

Dare to go bare

Ways to improve unbalanced hooves without shoeing.



Unfortunately, the ways in which horses' hooves are commonly trimmed have led to a situation where many horses are unable to walk without the aid of shoes.

We have all wondered how necessary it really is to shoe our horses. In South Africa, barefoot riding seems to be misunderstood, and seen as synonymous with Strasser-trimming. However, horses living barefoot are certainly neither the invention of a single person nor only the result of a specific trimming method.

Why shoe a horse?

Horses are born with bare hoofs, and it is therefore quite normal for horses to live without shoes. Fact is, we humans want to do endurance riding, horse racing, polo, long distance rides, showjumping and dressage, and for some of these sports we need to protect the hooves from excessive horn abrasion - this being the only reasonable and intelligible rationale for hoof protection. Unfortunately, the ways in which horses' hooves are commonly trimmed have led to a situation where many horses are unable to walk without the aid of shoes.

Apart from the physical pain, the experience of not being able to run is very stressful for a horse, being a prey animal and highly specialised runner.

Treat the real problem

There seems to be a common belief that it is not so much that excessive abrasion would restrict the use of a horse, but that some horses would be unable to walk without metal shoes.

Is it right to mask the foot problems by shoeing in order to continue working the horse? Surely it is better to heal the hooves and restore functionality – they can take some time to grow correct form and toughness, but this is possibly more practical than concealing and prolonging the problems over years. Of course - asymmetric, deformed and unbalanced hooves have to be treated properly in order to restore their most effective condition. Using metal shoes to compensate asymmetries in the hoof capsule will certainly never achieve this aim.

Two forces at work:

Every horse has its individual conformation and action. The two main forces on this are horn abrasion and counter-pressures from the ground. These forces give an immediate influence to bare hoof shape and indirect effect on a shod hoof.

A correct barefoot trim makes use of these forces to attain optimal hoof shape to suit that individual or to correct asymmetry.

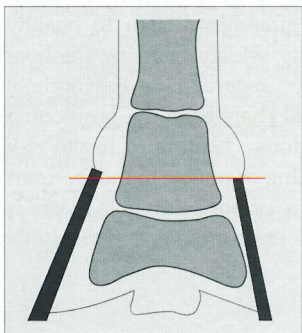


Figure 1: An uneven hoof

Fixing the problem

To control this unbalanced abrasion, the less loaded and therefore higher side of the hoof has to be trimmed in order to obtain an even abrasion on both sides of the hoof. This can be achieved by thinning out the bearing wall of the less strained hoof side, as a result offering less abrasion resistance.

The advantage of this trimming procedure is that the limb with its joints, ligaments and tendons, already adapted to the unbalanced foundation, gets time to readjust to the new situation. Following the conventional way of trimming by shortening the longer side of the hoof leads to an immediate and drastic change

in the mechanics of the horse's extremities and exposes the hinged joints, tendons and ligaments to great strain. Apart from the danger of injuries, this can lead to degenerative phenomena such as side bone and ringbone.

Line of least resistance

If we do not counteract in this first stage through correct trimming, the hoof side that is under less strain becomes higher and higher due to less abrasion, until the limit of the joints' lateral mobility. As the growing horn has to go somewhere it follows the line of least resistance and starts swerving to the outside, the hoof becoming more and more slanted (see Figure 2). That's where the vicious circle starts. The ground counter-pressure works increasingly laterally outwards on the already bended horn tubules. As the horn tubules become more slanted, less abrasion takes place; in consequence more horn bends outwards. To the same extent that the slant of the wall increases, the wall loses its load-bearing capacity. That, on the other hand, has a disastrous impact on the side of the hoof which is anyway under more strain. The more the slanted wall loses its load-bearing capacity, the more the weight shifts to the steep side of the hoof, making it even steeper and forcing yet more abrasion.

Getting even worse

Again the conventional way to shorten a slanted wall appears inappropriate; changing only the height but not the slant does not help to get the slanted hoof side back to carry weight. In reality the opposite occurs: with the wall starting to swerve to the side it also loses height (see Figure 2) until the steep and heavily loaded hoof side appears to be higher. Shortening this steep side of the hoof, in order to balance the weight bearing, adds more weight to the bended hoof side. Unable to handle the strain the side will bend more and flatten out even faster.

