## **Laminitis & Thermographics**

Dr. Kim Hunter, DVM

Commonly known as founder, laminitis refers to inflammation of the sensitive laminae of the foot. These laminae are membranes that hold the bone of the foot (pedal bone) to the hoof wall. Inflammation of the laminae allows separation of the pedal bone from the hoof wall. The pain is so severe, that often the horse cannot stand or barely walk. In order to function, eat and drink, the horse must walk on these inflamed areas. This has been likened to shutting your hand in a car door, then having to walk on those bruised fingernails. The separation of the wedge-shaped pedal bone allows it to rotate and point down, pushing on the sole. With time and the weight of the horse pushing on this small bone, there is a great risk of the bone pushing right through the sole.

At best, it can take months of corrective trimming, anti-inflammatories and rest to restore the horse to where it can walk. In the worst cases, breaking of the pedal bone through the sole requires destruction of the horse. Hence the old adage 'no foot, no horse.' The months of recuperation cause loss of use of the horse. Repeated episodes of founder can preclude recovery. The treatment can involve thousands of dollars in X-rays, corrective trimming and shoeing to prevent rotation of the pedal bone, acupuncture, homeopathics, special diet and anti-inflammatories. None of these are a cure, but can aid in recovery. The cost of treatment prevents many horses from receiving the care they need. Once foundered, a horse is forever prone to recurrence and must be closely monitored.

The disease is incompletely understood, but it is known that with time, the inflammatory process impairs the circulation inside the foot. Yet the hoof wall tends to grow faster than normal, so the hoof starts to curl up into characteristic 'skis.' The growth pattern changes, such that ridges of hoof tissue form concentric rings as the hoof wall grows down. This appearance gives an easy diagnosis in chronic cases. In the acutely painful cases, laminitis is diagnosed by slight pressure applied to the uniformly painful soles. There

is a throbbing pulse in the arteries in the rear pasterns, just above the hooves. When standing, the horse tries to weight bear more on the hind legs, as the front are more affected.

The exact cause is unknown, but laminitis is often a sequel to a systemic disease, involving toxemia such as infection, abortion or retained placenta. Or it can be primarily diet related, resulting from excessive grain, lush pasture or excessive cold water given to an overheated horse. High performance horses have a regimented schedule of diet and exercise and are at less risk of overfeeding. In North America, ponies and horses on pasture are most susceptible, as they are often pleasure horses, allowed to fatten on our lush expanses of grass.

Such was the case with Topper, an eight-year-old Paint stallion. Topper had at least four episodes of severe laminitis. We saw him after one year of corrective trimming and shoeing and brought him to the point where he could be ridden. To the naked eye, Topper was normal and sound. He was on a strict diet, although a slight change to anything richer e.g. alfalfa would cause diarrhea. The findings on the thermographic images were dramatic. In spite of his extensive treatment and diligent care, the inflammatory process was still evidenced by the ring of heat in his coronary band.

The potential for thermographic imaging as a diagnostic tool is underestimated. To make visible an inflammatory process, in an apparently sound horse, is amazing. More surprising are the results of placing a specific design of magnetic field (Nikken Magstep) into the shoe of the horse. After seven weeks, the extensive inflammation over the bulbs of the heels is completely gone. The circumferential line of heat around the coronary band in the frontal view is dramatically improved. The inflammation is apparently dissipated. The implications for prevention and treatment of this and other inflammatory diseases with a balanced magnetic field are exciting. This disease has been devastating to man and horse ever since the turn of the century.

Decades of research on many and varied treatments have not yielded such results.

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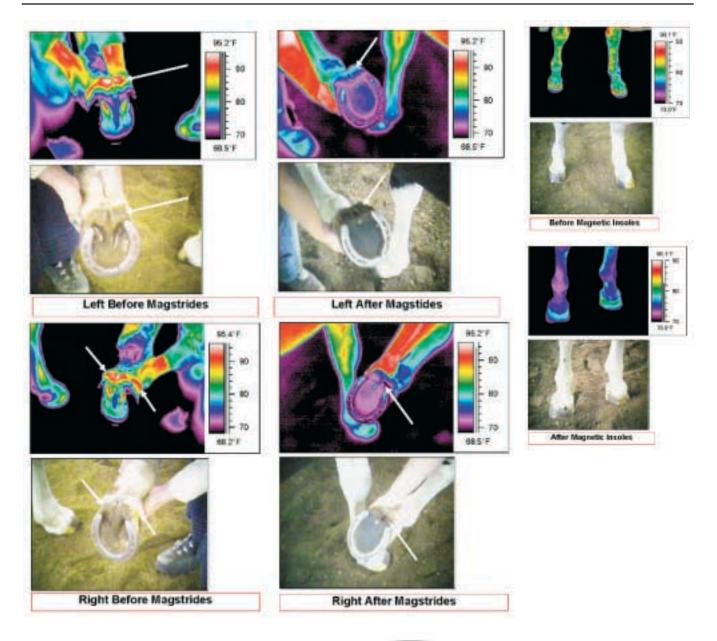


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