

The Barefoot Movement: A Natural Approach to Maintaining Equine Foot Health

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Introduction

Since the domestication of horses, man has been using them for work, pleasure and sport. In an attempt to protect the foot, horse owners will shoe their horse.⁵ Regrettably, these shoes may have dire consequences on the horse's overall health, and are not always the best option. Horses that are shod (wear shoes) tend to be more prone to injuries and illnesses such as founders and navicular disease. Though having a horse shod appears to have benefits from an outsider's point of view, research shows that a natural barefoot trim is an alternative healthy approach to keep your equine's feet healthy.⁴ Horses that have been previously shod, need to undergo a transition period of approximately a year before being completely sound with a barefoot trim. This transition process is made easier by implementing a better diet, allowing more turn-out, and by protecting the horse's temporarily sensitive feet with hoof boots.² I aim to provide substantial evidence that barefoot trims are a healthy, natural option for horses.

Purpose

The purpose of this article is to educate horse owners on the effects that having a horse shod has on a horse's overall physical health, and to bring light to the benefits of a barefoot trim. Decisions regarding shoeing and barefoot trims alike tend to be made merely on desired craftsmanship rather than scientific evidence. This article aims to provide substantial evidence for the benefits of keeping a horse barefoot, by drawing from previously conducted studies. The goal is to not only encourage, but support new thinking in how horses can be cared for.

Why People Have Horses Shod

It is thought that shoes aid in protection for a horse when they are exposed to unnatural conditions and diets. Horses are shod to protect and support the foot, and to give the horse traction when walking on tough or slick surfaces.⁶ The practice of having a horse shod stems from tradition. The methods of shoeing are derived from innovative craftsmanship methods and a trial and error based process.¹ There is scant scientific evidence supporting the 'need' for a horse to be shod.

Many farriers (horse hoof experts) argue that shoes are necessary, as the growth rate of a horse's foot is slower than the rate at which the hoof is worn down when they are being used for work or sport. If a hoof becomes too short or worn down, the horse will experience great pain and not be able to walk comfortably. It is thought that the shoes prevent this rapid wearing of the foot so that the horse can continue to work comfortably.²

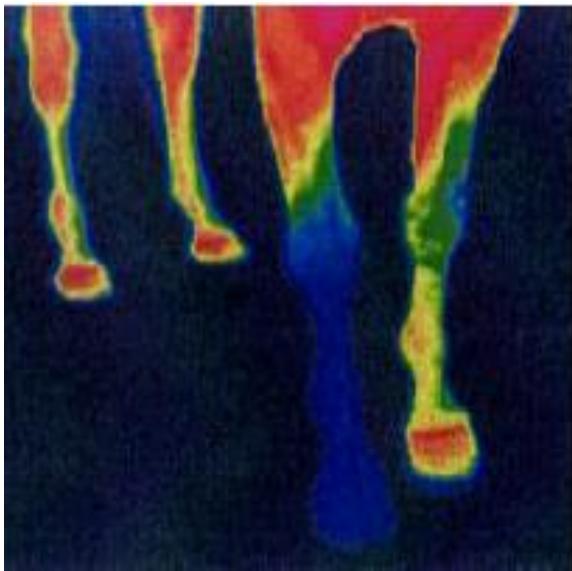
Another reason for having horses shod has to do with the history of their domestication. Since the domestication of ungulates, these hooved animals have been shod. It is difficult to trace the exact time in history when horses were first shod, but it is thought that the first shod horses were those used by knights in the Middle Ages in Europe. The Knight's horses had to live in dirty, moist, small stalls for months at a time. In that time, not much was known about anatomy or physiology, so the Knight's made their best efforts in protecting their horses' feet by creating shoes to protect the feet. Today, most horses are highly sought after and perhaps prized animals that are kept in more sanitary and spacious environments, thus it is time to rethink our reasons for shoeing horse.⁵

