ROUTINE CARE

Advanced Hoof Care and Farrier Relations

by Scott Lampert

A basic understanding of horseshoeing and an appreciation of what it takes to provide this service are crucial for successful trainers. Trainers have tremendous responsibility with regard to proper horseshoeing and farrier relations. This discussion will provide basic horseshoeing, hoof care, and emergency care fundamentals, and outline steps to building healthy feet and a successful relationship with your farrier.

Hiring and Keeping a Qualified Farrier

It has been said that 90% of all lameness is created from inappropriate and bad horseshoeing. Hiring a qualified farrier can reduce lameness, improve performance, and increase overall health.

Your farrier should be someone who has experience and is qualified to shoe the type of horses you show, train, or board. A successful race track farrier may not have the necessary experience to shoe a hunter or jumper! Most farriers have a specialty or focus on a type of horse. Asking them about their experience and specialization is your responsibility. This information will allow you to utilize their talents and may prevent you from asking them to do something outside their talents or interest. This approach works for all aspects of horseshoeing. You may have a qualified hunter/jumper farrier, but if your horse becomes laminitic, your farrier may not have had experience dealing with that issue and he needs to tell you so. He should have associates he can introduce you to for the help you need.

Being open minded and working as a team has proven to be a successful approach. Ask for references and also make inquiries with your fellow trainers for their recommendations. Ask if they have liability and care, custody and control insurance. Affordable insurance is available to farriers and will protect your facility, property and horses. Shopping for a farrier simply by what they charge may end up causing serious problems in the future. If you shop and hire the least expensive farrier, you may end up getting what you paid for and find yourself explaining to your clients why you used an unqualified farrier on their very expensive horse. On the other hand, do not be fooled by hiring a farrier because he is the most expensive. Charging more does not mean better horseshoeing.

Your farrier is someone you will work with on a frequent basis. Getting along, having mutual respect, and maintaining open communication are important keys for success. Most farriers need only a few things from you to do their job. These include a safe working environment, open lines of communication, advance organization, and prompt payment for services rendered. It is your responsibility to provide and guarantee them.

Safety

An adequate shoeing location with plenty of light is necessary. It is the responsibility of the trainer to make sure the horses stand quietly. If they do not, a handler or medication should be available. Your concern for the health and safety of your farrier and horse will ensure you retain the farrier you like and trust.

Open Lines of Communication

Express your goals, expectations, concerns, or problems to the farrier. Do not wait until you see your farrier and the issue has gotten worse or has been forgotten.

Thoroughly describe any lameness, injury, or performance issues. If a veterinarian has been asked to look at your horse, invite your farrier to the exam so he may voice what he has noticed.

Allow the farrier to make suggestions that may increase the chances for success. If what he says makes sense and you are assured it doesn't pose a threat to your horse's health, then allow him to proceed.

Organization

In a timely manner, schedule the time, date, and location of your horses. If you are planning on being at a horse show or the horses will be located elsewhere, let your farrier know as soon as a plan is made.

Informing your farrier of an accurate horse count will also be much appreciated. If you sell or buy a horse, and it changes the head count, then let your farrier know as soon as you can so he can allot adequate time for his work at your facility.

Payment

It is the responsibility of the trainer to make sure the farrier is paid. The trainer has control of the horse and most boarding/training contracts allow you to maintain control of the horse until all bills are paid. The best scenario: a check or checks should be available as soon as your farrier has finished shoeing.

No Foot - No Horse: It Is Your Responsibility

Quality horseshoeing is only as successful as the day to day care you provide. The best shoeing can quickly become worthless if

proper care is not implemented. The trainer is the person responsible for providing a suitable environment and for insisting upon practices that promote healthy hooves and sound horses. You rely on your farrier to inform and educate you on your horse's hoof condition, health, and needed hoof care; and your farrier relies and trusts you will implement and oversee his requests or suggestions in your day to day practice. *Education without implementation is simply conversation.*

As a trainer, you may be overwhelmed with debates, discussions, and articles regarding horseshoeing and hoof care: shoeing vs. barefoot, natural balance technique vs. traditional techniques, break-over vs. support. You may read or hear about the advantages or "miracles" regarding a specific shoe, pad, hoof packing or pour, paint and salve. There is a simple and good way to handle these issues: TRUST YOUR FARRIER.

