or excessive concussion (including increased weight bearing due to injury on the *opposite* limb), can also cause reduced blood flow to the lower limb.

Clinical signs

Increased tail swishing, a reluctance to walk or move, tender-footedness, increased time spent lying down, a sawhorse stance and shifting weight between limbs are clinical signs of laminitis. Affected horses may also exhibit generalized anxiety and sweating. As well, owners may notice increased heat over the hoof and an increased digital pulse in the affected lower limb.

A sudden onset of lameness fitting these clinical signs is an emergency. Since early intervention is critical to the horse's outcome, owners should contact their veterinarian as soon as possible.

Early treatment is essential

Horses may recover from laminitis without developing the chronic form of the disease if they are treated immediately. However, a horse that has had previous episodes of laminitis is likely predisposed to future incidents that may result in chronic problems. Your veterinarian will try to reduce pain and inflammation in the affected limbs as soon as possible using non-steroidal anti-inflammatory drugs (NSAIDs) and other pain medications. It's also important to stabilize the lower limb, which may include corrective trimming or the use of therapeutic shoes or pads.

What your vet needs to know

Before you call your veterinarian, take a few minutes to write down answers to some important questions:

- When did you first notice the lameness issues?

- Which limb is affected, or is the horse showing pain in more than one limb?
- Is there heat or swelling present in the lower limb or hoof?
- Can you feel the digital pulse in the lower limb?
- Can you describe the horse's stance?
- Is the horse able to move? Is it willing to move?
- Where is the horse normally housed (in a stall or pasture)? What's the type of surface on which you usually ride your horse?
- When was the horse's last hoof trimming or shoeing? How often does your farrier visit?
- Has the horse eaten grain or feed that it normally doesn't have access to?

The latter question is critical since access to too much grain or feed could cause a horse to develop colic, which will require additional treatment. Your detailed responses will help to inform your veterinarian about the severity of the issue and potential treatment. Details about your horse's regular diet and feeding schedule are also important and can be helpful in narrowing down potential causes of laminitis.

In addition to this information, make sure to tell your veterinarian if the horse has any history of laminitis, a previous suspicion or diagnosis of endocrine disorders or any lower limb trauma.

What to do while waiting for the vet

Before the veterinarian arrives, here are a few things horse owners can do to help increase the comfort level of their horse:

- begin to cold hose or ice the affected limbs. Icing the hoofs up to the fetlock is a mainstay in treatment for laminitis and is very helpful in reducing inflammation.
- provide deep and soft bedding.
- limit the horse's movement — walking or exercising a horse with laminitis puts further pressure on the hoofs.
- put on hoof boots to provide padding and some comfort.

For more information, talk to your veterinarian. The American Association of Equine Practitioners (<https://aaep.org/horsehealth/laminitis-prevention-treatment>) also offers a reliable online resource for horse owners.

Drs. Grayson Ross and Erika Driedger graduated from the Western College of Veterinary Medicine's Doctor of Veterinary Medicine (DVM) program in June 2020. Their recommendations have been reviewed by the WCVM's equine clinical team. Reprinted with permission from the WCVM Townsend Equine Health Research Fund (www.tehrf.ca) and Horse Canada.

