

# Hoof Care for Racehorses

BY T.A. LANDERS  
ANNE M. EBERHARDT PHOTOS

Probably the most common phrase used by horse people is “No foot—no horse.” The feet are important because they provide both support and locomotion. As these two factors are the foundation of a horse, particularly a racehorse, clearly understanding methods for detecting common hoof ailments is essential. A horse’s caretaker should be familiar with various foot ailments, particularly the signs and symptoms associated with them.

## Thrush

Thrush is a bacterial infection affecting the frog (particularly the medial and lateral grooves). It can occur in all four feet.

**Causes of thrush**—Thrush is usually caused by general neglect of the feet—allowing the horse to stand in unsanitary conditions such as manure-filled and urine-soaked stalls and paddocks. Also,

excessive frog growth due to infrequent trimming may contribute to thrush.

**Symptoms of thrush**—The most obvious symptom of thrush is a foul odor, but other symptoms include extensive moisture of the frog, signs of deterioration, and heat. In advanced cases, a thick, black, liquid discharge from the grooves of the frog may be present, and the horse might be lame.

**Treatment of thrush**—Thrush is easily curable if treated as soon as it is diagnosed.

1. Have an experienced farrier remove all dead frog tissue.
2. Wash the bottom of the foot thoroughly with warm water and a mild disinfectant such as Betadine. Rinse well.
3. Saturate the bottom of the foot with iodine, formaldehyde, or any other commercial liquid thrush remedy.

For a severe case of thrush:

1. Have an experienced farrier remove all dead frog tissue.
2. Wash the bottom of the foot thor-

oughly with warm water and a mild disinfectant such as Betadine. Rinse well.

3. Pack the infected grooves of the frog with sterile cotton. Saturate the cotton with iodine, formaldehyde, or any other commercial liquid thrush remedy.

4. Apply a foot bandage or Easyboot to keep the bottom of the foot clean.

5. Remove the saturated cotton from the foot before the horse leaves the barn for its morning training session. Prevention is the best defense against thrush: Clean the horse’s feet thoroughly (several times a day), and keep the stall clean and dry. No competent horseperson allows a horse in his or her care to develop a severe case of thrush.

## Laminitis

Laminitis is an inflammation of the sensitive laminae tissue of the foot that may be caused by stress, obesity, grain overload, or fever. However, it is possible for laminitis to occur without any particular cause. This disorder causes a reduction in the normal blood flow to the horse’s feet and eventually leads to the deterioration of the laminae tissue attachments of the coffin bone within the hoof.

**Symptoms of laminitis**—These include heat in the front feet, reluctance to lift the feet, reluctance to move, and an increased digital pulse of the front feet. If any of these symptoms are present, summon a veterinarian immediately.

**Treatment of laminitis**—Early treatment before the arrival of the veterinarian includes confining the horse to a box stall and applying cold ice packs to the front feet for five minutes every thirty minutes. Allow the horse to drink but do not feed the horse until the veterinarian has diagnosed the problem.

Chronic laminitis occurs over a period of several days. Advanced stages of chronic laminitis is usually referred to as “founder.”

## Founder

Founder is a stage of laminitis when the coffin bone breaks away from the hoof wall and rotates downward. Eventually, the coffin bone may even protrude through the sole. Founder can occur in one foot or all four.

**Causes of founder**—Founder’s many



Feet provide support and locomotion during a race

causes include the following:

- Excessive concussion to the feet from work on hard surfaces.
- Overeating after working or getting into the feed room and gorging on grain.
- Excessive weight on one limb. For example, a horse recovering from a limb ailment shifts its weight away from the hurt leg, putting more weight on the other three legs.

**Symptoms of founder**—It is important to recognize symptoms of founder as quickly as possible. The foot is hot to the touch, and the sole is sensitive. The horse takes its weight off the foundered foot and appears distressed. Often, both front feet are affected, and the horse shifts its weight from one foot to the other. In many cases the horse stands stretched out, is unwilling to walk, and, in severe cases, wants to lie down constantly.

