

LAMINITIS (founder)

General Information

Laminitis (founder) is a painful condition characterized by inflammation of the blood vessel-filled laminae holding the coffin bone to the inside of the hoof. The term *laminitis* is used more to describe the sudden onset of laminar inflammation, while the term *founder* is more commonly applied to long-standing laminitis. Laminitis is not usually seen in foals under 6 months of age. The more severe the laminitis is at onset, greater the chance of chronic problems and recurrence.

In normal horses, 2 forces influence the position of the coffin bone within the hoof: the downward push of the horse's weight and the upward pull of the deep flexor tendon as it attaches to the sole surface of the coffin bone.

In horses with laminitis, when the downward force is greater than the upward pull of the flexor tendon, the coffin bone "sinks" in the hoof capsule. More commonly, however, inflammation around the coffin bone helps to push the toe down while the deep flexor tendon pulls the toe down and backward, causing coffin bone "rotation." At the same time, inflammation of the laminae causing swelling, increasing the pressure within the rigid hoof. This increased pressure damages the blood vessels of the laminae.

Causes

Laminitis can occur with no apparent cause, but often there is some underlying cause. The underlying condition can be cured, but the laminitis may persist, leaving the horse with chronic (long-term) founder. If not a cause for euthanasia, chronic founder requires special attention for the rest of the horse's life.

The following factors contribute to the onset of laminitis:

- *Imbalance of exercise to food intake.* A fit (lean) athletic horse that is worked harder than usual on a hard surface can develop "road founder". A cresty-necked pony or horse with genetic propensity for being overweight, that eats too much spring pasture, or that eats too much grain can develop laminitis.

- *Endotoxins from illness.* Certain bacteria can produce endotoxins, which damage the lamellar blood vessels. Endotoxins can produce in such diseases as severe colic, uterine infections, diarrhea and pneumonia, and with complications after foaling.
- *Cortisone release or use.* Stress causes the adrenal glands to release cortisone. This stress can be acute (over a few days) or chronic (over several weeks or more). Stressful situations for your horse may include training, competition and shipping. Any cortisone type of drug, such as dexamethasone or triamcinolone, should be used only under veterinary direction and given only to horses in exercise. In treatment of certain immunologic diseases, cortisone is potentially life saving, but the large doses necessary may cause laminitis. Older horses (usually over 20 years) with a pituitary tumor tend to develop laminitis from increased production of cortisone.
- *Conformation or genetic predisposition.* Heavy horses or ponies are more likely to develop laminitis. Also, horses with thin or flat soles do not have much protection of the coffin bone.

Clinical Signs of Laminitis

- Heat in feet.
- Increased digital pulse.
- Pain on application of hoof testers near the point of the frog.
- Sinking or rotation of the coffin bone on x-rays.
- Reluctance to walk or trot.
- Depressed coronet.