

Introduction

The topic of having horses go barefoot vs. being shod has been discussed at several American Association of Equine Practitioners (AAEP) Annual Conventions and always generates some very informative dialog while raising many important questions. I must say from the onset that I favor horses being maintained without shoes when possible but it depends on multiple factors. This is not generally possible with upper level competition horses. On the other hand, I also feel that horses can be shod in a very sound physiologic manner such that minimal damage to the hoof capsule will occur¹. The factors used to make the decision on barefoot versus shod include:

- The use of shoes for protection when wear of the hoof wall exceeds growth at the coronet.
- The need for traction, especially in the performance horse for athletic activities.
- Therapeutic reasons in order to treat lameness, diseases of the hoof (such as laminitis) or to address limb conformation.

Any one or a combination of the above reasons may dictate the necessity for shoes. Whether or not it is feasible for a horse to go without shoes will further depend on the owners' expectations, the owners' commitment to the project and the hoof care the horse receives especially during the transition period. Much of the horse industry is involved in competitive athletic disciplines and the question arises "can this horse compete and perform at a given standard without shoes?"

Wear vs. growth

Wear versus growth is the first point to consider. The genetics and breed of the horse, the structure and conformation of the hoof, the surface on which a horse is worked and most important, for what purpose the horse is going to be used; these variables all influence the wear of the feet and will affect the decision as to whether the horse can be maintained barefoot. The structure of the foot is usually the determining factor as to whether the horse can remain barefoot. Maintaining the horse barefoot is best accomplished when or potentially when the hoof wall is thick and solid, there is good sole depth and there are soft tissue structures in the palmar

/ plantar section of the foot that are of sufficient mass. Breeding practices have had an influence on the structure of the feet, unfortunately not always for the better. Quarter horses have been bred for fashion while Thoroughbreds have been bred for speed; this often results in poor quality feet. More often than not (especially with Thoroughbred horses) the foot is not allowed to grow and mature into a so called "good" foot (Figure 1)².



Hoof development, particularly for the first three years is dependent on stimulation from regular exercise and turn out. Yearlings are often shod for the sales. The majority of horse's feet remain healthy until the time they are broke and enter training usually as 2 year olds. As training begins, the hoof capsule and its related structures are still immature, the animal is confined to a stall or small paddock, a rider is placed on its back which leads to additional weight bearing on the feet and the horse now begins to work. Training may lead to abnormal stresses being placed on an underdeveloped foot along with excessive wear to the feet. The animal begins to show discomfort and shoes are then placed on the feet for protection. It has been discovered that the horse has receptors in the bottom of its foot and it is speculated that these receptors function in a stimulatory capacity¹. So the first thing that happens when shoes are applied is that these receptors lose contact with the ground. Next we need to take into account how the foot is being trimmed and the application of shoes by the farrier. So we see right off that the combination of the above factors can / will / often do change the structures of the foot forever, often leading to a "weak" foot that is hard to maintain without shoes (Figure 2). Prove this to yourself by taking a digital photo of a horse's foot at the start of training and then take another photo 6 months to a year later and compare the difference. Traditionally we place shoes on these youngsters too early and often it is not necessary as long as a few modifications are made in our training program so the feet can continue to develop.