By all means, ask questions, express concerns, share your knowledge and experiences, but appreciate, respect, and trust his knowledge and experiences—after all, that's why you hired him.

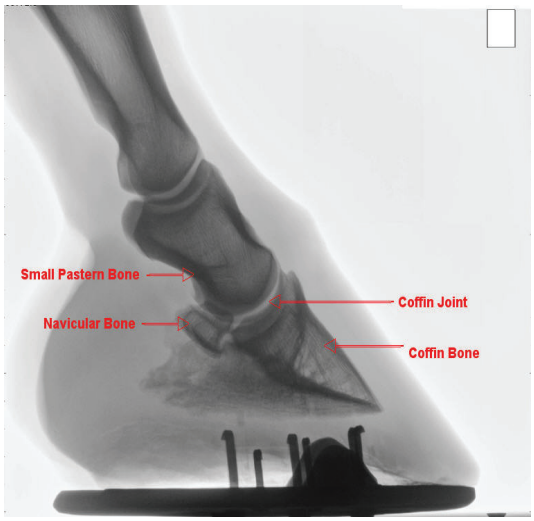
Please consult your farrier before changing or applying anything to the feet. If you have a concern or question about any aspect of your horse's hoof care... ASK. Expect a logical explanation. Keep in mind, no one wants to fail or do a bad job.

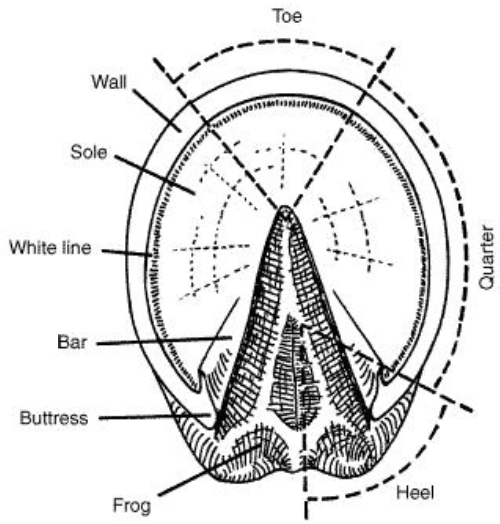
Basic Hoof Anatomy

A basic understanding of hoof anatomy is essential for every trainer to have. This will allow you to communicate and understand conversations with your vet and farrier.

Basic structures:

- **Wall:** Protects the interior of the foot and aids in supporting the coffin bone.
- **Sole and Frog**: Although separate structures, these two connected components, along with the wall, are the weight-bearing structures of the foot. The frog also has a significant role in the circulation of the foot. Due to their proximity to the ground and the load placed upon them, both the sole and frog are prone to several issues. Primary issues include bruising, inflammation, and infection.
- **Coffin Bone:** Also known as P3, distal phalanx, third phalanx or the pedal bone. The largest of the three bones that form the interior framework in the hoof and most distal bone in the body. The most common issues include pedalostitis (inflammation and remodeling of the outer edge), fractures, coffin joint inflammation, and soreness.
- **Navicular Bone:** The smallest of the three bones in the foot, located just behind the coffin bone. This bone and the lubricating sac called a *bursa* provide a fulcrum or pulley for the deep flexor tendon, which passes over the navicular bone and attaches on the coffin bone. This small bone and bursa are victims of significant wear and trauma, making it a likely site for lameness.


