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TRIMMING ONCE A WEEK??

PROPER HOOFCARE, OR:
WHAT YOU NEED TO KNOW ABOUT YOUR HORSE'S FEET

A horse, in its natural environment, travels an average of 15-30 km (10-20 miles) per day with its herd, over various terrain. The hooves adjust to the type of terrain (whether desert sand, prairie sod, the shaly, rocky ground of Iceland, or the wetlands of the Camargue): horn growth and wear are in balance, and the functionally optimal conformation and shape of the hoof is naturally maintained. The hoof remains supple and elastic through daily contact with mud or water as the horse drinks. It does not have, nor need, any type of grease or oil or artificial moistening agents.

Under the care of humans, however, horses almost always fall short of their natural (and biologically required!) amount of movement. As a result of this, in order to imitate the natural amount of wear on the hoof, it is necessary to trim it--far more often than every 6-8 weeks.

For hoofcare specialists and horse owners working according to Dr. Strasser's methods, trimming in two week intervals is normal, if they are not riding enough. This makes it possible to keep the sound hoof in its physiologically ideal shape (by, for example, preventing the bars from growing too long, and the heels from growing beyond the level of the frog and bulb of the heels, thus doing damage to the interior of the hoof, especially the navicular region). It also allows the healing of deformed hooves and other hoof-related ailments (contracted heel, laminitis, navicular syndrome, thrush, arthritis, to name a few). However, a certain amount of knowledge about the function of the hoof and its physiologically proper shape is necessary for this endeavor.

There are several prerequisites for a functionally sound hoof.

1. Generally, the front hooves have an angle of about 45 degrees and are round in the toe area, while the hind hooves are somewhat steeper, around 55 degrees, and more pointed in the toe region. This way, the front feet are able to carry the main part of the horse's weight and function as excellent shock absorbers, and the hind feet provide the spring and elasticity for propulsion (and the tip can dig into the ground).

2. A large part of the frog has ground contact, to allow for a feel of the ground, carry weight, and function as shock absorber. It is widest in the area of the heels; if you drew a line along the edge of the frog from tip to heel, the extension of this line should pass on the outside of the bulb of the heel. If it intersects with the bulb of the heel, the hoof is contracted (usually as a result of shoeing and/or improper trimming).

3. The hoof wall and especially the heels are barely above the level of the sole, and the heels not above the level of the frog, since otherwise damaging lever forces in the hoof can arise.

4. The sole is smooth and slightly concave; only in the area of the front toe does it help carry weight (about 1 cm or 1/2 inch is on the same level as the hoof wall).

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5. The bars protrude no more than 1-2 mm (less than 1/l0th of an inch) above the sole, becoming level with the sole around the middle of the frog. They function as skid brakes, and should under no circumstances bear weight (ie. grow to the level of the hoof wall).

Only if these physiological conditions are met can the hoof function in its biologically intended capacity as shock absorber and pump (it is part of the circulatory system, returning blood from the hooves to the body).

The coffin bone is suspended inside the hoof capsule by the lamellae and surrounded by the bloodfilled corium. When the hoof is picked up off the ground, the hoof capsule is smallest and exerts pressure on the corium, thus emptying it of blood (ie. pumping blood upwards, supporting the heart). On bearing weight, the hoof capsule expands, the coffin bone descends and the sole spreads outward/downward. As a result of this, the corium has more room (compare 5 mm to 2-3 mm when not bearing weight) and can, like a sponge, fill with blood once again. When the foot is picked up, the whole cycle repeats. Thus, with every step, the hoof pumps blood back toward the heart. This pumping action is vital for optimal waste/nutrient exchange within the tissues of the hoof, and supports the entire circulatory system.

Aside from this, the hoof is responsible for shock absorption. This takes place through the expansion of the hoof capsule and the spring-action of the suspended (not fixed) coffin bone. In addition, the hoof contacts the ground first with the softer areas (frog and bulb of the heel), adding additional shock absorption.

These vital functions of the hoof are severely disrupted through the use of shoes. An expansion of the hoof upon bearing weight becomes virtually impossible, since the hoof does not expand only in the last third, but all the way from the toe to the heel. As a result of this, the hoof receives only inadequate blood supply and circulation, which leads to poor horn quality. The ability of a horse to feel pain (or anything, for that matter) in the foot is greatly reduced, since the nerves in the hoof receive insufficient oxygen. With shoes, the hoof no longer impacts first on the softer shock absorbing material of the frog and bulb of the heel, but strikes the ground with hard, unyielding, non-shock absorbing metal.

In 1984, the Swiss Cavalry, at the veterinary medical faculty of the University of Zurich, contracted research into the effect of shoeing. Studies showed that the impact force a shod hoof receives on hard ground is 10-33 times that of an unshod hoof. The vibrations set up in the hoof by the vibration of the metal shoe is approximately 800 Hz, compared to "only" 150 Hz with a rubber shoe.

However, shock absorption and pumping action can also be insufficient in an unshod horse, when the shape of the hoof is deformed (improperly trimmed) and/or the hoof is too dry, and thus no longer elastic.