**Treatment of founder**

1. Summon a veterinarian immediately.
2. Stand the horse with its feet in cool water to reduce inflammation and pain.
3. Bed the horse's stall with deep sand or shavings (at least eight inches) so the horse can "dig" its toes in and support more weight on its heels. This also reduces pressure on the sole.

Some trainers pack the foot of a foundered horse with mud or a poultice to help reduce inflammation. This treatment can be effective if the mud remains soft, but hardened mud increases pressure against the horse's sole and causes more pain.

It is very important not to allow a foundered horse to move. Movement can cause premature tearing of the laminae and accelerate the downward rotation of the cof-

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Proper thrush treatment is only complete when the sulcus crack has re-grown. This crack is warm and moist. As long as it exists, thrush and fungus will burrow back inside leaving your horse exposed.

How to use NO THRUSH®: Don't wash with water. Adding more moisture to a wet infection is counter productive. Use your pick and brush to clean the hoof. Apply NO THRUSH® deep into the sulcus and around the frog. You will see the powder instantly begin to absorb.

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fin bone. In severe cases of founder, rings form on the hoof wall as it grows downward. Founder is a very serious ailment; moreover, once a horse founders, it is prone to do so again.

### Navicular Disease (Syndrome)

This condition is serious, and is, unfortunately, fairly common in racehorses. It usually occurs in the front feet, primarily because they carry 60% of the horse's weight. The disease takes its name from the navicular bone (a small bone in the back of the foot) although it could involve any of the structures in that area.

**Causes of navicular disease (syndrome)**—The exact cause of navicular

disease is unknown, but several contributing factors seem to be common to most navicular horses. Horses with straight, upright pasterns and feet seem prone to navicular. Horses with very low heels and long, sloping shoulders also seem especially vulnerable to navicular. Heredity and inadequate blood supply to the navicular bone may be contributing factors.

**Symptoms of navicular disease (syndrome)**—To avoid the pain in the heel area, a horse with navicular disease attempts to walk on its toes. Lameness is evident in severe cases. While a horse is standing in the stall, it tends to "point" the affected forefoot. If both forefeet are affected, the horse alternates pointing both feet.

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## Who Are The Equi-Move Master Farriers?

**E**qui-Move Master Farriers are highly trained farriers that offer the equine enthusiasts unique specialized "Farrier Services." Each farrier is professionally trained and certified through the Equi-Move School of Master Farriers. Equi-Move Master Farrier Jerry Linker has been training and certifying world-class farriers since 1995. He and the graduates of Equi-Move Master Farriers offer blue ribbon services.

Equi-Move Master Farriers are dedicated to improving your horse's natural performance abilities. Because our farriers are thoroughly trained and experienced they offer services unrivaled by the average farrier. Equi-Move techniques can improve your horse's balance, correct improper movement, and bring comfort in the case of lameness.

Equi-Move Master Farriers recognize lameness problems and can offer a supporting/consulting role to veterinarians with both products and specialized techniques offered by our Research and Development Department. Injuries to legs and symptoms such as leg swelling, pulled ligaments, fractures, breaks, fluid buildup in joints, etc., can be addressed. Our farriers recognize early founder and

they have been trained to assist veterinarians with early intervention techniques that save equine lives.

Equi-Move Master Farriers can perform specialized corrective shoeing techniques that help to bring comfort and healing to problem feet such as navicular, ring bone, etc. They are trained to recognize various arthritic conditions and can offer supporting roles in treating such conditions.

Equi-Move Master Farriers feel it is extremely important for owners of competitive horses to keep a good working relationship with a certified master farrier. The farrier is a key team member who should be certified, having knowledge and experience. Owners and trainers need to always keep their competing horses on a regular schedule with a farrier to prevent unnecessary problems. If you want to stay in the game make sure your team includes a certified, licensed farrier.

For more information please contact the President of Equi-Move Master Farrier's Association, Jerry Linker, at 859-354-4578. Linker's personal website address is <http://www.equimovemasterfarrier.com>; serving central Kentucky and Ohio.

**Treatment of navicular disease (syndrome)**—Not much can be done to alleviate the pain associated with navicular disease except to make the horse comfortable and summon a veterinarian.