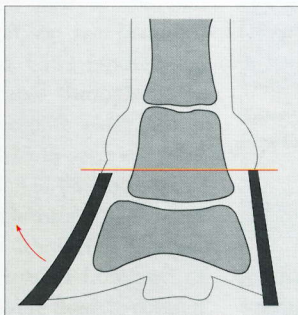


Figure 2: A hoof becoming more and more slanted

One should consider that by shoeing the horse the problem will not be solved. Shoes might keep the horse's hoof in a certain stage, but will not redress the cause of the unbalanced weight-bearing situation; on the contrary, it can make it worse. The only way out of this situation is to respond to the interplay of the forces, abrasion and ground counter-pressure.

The two basic steps to treat asymmetric hooves

Step 1: To bring the slanted wall back under the horse as a first step, the bending of the hoof wall must be minimized. The horn tubules have to be grated correctly. In this respect it is important to grate high up along the hoof wall in order to eliminate the outwards leverage. This so-called 'thatched roof structure' (see figure 3) ensures that the outer horn tubules, the longer and harder ones before grating, will now become the shortest and therefore stabilise the tubules underneath them; this will keep the wall from being bent further outwards. This procedure is not to be mistaken with the so-called 'bull's nose' (see picture).

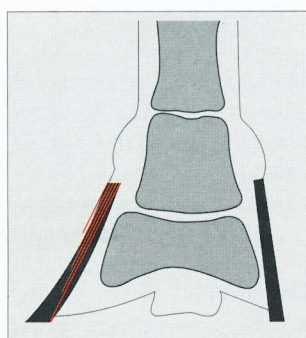


Figure 3: A reed thatch structure



The 'bull nose'

To visualise the principle, imagine a standard straw broom. As long as all straws are at the same length a vertical pressure from above will bend the bundle easily to one side. Cutting the straws in a thatched roof structure will hinder the straw bundle from being bent so easily (see figure 4). The same principle applies for the hooves' horn tubules.

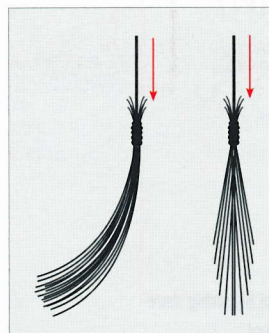


Figure 4: Straw in a bundle bends easily

Step 2: As the second important step to bring the slanted wall back under the horse, the dysfunctional sole horn, which is found in the area behind the slanted part of the bearing wall, has to be reduced (see picture). This horn bulge pushes against the already slanted wall and additionally forces the lower bearing wall to be bent further outwards (see picture).



The area behind the slanted part of the bearing wall has to be reduced



The lower bearing wall is forced to push further outwards

Treating the hoof without rapid changes allows the limp together with the horn capsule to literally 'walk' its way gradually back to a healthy and balanced hoof situation.

Reaction to Strasser trim

These hoof orthopaedic trimming steps have been described here very simply. In reality, this outlined treatment of the asymmetrical hoof is much more complex, and the individual's situation has to be considered. This technique is not to be mistaken with the so-called Strasser trim.

The Strasser trim of the hoof capsule aims to position the pedal bone parallel to the ground as a guaranteed path to healthy hooves. Horses' reactions to this vary widely. Forcing the hoof into a specific standardised shape, regarded as the optimal shape, at worst can cause substantial changes in the positioning of bones, joints, ligaments and tendons, leading to health risk and pain, and the horse being unwilling or unable to move. Apart from the physical pain, the experience of not being able to run is very stressful for a horse, being a prey animal and a highly specialised runner.

Slowly back to health

Proper orthopaedic treatment should in no way force the hoof capsule into a standardised shape. Treating and monitoring the hoof without rapid changes while addressing the forces described above allows the hoof capsule to literally 'walk' its way back to a healthy and balanced hoof. This is only possible on bare hooves. 🐾

This article was written in cooperation with Deutsche Huforthopaedische Gesellschaft (DHG) and EquiTracks South Africa. If you have specific questions concerning your horse's hooves please make use of the DHG online-forum (German and English) at <http://www.hooforthopaedics.com> or visit EquiTracks South Africa at <http://www.equitracks.com>. In a future edition of HQ we'll take a closer look at the development and treatment of horn cracks and fissures.