How a Horse's Hoof Works

Properly functioning hooves are necessary for a horse to have good blood flow and shock absorption, both of which are crucial to a horse's overall health.⁴

When a horse runs, the heel of the hoof hits the ground, and in a swift rolling motion, the tip of the hoof touches the ground shortly thereafter. During this movement the frog, the soft inner part of the hoof, hits the ground and pushes blood up through the foot and leg. If the frog is unable to make full contact with the ground, such as on a shod horse, improper circulation is eminent.⁴

The following thermal image shows a horse that has only been shod on one foot. The front right leg is the only one that has been shod, and as evident by the blue coloration thermal image, improper circulation has occurred. Overtime, this poor circulation can lead to joint damage. Additionally, good circulation is necessary for wounds to heal. If this horse were to be injured from the knee down, there would not be substantial blood flow for the wound to heal.⁷



In addition to proper blood flow, good shock absorption is important for a horse's tissue and joint health. When a horse lands on

the ground (whether they are walking, trotting, cantering or jumping), the blood flow, flexion and natural padding in the horse's foot allow for shock absorption. Shoes prevent these natural occurrences. In 1983, Luca Bein conducted a study focusing on the shock absorption of shod and non-shod horses. His findings showed that shod horses lose 60-80% of their natural shock absorption, resulting in joint damage. Additionally, shod horses experience three times the impact force when merely walking on hard land. These vibrations, occurring at 800 Hz, send a shockwave up the horse's leg inevitably causing damage to soft tissues in the foot and lower leg.⁴

Dangers of Shoeing

There are two main types of shoeing, the well-known method in which the shoe is nailed into the hoof wall, and a lesser-known and less-practiced method in which the shoe is placed onto the horse's foot while it is hot, so that the shoe binds to the horse's foot. This method is called hot shoeing, and is not practiced by many farriers as it is recognized as a method that takes immense skill, for if it is done wrong it will cause irreversible damage to the horse. For this reason, this paper will not discuss the dangers of hot shoeing, but will focus on the more widely used method of nailing the shoe to the horse's hoof wall.

If a shoe is nailed improperly to a horse's foot, then the horse may experience great pain and the foot may abscess if the nail is driven into a part of the foot with nerve endings and tissue. This is possible if the farrier is inexperienced or if the horse moves as the farrier is nailing the shoe onto the foot.

Aside from the dangers of the process of shoeing, there are potential problems that may arise from having a horse shod. There are multiple diseases of the foot that occur in horses that are shod, some of which are thought to be directly caused by the horse

having been shod. The following are a small collection of these diseases that are detrimental to a horse's health, which ultimately result in the horse having a poor quality of life.

White Line Disease: As a shod horse walks, the toe is pulled forward and away from the coffin bone. The white line stretches and eventually it does not hold the wall of the hoof and the bone together properly. It is thought that 75% of domesticated shoe horses experience this condition that will cause lameness.⁸

Navicular Disease: complex degeneration of the navicular region of a horse's foot that oftentimes leads to lameness in the two front feet. This disease is brought out by frequent hard work that is hard on the horse's feet.⁹

Laminitis: rotation or deformity of the coffin bone, ultimately penetrating the sole of the hoof. This debilitating disease is often untreatable, resulting in the need to euthanize the horse.

Transitioning from Shod to Barefoot

For a horse to be transitioned from having been shod, to going barefoot, it is the responsibility of the owner to consult a veterinarian and farrier before taking their horses shoes off for good. There are, however, a few measures that must be taken into consideration when transitioning a horse. A horse that is used to having shoes will have more sensitive feet at the beginning of the transition period. During this sensitive time, the horse's feet can be comforted with the use of hoot boots or gloves.⁴ There are multiple types of boots on the market, all of which are designed to give added protection to a horse's sensitive foot. Additionally, the owner should try to start the transition period when the ground in their area is the softest. This will allow the horse to get used to walking directly on land as their feet build up their natural strength again. During and after the transition