Although navicular disease is not an emergency, the horse should be made comfortable as soon as possible. The veterinarian will determine what treatment to pursue. One option is corrective shoeing, which may allow the horse to be functional. Corrective shoeing may include the use of a bar shoe (with a bar joining the heels), which minimizes concussion to the heel area. Or, a wedge pad (thicker at the heel than at the toe) between the shoe and the hoof wall reduces the tension on the deep flexor tendon and reduces concussion as well.

Another option for serious cases is a neurectomy. This surgery eliminates all

feeling to the back third of the foot by severing the nerves. It is unlikely that a horse that has had navicular disease will ever race again.

Often, a horse with very low heels has been improperly shod and the heels have become hot and sore. This minor inflammation is sometimes mistaken for more serious navicular disease. The farrier should encourage heel growth over the next month or so to alleviate this problem.

### Foot Abscesses

A foot abscess is an infection in the soft tissues of the foot, most commonly under the sole or hoof wall. Because the soft tissues of the foot are encased in a rigid box (the hoof wall and sole), the pus caused by an infection has no easy avenue of escape. Pressure builds up, causing pain and further disruption of the soft tissues. Because

the pus tends to move along the path of least resistance, most abscesses break out at the coronet.

**Gravel**—Most abscesses start with a hoof crack or separation (defect) of the wall and sole at the white line. Dirt, mud, manure, tiny bits of gravel, and water can enter the defect. This material is forced into the defect when the horse puts weight on the foot. As more material packs in, the defect becomes deeper and causes more and more disruption of the laminae of the hoof wall, or of the white line. This debris also introduces bacteria that multiply in the sensitive tissues of the wall or sole, and infection results. Gravel may occur in all four feet but is found primarily in the front feet.

**Sole bruises and puncture wounds**—Bruising of the sole can also lead to an abscess, particularly if the horse is forced to stand in wet, unsanitary conditions. The hoof wall and sole are somewhat porous and will absorb water. If these areas of the foot become waterlogged, surface bacteria can invade the bruised area and create an abscess. Puncture wounds can also cause abscesses by introducing bacteria directly into the foot. If a nail pierces the sensitive tissues of the hoof wall, bacteria have entered, and infection may result.

**Symptoms of foot abscesses**—Onset of lameness in the affected foot may be gradual or it may be sudden and severe enough to lead you to suspect a fracture. If the abscess is toward the back of the foot, the horse may stand with only the tip of its toe on the ground. A horse with an abscess at the front of the foot is more likely to hold the affected foot completely off the ground. The hoof wall is often noticeably hot to the touch over the abscessed area, and an increased pulse in the arteries at the back of the fetlock is usually evident. (These symptoms also occur with other serious foot conditions,

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such as laminitis, founder, or a fracture.) There is almost always pain over the affected area when the veterinarian or farrier presses on it.

**Treatment of foot abscesses**—The most important part of treating an abscess is to establish drainage. A veterinarian or farrier may have to open up the sole or hoof wall to allow drainage. Once the abscess has broken out (or has been cut open), you can help by soaking the foot in warm water and Epsom salts and by poulticing the foot, including the coronet. Continue soaking and poulticing the foot as often as the veterinarian instructs. This treatment ensures complete removal of all infected material.

If the hoof wall or sole has been opened to drain the abscess, the area should be kept covered with a waterproof dressing or protective boot until it has filled in with horn. Abscesses can recur if they do not heal properly the first time.

### Hoof Cracks

This term refers to any crack occurring in the hoof wall. Hoof cracks include toe cracks, quarter cracks, and heel cracks, and can occur in all four feet. Most hoof cracks are vertical and start on the ground surface. In rare cases a vertical crack will occur at the coronary band; however, most cracks originating at the coronary band are horizontal.

**Toe crack**—This is a crack in the toe of the hoof wall. It usually starts at ground level and works upward toward the coronet.

**Quarter crack**—This crack is found in the quarter of the hoof wall. A quarter crack left untreated spreads upward toward the coronet more quickly than a toe crack or a heel crack. This is due to the significant expansion of the quarter upon contact with the ground. Vertical quarter cracks may also originate at the coronet and spread downward.

