

Lesson 6: Hoof Care

The hoof is designed to withstand tremendous amounts of pressure. Normally, it can endure the impacts of walking and running. However, this seemingly indestructible structure can be weakened by something as simple as overeating.

Structures of the Hoof

As the horse is standing, the visible parts of a hoof are the wall, coronary band, perioplic ring, pastern, fetlock, and cannon. (See Figure 6.1.) The hoof wall is made from fibers that grow down from the coronary band (also known as the growth ring). These fibers are parallel to one another. The hoof wall grows approximately 3/8" per month and at a 45-55° angle.

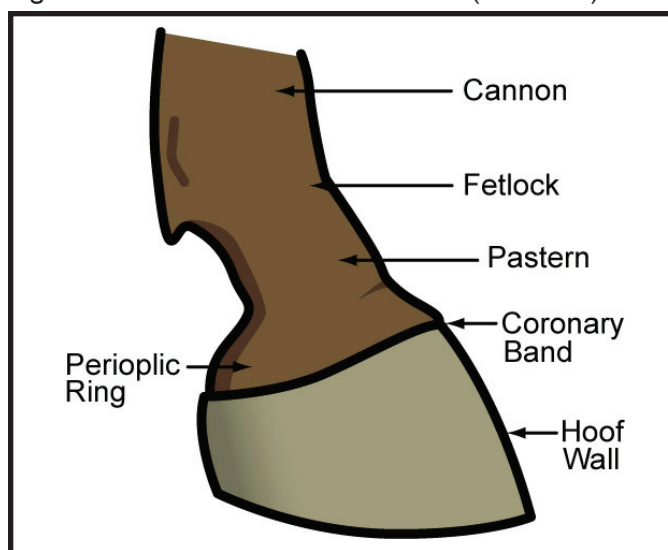
The hoof can be divided into three sections: toe, quarter, and heel. The white line, or inner wall of the hoof, is a softer tissue with a similar cell structure that separates the wall from the sole.

The next structure is the frog. It starts at the heel and projects forward toward the toe in the shape of a V. At the back part of the frog is the extension point known as the cleft of the frog. The frog's major functions are to allow the hoof to expand and to act as a shock absorber. (See Figure 6.2.) The hoof's inner structure is made up of five major bones—the cannon, long and short pasterns, coffin, and navicular. (See Figure 6.3.) These bones are the supporting structures that are responsible for holding the horse's weight. Failure of any one of these bones will cause lameness; if severe enough, it will cause permanent damage.

Inspecting the Hoof

Hoofs should be inspected at regular intervals (daily, if shod). Before and after riding, each hoof should be picked up and cleaned. If the horse is pastured and barefoot, hoofs should be inspected at least twice a week. This assures healthy hoofs and keeps the animal used to having its feet picked up. A person should also be on the lookout for any unusual movements that might indicate lameness. Use extreme care when handling hoofs of a horse that has not been handled that much.

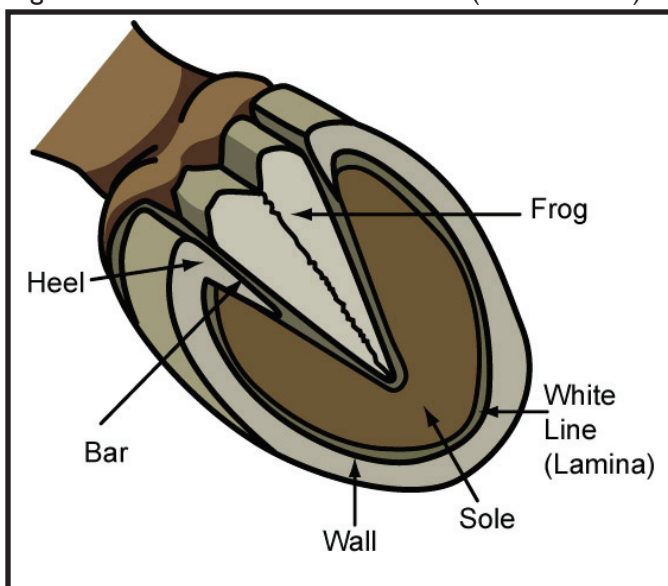
Figure 6.1 - External Parts of the Foot (Side View)



When examining the hoof, the first step is to clear away any mud, manure, or foreign matter stuck to the sole. Take care to clean well around the frog. Never cut down the size of the frog, but remove any dead and loose material around the frog.