Small Pastern Bone
Navicular Bone
Coffin Joint
Coffin Bone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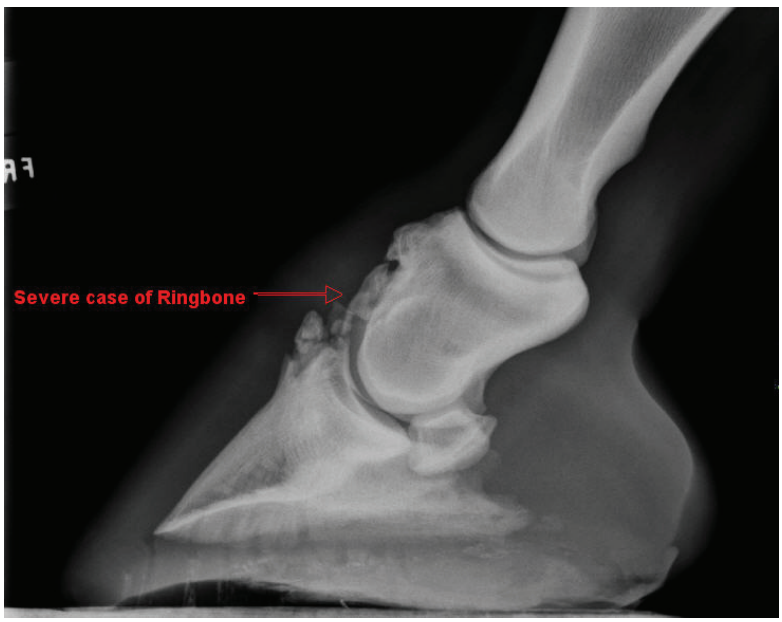
Severe case of Ringbone

- **Laminae:** Tiny sensitive structures that attach the wall to the coffin bone and can become inflamed from concussion, medication overload, or stress causing *laminitis*, an extremely painful condition**.** Laminitis also is the beginning of founder, the rotation or sinking of the coffin bone.
- **Small Pastern Bone:** Only the distal (bottom) half of the small pastern bone resides within the hoof capsule. Positioned above the coffin bone, it makes up the upper component to the coffin joint. The most common issue is *ringbone*, a bony enlargement or growth, not usually a cause for lameness until it involves the coffin joint.
- **Ligaments and Tendons:** There are several small ligaments and two tendons within the hoof capsule. Ligaments attach bone to bone, and tendons are a muscle to bone attachment. The most common injuries are strains and tears to the collateral ligaments, Impar ligament, or to the attachment of the deep flexor tendon on the coffin bone. All of these cause severe lameness, and require substantial time off, treatment, and professional shoeing to return back to work.

Creating and Keeping Healthy Feet

Healthy and strong feet start with good bloodlines. Breeding is crucial for healthy feet. In recent years, it is a common premise that if you have a mare that is broken down, lame, or has a club or bad foot, then make her a brood mare. This helps to explain why we are seeing more and more horses that are likely to break down, be lame, and have clubby or bad feet. A sound breeding program is one of the best ways to establish a realistic chance of correcting this epidemic. There are, however, several key components to building and maintaining healthy feet. Basic knowledge of how a foot grows and the things that make it strong will give you the opportunity to do your part toward keeping feet healthy.

Several days of dried mud/ manure.

After simple daily cleaning, the hoof is able to be healthy.

Polished with optional sealant and ready for the show ring.

Hoof strength and protection comes from the wall and sole of the foot. Primary hoof growth comes from the coronary band. The wall (outer hard shell) is made up of thousands of small tubes connected together. Keeping these tubes and their attachment to one another healthy allows for the wall to stay strong. The outer wall and sole offer protection and support to the sensitive structures inside the hoof. Keeping these structures as healthy and strong as possible will give you the best chance to keep hooves healthy and your horse sound. Weakening or thinning these two main structures will increase the chances for lameness.

Beyond employing a competent farrier, there are several factors that contribute to the success of healthy feet.

Common Sense: This is a key element to healthy feet.

- Don't turn horses out in deep mud after it has rained for days.
- Keep the horse inside if it has lost a shoe until the farrier can put it back on.
- NEVER wrap a foot with duct tape. It will restrict blood flow. You can make a "tape pad" made of overlapping strips of duct tape that you can put on the bottom of the foot to protect the sole and wall.
- Keep clean, dry stalls.
- Use properly fitted bell boots.
- Clean feet on a daily basis.
- Do not allow horses to stand and needlessly paw in cross ties.

Nutrition: Nutritional needs are as individual as horses.

- For most horses, a well balanced, low carbohydrate feed is ideal.
- Quality hay is the most important aspect in a horse's diet. This DOES NOT mean high alfalfa or rich green hay is better. These qualities, although high in protein, have been proven to increase the chance to colic. Quality hay means that it has balanced nutrition without mold, dust, or dangerous weeds. Please refer to the nutritional section of this manual for more information. Educate yourself on nutrition. Most feed companies have a nutritionist who will come to your barn and examine each horse and determine the best feed program individually.

