



## Founder (Laminitis) in Horses

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*This Agriculture Note describes the common horse ailment known as founder, a painful disease affecting the horse's feet. The damage may be so severe that the horse may be permanently lame or require euthanasia. With good management most cases can be prevented.*

*The condition is particularly prevalent in ponies on lush pasture.*



*Figure 1. A horse displaying a classical founder stance. (photograph courtesy C.Pawsey)*

### Introduction

Founder is a common and very painful condition affecting the feet of horses.

Known technically as laminitis, founder occurs when there is inflammation of the laminae (folds of tissue connecting the pedal bone to the hoof).

When there is inflammation and subsequently degeneration (as is seen in an interruption to the blood supply) of the laminae, laminitis results. The damage may be so severe that the pedal bone is no longer supported within the hoof and rotates toward and sometimes through the sole.

### Causes

Whilst the exact mechanisms that cause laminitis are yet to be determined, many causes have been identified, ironically they often begin at locations and organs well away from the hooves.

The classical case of founder involves an overweight pony (complete with cresty neck) with a good appetite and access to lush pasture.

Access to excessive amounts of pasture, hay, grain or pelleted feed is the most common cause of founder.

Other known causes include blood poisoning following any systemic infection, severe cases of colic or enteritis, trauma to the soles of the hooves, ingestion of large amounts of cold water, retained placenta following foaling (particularly in shire breeds), excessive weight bearing on one limb.

A sudden onset of founder is referred in veterinary terms as acute laminitis. This condition is considered potentially life threatening and thus a medical emergency.

A horse that has suffered a previous episode of founder is more susceptible to a future attack. Ongoing low grade laminitis is often referred to as chronic founder.

### Clinical Signs

Founder can occur in one or all limbs, generally however both forelimbs are most commonly affected.

The founder horse is reluctant to move, and often leans back in an attempt to take weight off the front of the hooves. The pain is such that the horse often prefers to lay down. There is generally a palpable increase in the pulse to the hooves, pain on compression of the sole and often the horse's weight is shifted from one limb to the other.



*Figure 2. Lateral radiograph of the distal limb of a horse with laminitis. Note rotation of pedal bone away from hoof wall towards sole. (Courtesy Dr. Cathy Beck University of Melbourne)*

## Treatment

As soon as a horse is suspected of having foundered Veterinary attention or advice should be sought.

There are many treatments available. The most important initially is to remove or treat the cause. This may involve dietary restrictions and removal of any other relevant factors.

Common ongoing treatment often consists of Anti-inflammatory medication. It is also vital that corrective farriery be employed as specialised trimming and shoeing is often necessary.

Moving the affected horse to a sandy type ground surface is often more comfortable, providing direct support to the sole with products including special pads, Styrofoam supports or acrylic compounds over the sole are recommended (See figure 3).



*Figure 3. Styrofoam pad taped to sole to provide support and greater comfort (courtesy Equine Digit Support System©)*

There are a vast number of products on the market, some of them have been proven to be useful, however many are untested. It is therefore important to seek specialist veterinary advice before administering any treatments or supplements.

## Chronic Founder

Repeated episodes of generally feed related founder or long term low grade founder is often referred to as “chronic founder”. Compared to the acute form this condition is often less dramatic but can result in serious long term damage.

Signs of chronic founder include:-

Rings in the hoof wall, widened white line between the hoof wall and sole, dropped soles, dished hooves with abnormal growth (see figure 4) resulting in an “Aladdin’s slipper” appearance.



*Figure 4. Overgrown (poorly trimmed) hooves due to chronic founder*

## Prevention

Founder can literally result in a horse being killed with kindness

By paying attention to the following basic husbandry points many cases of founder can be prevented:

- Well balanced, appropriate diet. Restrict access to excessive feed intake. Commercial vitamin/mineral supplements and some hay should be fed even if strict feed restriction is necessary
- Regular exercise, this can involve riding, lunging or leading.
- Monitoring of body condition and weight. An obvious sign of weight gain is increased fat cover and enlarged neck crest. Reduce feed intake before excessive weight gains. (See Agriculture note re: Condition scoring and weight estimation of horses.)
- If the risk of founder occurring (or recurring) is high, consider adding a founder preventative agent to the feed. Seek veterinary advice for further information
- Ensure regular farrier visits and hoof care. This may necessitate feeding a supplement to enhance healthy hoof growth and hoof dressing.
- Avoid access to unaccustomed pasture, hay, grain or commercial feed pellets. Call immediately for veterinary treatment if “binge eating” of such hard feed occurs. Any change in diet should be instituted gradually.

Further information about Founder can be obtained from Animal Health staff at your nearest DPI office, your veterinary practitioner or on the DPI website - <http://www.dpi.vic.gov.au/>

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