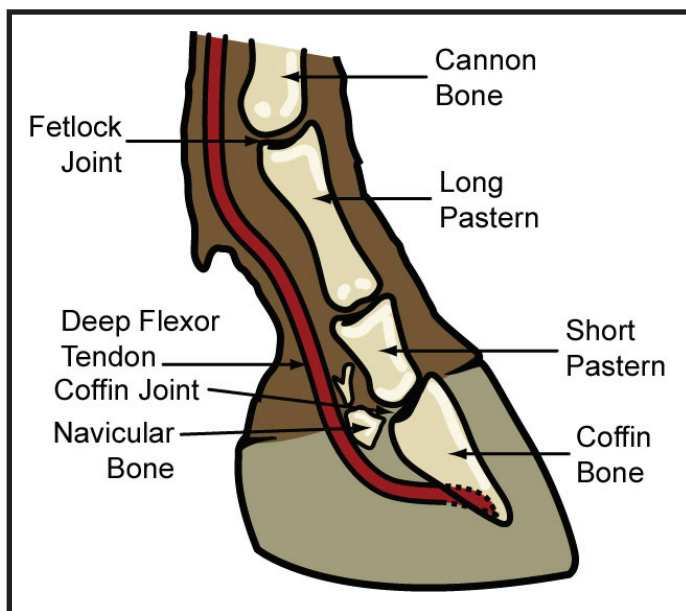
While cleaning out mud and debris, it is usually very easy to tell if the horse has thrush. Thrush is a fungus that creates a very strong, unpleasant odor. If detected, there are several products to treat this condition. One inexpensive treatment is to use a mild solution of bleach water and spray directly on the sole and frog area. Next, check for any chipping or cracking caused from drying out.

Figure 6.2 - External Parts of the Foot (Bottom View)



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Figure 6.3 - Internal Parts of the Foot



If drying becomes a problem, apply a hoof dressing such as neat's-foot oil, sweet oil, linseed oil, or another type of dressing. During extreme dry weather, it is a good idea to apply some type of hoof dressing each time the hoofs are cleaned.

Trimming the Hoof

In the wild, horses have very few problems with their feet. However, during domestication, the horse moved away from the naturally soft pasture to hard surfaces; small paddocks; muddy, urine-filled stalls; and unnatural diets. Therefore, people need to trim and care for the horse's hoof. Any shod horse's hoofs should be trimmed and reshod once a month since the hoof grows about $\frac{3}{8}$ " in a month's time. Failure to keep the hoof trimmed can cause excess strain on tendons.

Trimming is not something an amateur should attempt. Done incorrectly, it can cause quicking of the hoof or setting the hoof at the wrong angle. Quicking happens when trimming is done too close to the hoof's quick (similar to the quick on a person's fingernail). It can cause some bleeding and leaves an opening for infection. Nipping involves taking a pair of nippers (like large fingernail clippers) and removing a small portion of the hoof all the way around. Filing consists of taking a large rasp and filing smooth the rough edges. This is done after nipping.

Training from a qualified farrier is a good way to learn hoof trimming for one's own animals.

Ways of Shoeing

Shoeing protects the hoof from excessive wear, provides increased traction when trail riding, and helps correct defects in stance or gait. It also helps correct diseases and defects. Furthermore, shoes can help relieve pain and discomfort from such problems as hoof wall cracks, stone bruises, and tendonitis. However, shoeing does not make walking easier or increase agility. It does increase road shock, and nail holes can weaken the hoof wall or provide an access for germs to enter and cause an infection.

There are two styles of shoeing—hot shoeing and cold shoeing. Hot shoeing involves taking a shoe that has been handmade or commercially made, heating it up, and shaping and sizing it to the hoof's shape. Cold shoeing is simply shaping and sizing the shoe without heat treatment. Whichever method is used, shoeing should only be done by a skilled farrier. If not done properly, it can cause some very serious problems.

A new method called Natural Hoof Care is being used as an alternative to shoeing and as a way to treat horses with hoof abnormalities. This involves careful trimming and exercise to build up the hoof naturally without shoes. Horses were intended to go barefoot everywhere and on any kind of terrain. The natural method of hoof care is intended to bring the hoof back to its ideal shape and form. It can be used to treat several hoof abnormalities.

Hoof Abnormalities

Lameness is simply any condition that affects the horse's feet in an adverse way. Treatment depends on the exact condition. Many things can affect the horse's hoofs; some of these abnormalities follow.