Supplements: This section opens up an enormous amount of discussion and relates closely to nutrition.

- Supplements suggest the lack or failure of nutrition in the food you are currently providing, or imply that a horse burns more nutrients than it consumes.
- Athletic horses in competitive training or on the road tend to burn an excessive amount of stored nutrients. Most commonly, stress and fatigue have a lot to do with this. Subsequently, horses' feet become stressed, weak, and fatigued over time. There are inconclusive or challenging statistics with regard to supplements and their direct effect on the feet. There is no known miracle supplement to guarantee healthy feet. Proper daily care and conditions are the most successful.

- The key components to nutrition and supplements are necessity and *absorption*. As with people, a horse can only absorb or utilize a specific amount of any nutrient or supplement.
- Excess amounts of supplements are usually wasted away through urine and manure. This is very common with myths such as those surrounding the use of biotin. Although a key component to quality hoof growth and health, excess amounts will not increase the benefits biotin provides.
- It is unsafe to assume that if the needed amount is good, a lot more must be better. Consider filling your car with gasoline, and when it is full continuing to fill until it is spreading dangerous fuel all around you. Overloading a body with unnecessary amounts of a vitamin or mineral may present the same unhealthy or possibly dangerous condition. Ulcers are a very real and significant problem within the competitive equine community. Very often, ulcers can be attributed to feeding an overload or combination of supplements. This toxic condition does more damage to hoof growth and quality of health than the hoped-for benefits of feeding the supplements. A qualified nutritionist will be able to identify possible toxic nutritional and supplemental combinations that may increase acids or present undue stress on the body.
- It is important to maintain a harmony with your nutrition and workload. Without balance, one can be as useless or destructive as the other. If you suspect a nutritional failure, consult your veterinarian, nutritionist, or farrier. Ask your veterinarian to analyze blood, liver, and kidney functions. This will offer a better solution as to what may or may NOT be needed.

Paints and Gloss: In theory, horses stand on four fingernails. The composition and structures are very similar to a human fingernail. Consider this when you apply things to a horse's foot.

- Painting oil- or petroleum-based products on the hoof wall and then sending a horse into a stall or arena where manure, sand and dirt adhere to it is not healthy. This behavior has proven to be a key component in the deteriorating strength of the wall.
- There are, however, several products that when used properly will seal and protect the hoof and still offer the gloss and shine. These products dry, like nail polish, and can actually help repel harmful elements. IF you feel it necessary to apply such products, ask your farrier or supply store to recommend sealant products such as Delta's Hoof Shield, Absorbine's SuperShine, Mustad Tuff Stuff or Kevlar Tuff Hoof guard. These products' primary use is to provide a safer option for a glossy appearance when showing. A healthy hoof should NOT require these products. When used in excess, they will create their own issues, primarily those related to build-up and trapping dirt and bacteria underneath the sealant.
- External products designed to treat or medicate the foot should be concentrated on the sole and coronary band. Because of the "tubular" design of the wall, the best chance for external products or medicine to be effective is an application to the coronary band, or the sole/frog.
- Again before applying any product to your horse's feet, consult your farrier!

Fatigued or stressed feet: Primary hoof failure comes from fatigued

or stressed feet. This happens when we ask too much of the feet, consistently put the feet in a position to fail, or deprive the feet of the necessary nutrition or environment to succeed. Several conditions responsible for this are:

- **Lack of common sense:** Consistently putting the feet in a position to fail through deprivation of necessary nutrients will contribute to excessive stress on the hoof and foot structures.
- **Excessive bathing, wet, or infectious conditions:** Excessive bathing or wet conditions are key components of deteriorated feet. Excessively wet or infected feet are unable to support the day-to-day work load. This makes them weak and vulnerable to bacterial infection. Wet conditions include wash racks, wet pastures from dew or rain, stalls where the urine has not been adequately removed, manure, mud, dirt, and sand. The infected moisture gets pressed into the hoof wall and frog causing an ideal environment for infection, rot, and thrush. Remember, a hoof wall is made up of thousands of small tubes linked together. The main avenue for moisture and bacteria to enter or exit the foot is from the bottom. The weight of the horse pressing this into the wall, sole and frog make for a difficult problem when out of control. Topical antiseptic applications can help, but diligent management is far more successful.
- **Application of destructive products:** Refer back to "Paints and Gloss."
- **Rotational torque / lunging:** Inappropriate or incorrect lunging, or circles will cause feet to fatigue and fail due to the constant twisting and torque of the limb and foot. Horses are designed to travel in a straight line, just like humans. Run in a 15-foot circle for an hour, and you will quickly appreciate the amount of stress and fatigue such activity incurs on the feet.
- **Concussion (jumping, pawing, etc.):** Continued concussion will break down the strength of a foot and increase inflammation, as well as loosen shoes. Jumping applies tremendous stress and force on the back section of feet.
- **Medication:** Several medications or excessive medications have proven

1. Lunging and other work in small, tight circles will cause uneven loading.

2. Hind feet and hock on take-off for a jump.

3. Front feet and forelimb on a landing.

to weaken the attachment structures within a foot. Some specific components have been shown to be significant contributors to severe problems within the foot. An example of this would be excessive amounts of dexamethasone, which has been thought to contribute to founder, the rotation or sinking of the coffin bone. Understandably, a smaller amount may weaken feet, making them more susceptible to bruising, becoming sore, and breaking down. Consult your farrier and veterinarian with any questions you may have about the effects of administering medications.

- **Improper footing or riding surfaces:** Type, condition, depth and care of the footing and the surface we consistently ride on are a crucial element to healthy feet. For a more in-depth discussion of footing in riding areas, see "Building an Outdoor Arena" in this manual.

Emergency Care: Bruised, infected, or sore feet are primary causes for foot-related lameness. Inflammation within the hoof capsule reduces the blood flow and can begin to affect other key structures. Eliminating or reducing this inflammation is important to healthy feet.

Knowing how to take a digital pulse is a powerful tool. Being able to detect different types of abnormal conditions will help identify lameness when communicating with your farrier and veterinarian.

Infection in the wall or sole creates pain so powerful that it has often been misrepresented as a broken bone. Determining the correct location and possible cause of the lameness will offer the best chance for treatment.

- **Abscesses and infections:** Several factors can contribute to the development of abscesses and infection, but the end result is very common: extreme pain and lameness! Treatments for these conditions vary depending on location and degree of sensitive structures involved.
- **Thrush:** Depending on the location and depth, thrush can be very difficult to manage. Your farrier should open and expose the area as much as possible without bleeding. Thrush is an *anaerobic bacterium*, which means it survives best without oxygen. Exposing or introducing oxygen will assist in controlling the infection. There are several products on the market for combating thrush, but none are successful if the cause of why the thrush got there is never addressed and treatment is not diligent. Clean, dry stalls and feet are key components for success.
- **Punctures in the sole or frog:** The sole is a vulnerable structure. It is not uncommon for a horse to step on something and puncture through the sole or frog. The initial treatment often dictates the success of recovery.
    - Call your veterinarian *and* farrier immediately. If the puncture is bleeding and the object is not in the sole or frog, controlling or stopping the bleeding is essential.
    - Apply direct pressure with gauze, clean towel, or paper towel. Using soft cotton on a bloody foot may increase the difficulty in cleaning the area after the bleeding has been controlled.
    - A tourniquet may be needed around the fetlock if unable to control the bleeding. Use a belt, stirrup leather, or other flat material for the tourniquet. Wrapping the fetlock with Vetwrap or

Elasticon beforehand will reduce pinching. Only knowledgeable, experienced handlers should apply a tourniquet. **Contact your veterinarian or farrier *before* applying any tourniquet**.

- If the object is still located in the sole or frog, then do not move the horse; try to leave it until the veterinarian or farrier arrives. This will help determine what interior structures might have been compromised.
- If you need to pull the object out, take pictures first. (Use the camera on your phone, if need be.) Expect the bleeding to increase if you do remove the object.