**Heel crack**—This crack is found in the heel of the hoof wall. Like quarter cracks, heel cracks that start at the ground surface typically spread upward more quickly than toe cracks because the heel expands more than the toe upon contact with the ground.

**Causes of hoof cracks**—The primary cause for any crack in the hoof wall is dry, brittle hooves. Pressure and concussion to the feet also contribute to hoof cracks. A normal, moist foot will spread at the heels and quarters to absorb concussion. Under the same concussion, a dry, brittle hoof is likely to crack. Hoof cracks can become serious if allowed to deepen and expose the sensitive inner tissues of the foot to infection.

**Symptoms of hoof cracks**—Although hoof cracks may extend downward from

the coronet to the toe, quarters, or heel, most cracks originate at the ground surface and spread upward; these are commonly referred to as sand cracks. Lameness results in cases of deep cracks.

**Treatment of hoof cracks**—The treatment of hoof cracks varies with the seriousness of the condition. Deep quarter cracks are probably the most difficult to

treat because they spread more quickly than the other two types. A quarter crack can take several months to grow out and heal completely.

A veterinarian and farrier work together to treat hoof cracks. The veterinarian cleans and disinfects the crack thoroughly to prevent infection, and the farrier may fit the foot with a corrective shoe to



Most hoof cracks are vertical and start on the ground surface

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keep the crack from spreading. Or, the farrier may patch the crack with plastic, epoxy glue, or fiberglass, and the horse can usually return to work immediately. It is your job to follow the veterinarian's instructions and to keep the foot clean while it is healing.

**Prevention of hoof cracks**—To prevent cracks, the hoof wall should be moist and pliable. Many horsemen regularly apply a commercial hoof dressing to the hoof wall to keep it flexible. Shoeing will not prevent cracks. But applying a commercial, lanolin-

based hoof dressing once a week (or more often if recommended by the farrier) will definitely aid in preventing the foot from drying out and developing cracks. (See the section entitled “Foot-Care Products” for more information on hoof dressings.)

### Contracted Heels

This condition is characterized by a narrowing of the hoof at the heels. Contracted heels may occur in all four feet but are most commonly found in the front two. The basic causes of contracted heels are

faulty conformation or improper shoeing that reduces the spreading of the heels and the contact of the frog with the ground.

**Symptoms of contracted heels**—The frog seems to shrivel up, appearing smaller and “pinched” between the heels. The hoof wall also loses its “spring” and becomes narrower at the heels. The entire hoof wall is dry and brittle. The horse stumbles frequently and tries to walk on its toes when it first comes out of the stall in the morning.

**Treatment of contracted heels**—Corrective shoeing by a competent farrier is necessary for a horse with contracted heels. The farrier can apply special shoes to help spread the heels. Also, applying a commercial hoof dressing to the hoof wall keeps the heels and frog softer and more pliable. Note: A horse with contracted heels is also more prone to thrush because the lateral and medial grooves of the frog are deeper and can trap more debris.

### Foot-Care Products

Different trainers use various hoof care supplements, dressings, or packs for maintaining healthy hooves. A common product among most trainers is hoof dressing, or hoof oil. Hoof dressing is used to treat horses with dry, brittle feet by containing moisture in the hoof wall. Some trainers apply it as it is needed under the direction of the farrier or veterinarian. It is available in ointment or liquid form and should be applied directly to the hoof wall with a brush or spray bottle after the hoof has been washed.

Some of the ingredients found in hoof dressing are lanolin, pine tar, and oils of turpentine. Be careful not to apply hoof dressing too often. In wet weather or moist conditions, hoof dressing is not necessary. Even in dry areas, using hoof dressings daily can soften the hoof wall. If the foot becomes too soft, the farrier will have difficulty clinching the horse-shoe nails to the hoof wall. The nails rip through a soft wall, making it difficult to affix the shoe. The farrier is the best person to ask about a horse's hoof texture and moisture content.

Another common foot-care product is a commercial thrush remedy. Kopertox is one example of such a product. One of the most effective components of a thrush remedy is formaldehyde, which kills bacteria. If a horse has thrush, this medication (or a similar one) should be applied daily. As this medication tends to dry the hoof, treatment should stop once the thrush is eliminated. 🐾



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