Founder—A serious and common problem is founder (or laminitis), which affects about 100,000 horses a year. It is a breakdown between the soft tissue of the laminae and the hard outer wall of the hoof. It can be brought on by a number of causes, such as overeating grain, lush legumes or grasses (rich in carbohydrates); watering while the horse is hot; or because of uterus inflammation after

foaling. Treatment for this condition varies, depending on the severity. Regardless, treatment should be immediate to reduce the risk of permanent damage or death.

Stone bruise – Another common problem is stone bruising. Frequently, a bruise to the sole of the hoof is caused by a hard object (usually a stone or chunk of frozen soil). The main concern is that the injury does not form an abscess and cause further complications. Treatment is to let the animal rest and not use the hoof any more than necessary. If an abscess does develop, a veterinarian should be called.

Naviculitis – Naviculitis (navicular disease) is a disease of the navicular bone and bursa in the front feet. In some cases, the bone can rotate downward. (See Figure 6.4.) The cause may be difficult or even impossible to determine, and treatment will vary from animal to animal. Some animals may respond to corrective shoeing, while others may require therapy by a veterinarian. In most cases, recovery is limited.

Thrush – One of the most preventable diseases a horse can contract, thrush is caused by an anaerobic bacterium that grows around the frog of the hoof, causing a foul odor. The main cause of thrush is unsanitary stall conditions—wet and urine-soaked bedding—that the horse is left to stand in for extended periods of time. Treatment is to first clean the stall and keep it clean. Treat the affected hoof with a disinfectant-like bleach, iodine, copper sulphate, or copper naphthenate.

Hoof cracks—Also known as quarter cracks and toe cracks, these vertical cracks develop in the hard, outer surface of the hoof and vary in length. The cause is usually from the hoof becoming too dry or from improper shoeing. The treatment is to use special shoes that protect the hoof and prevent it from cracking further. Another treatment is to file or burn the top of the crack with a hot bar in a half-moon shape. Prevention includes applying some type of hoof dressing or, during very dry weather, moistening the soil around watering troughs.

Summary

The horse's hoof is a complex structure that can withstand the pressures of walking and running. However, the horse's hoof can be damaged relatively easily through improper care by its owner or handler. An animal's health depends greatly on the condition of its feet.

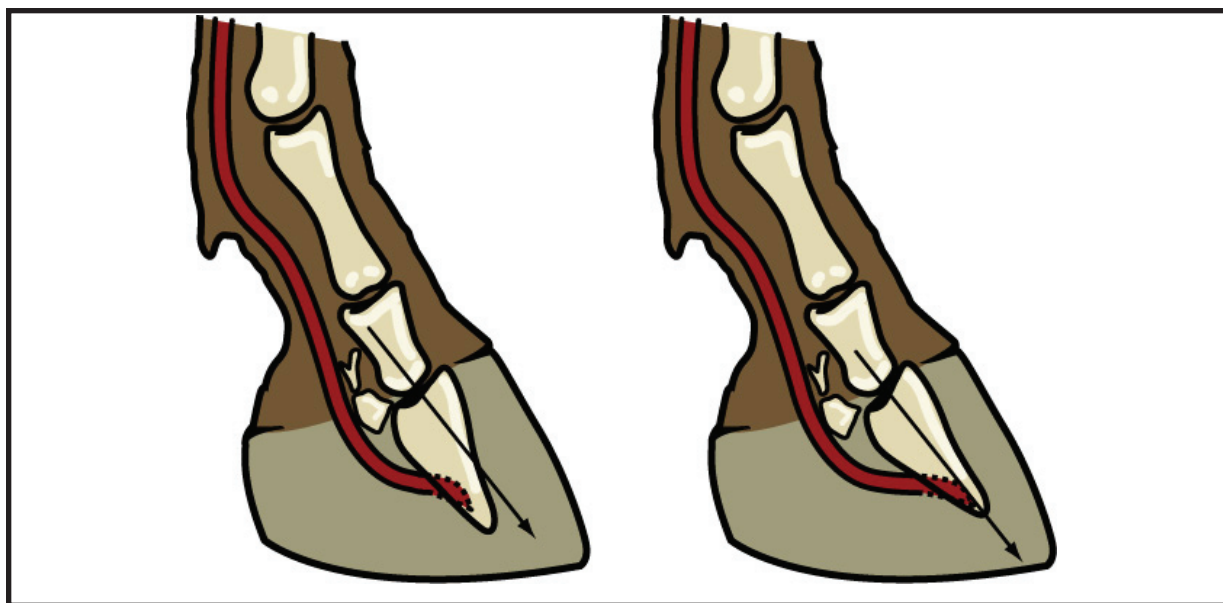
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Figure 6.4 - Rotated Bone Versus Normal Bone



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