- **Sore heels, sole, or frog:** Constant concussion causes an increase in inflammation within the foot. Being able to control that inflammation will heal and encourage good blood flow to the foot. There are several poultices available on the market. Talking to your farrier about when and if your horse seems sensitive may indicate a need for a change with the shoeing. Depending on the condition or degree of pain, a pad or packing applied during shoeing may offer a better option.
- **Quarter, toe, or wall cracks:** A crack in the hoof can come from multiple things, including a direct strike against the wall, concussion, improper trimming or shoeing, an abscess breaking through the wall, or just one bad step. Most cracks are a direct result of the hoof and wall being under maximum load or twist, which forces the wall or coronary band to tear open. Some cracks bleed and some do not. Some cause lameness and some do not. Cracks can start at the coronary band, the bottom of the hoof, toe, or mid-wall. Treatments for cracks are as individual as the crack themselves. The most important and, unfortunately, the most difficult things to determine are *how* and *why* the crack developed. After determining a possible cause for the crack, your farrier must now develop the course of action for treatment. Equally important to the shoeing is following the farrier's requests for limiting specific training, lunging or turnout until the crack becomes stable.

Medial Quarter Crack


Fatigued Feet with a Crack


Lateral Quarter Crack

Myths, Truths and Understanding:

Too many baths: Logically speaking, if a horse were to remain or stand in water for hours a day, his feet may never dry out and will become water-logged. This scenario is unlikely unless you live in a very moist climate. However, excessive bathing can weaken the integrity of the feet. The continued "wet foot to dry stall" wicking effect may cause feet to become overly dry. Applying petroleum or paste products to the exterior wall will have little to no effect on this condition because the moisture is being added and lost primarily through the sole.

Aluminum shoes wreck feet: Aluminum shoes themselves do not cause poor hoof condition. The alloys used in today's shoes are made of high-quality aluminum. However, steel is still considerably stronger and is what nails are made of that attach the aluminum shoes. Since the nail is stronger than aluminum, over time, the repeated concussion or use will cause the nail to expand the hole in the shoe. This makes for loose shoes, which lead to clinches becoming loose and walls breaking up around the nail holes—but the aluminum itself does not cause feet to deteriorate.

Bar shoes crush heels: Any shoe applied incorrectly may create an undesirable result. Bar shoes used appropriately are proven to be very successful. It is the inappropriate application of the bar shoe that may crush heels.

Straw is better: This myth actually has some merit. If stalls were cleaned equally, straw is better bedding for horse's feet. Straw has natural oils that do not present the over-drying effect kiln-dried shavings do.

Florida makes my horse's feet rot: Most farriers notice a deterioration of hoof quality on their horses that go to Florida from a cool climate for the winter circuits. Florida climate stays consistently warm and humid, which is the perfect breeding ground for bacteria. The sand in Florida is very fine, a powder consistency, and the bacteria level is very high within it. Because of its powder-like size, the sand easily gets under the shoe and in the nail holes. Adding this bacterium to wet feet offers a perfect condition for bacteria to "rot" and infect the feet. There is an increased likelihood of developing thrush, wall infections, and scratches. Additionally, horses that go to Florida will drink more due to the heat and humidity. This also increases the amount of urine and makes the manure moister. Stepping or standing in urine and wet manure mixed with the sand in the pastures presses into the hoof wall and impregnates the foot with contaminants. This is probably the most logical answer for why the feet get infected, walls rot, and feet deteriorate.

All feet get bad in the summer: There are several reasons that some horses' feet deteriorate in the summer. Most commonly, it is the combination of several things. Logically, it is when the horse is being asked to perform the most, train the hardest, and nutrition is being depleted. It is also when

horses tend to stomp flies, paw in cross ties while they dry off from a bath, and most of the inappropriate hoof care takes place. All of these are components to create fatigued and stressed feet.

In conclusion:

As trainers, you have a tremendous responsibility as the primary care giver to your horses. Quality horseshoeing and farrier relations are something important to your successful business. Appreciate the job, experience, and knowledge your farrier brings to the table. By hiring a qualified farrier, you increase your horses' chance to stay sound and show to their potential. Your farrier should be included on lameness and pre-purchase exams. Demonstrating common sense, respect, and an open line of communication will ensure you maintain the farrier you need and your horses will receive the care you count on.