

Feeding for Hoof Health and Barefoot Trimming

Barefoot trimming is technique where the horse's feet are trimmed to optimize the horse's comfort and health. Horses in captivity don't wear down their hooves in the normal manner due to the fact that in most instances they do not move enough on terrain that is specific to their breed. Normally the growth exceeds the wear and the hoof becomes too long and breakage or hoof deformities occur.



Barefoot trimming prevents the horse chipping his hoof. The optimal form and length is different for every horse the same way fingernails are different on every human. This means there is no one way to trim a horse and in fact all four of the horse's feet may be of slightly

different lengths and shapes. The goal for barefoot trimming is to let the hoof grow in such a way that indicates the normal wear pattern for the horse and keep the hoof at a length that best suits them. Since many horses lives are cut short by feet and limb deformities there are definite benefits associated with barefoot trimming.

- The horse receives better circulation to the hoof without shoes as the sole/frog receives proper stimulation.
- Shod horses can be seen (through thermal imaging) to have reduced circulation within the hoof.
- Shoes worsen injuries to other horses and humans.

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- Horses have better traction without shoes.
- Conditions such as navicular disease and founder are often curable by going barefoot and can be avoided altogether if the horse is raised barefoot.

It has been shown that the internal structures of the horse's hoof start to deteriorate if the horse is shod. If the horse's weight is being suspended off the ground by shoes the digital cushion begins to lose structure and become weak. Luckily these structures are able to regenerate and grow tough again, but only through removal of shoes. One of the common mistakes is that the horse owner will remove the shoes and the horse may appear lame due to the softening of the digital cushion so the owner will put shoes back on. This in fact worsens the problem as with the application of shoes the structures continue to weaken. The only way to strengthen the horse's feet is to remove the shoes and let the horse recuperate by moving him judiciously and gradually more and more on hard ground.

Diet Selection Helps Prevent Common Hoof Problems

Diets high in protein help build strong hoof walls and strong attachments. Diets high in digestible fat help to keep the hoof structures supple from the inside out and help with shock absorption.

Diets with high levels of NSC (>15%) (i.e. most grain based diets) can contribute to laminitis through carbohydrate (NSC) overload of the intestines and the hindgut.

1. *Acidosis in the hindgut.* Fructans and starch overload in the hindgut can cause acidosis, resulting in a rapid decline in pH and sudden death of the intestinal organisms. These organisms release highly toxic endotoxins, which contribute to the cause of laminitis.
2. *Carbohydrate overload of the intestines.* Too much soluble carbohydrate in the intestines causes increased uptake of glucose. This causes the horse to produce higher levels of insulin, and the horse becomes insulin resistant. High levels of insulin cause laminitis. High levels of circulating glucose also cause nutrient partitioning and storage of carbohydrate or fat leading to obesity. Obesity is recognized as a major contributor to laminitis.

Laminitis can usually be avoided by feeding low NSC feeds, together with exercise, to avoid obesity. Select feeds with a low NSC (<15%), reasonable protein, sulphur amino acid content, and oil to maintain hoof integrity and vascular function in the hoof. Regular trimming is also recommended to maintain a balance that allows the laminar attachments to be evenly loaded, as this is essential to ensure adequate blood circulation within the hoof.

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