period, horses should also be allowed as much turnout time as possible. Turnout is a term used to describe time in which a horse is allowed to freely roam a pasture, rather than being kept in a small stall where they have little room to walk. Horses were meant to roam over large expanses of land throughout the day, so allowing them to do this as much as possible is good for the natural health of their feet.³ Lastly, horses are grazers, yet most horse owners feed their horses twice a day for convenience. For the sake of a horse's foot and overall health, he or she should either have access to pasture they can graze on, or they should be fed three times a day in a way that makes their food time consuming to eat. A simple way to do this is to put their hay or alfalfa in a net-feed bag, which slows the horse down when it eats.⁴

If a horse is ridden in a soft arena during the transition period, it is beneficial for the horse to be walked on a hard surface approximately 20 minutes before and after the ride. As the horse's foot is transitioning and adapting to being barefoot, the hard surface will aid in encouraging proper blood flow. This extra measure in allowing the horse's foot to transition is only necessary temporarily, during the transition process. Once the horse is sound, it may be ridden as normal.⁴

Perhaps the most important factor in transitioning a horse to being barefoot is the implementation of barefoot trims. Barefoot trims can be done by a farrier, or by the horse owner if he or she decides to be trained in the practice. Though there are literature resources available to educate owners on how a barefoot trim should be done, it is important for the owner to be trained by a professional in the equine podiatry field. Barefoot trims differ from trims performed on shod horses in two major ways. First, the frequency of the two methods differs greatly. Shod horses receive trims on average every 6 weeks, while a horse undergoing this transition process will require

minimal trims every 2 weeks. Second, the trim itself is different. “Less is more” with a barefoot trim, which allows for the hoof to retain its natural shape. With the hoof being trimmed more frequently, and with smaller amounts being taken off, the horse’s hoof will become tough and resilient.⁴

By giving a horse more turnout, changing their diet, regularly trimming their feet and protecting their temporarily sensitive feet with hoof boots or gloves, the transition period should take about one year, as that is how long it takes for a hoof to completely grow out, regenerating all new hoof tissue.

A study conducted by Clayton et. al focused on the changes that a hoof undergoes when transitioning from having been shod to being barefoot. In the study, a total of 7 horses were transitioned from a shod state to a

barefoot state over a 16 month period, with the progress being carefully documented at 0, 4 and 16 months. The results showed that the barefoot trim proved to be morphologically beneficial to the horse’s health.¹

Conclusion

While it is true that horses have been shod by their owners throughout modern history, we need to rethink our reasons for this practice. Having a horse shod can have detrimental effects on its overall health, while a proper barefoot trim allows a horse’s hoof to function properly. Though a barefoot trim may require more time and investment on the owner’s part, it pays off in the long run because the horse’s overall foot health will be healthier, and the horse’s longevity will increase.

Works Cited

1. Clayton, H.M., Gray, S., Kaiser, L.J. & Bowker, R.M. (2011). Effects of barefoot trimming on hoof morphology. *Australian Veterinary Journal*, (89)8, 305-311. DOI: 10.1111/j.1751-0813.2011.00806.
2. <http://delawarenaturalhoofcare.com/index.cfm/u/intro>
3. Ovnicek, G., Page, B. Trotten, G. (2003). Natural balance trimming and shoeing: it’s theory and application. *Veterinary Clinics of North America: Equine Practice*, (19)2, 353-377. Doi: 10.1016/S0749-0739(03)00017-8.
4. http://www.barefoothorse.com/barefoot_Horseshoes.html
5. Cohen, R. (1996). Horse shoes History: From primitive sandals to high-tech innovations, here's the story the horse shoe. *Dressage Today*.
6. Why do we shoe horses?
7. <http://www.thinklikeahorse.org/index-28.html#1>
8. http://www.equipodiatry.com/article_white_line.htm
9. <http://www.navicular.net/>