Back to Barefoot: Managing Horses Sans Shoes

Going barefoot can benefit hoof health, but consider management and physical needs before pulling shoes.

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Going barefoot can benefit hoof health, but owners must consider management realities and athletic circumstances before pulling those shoes. | Photo: Alexandra Beckstett/The Horse

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With today's hectic lifestyle, it's no wonder many people pursue a return to a more natural state—from the food they eat to the products they purchase. This desire for simplicity helps account for the back-to-barefoot trend many horse owners embrace, yet a one-size-fits-all approach rarely applies to hoof care. So what are the pros and cons of barefoot? How should owners best manage their barefoot charges? Let's take a look at the ins and outs of going sans shoes.

To Shoe or Not to Shoe?

To answer this question, we'll start by looking at how structures within the hoof are impacted. When the hoof contacts nonsandy ground, the footing that packs into the hoof (known as the dirt plug) stimulates the frog and sole and helps dissipate energy produced by the hoof's impact with the ground, says Robert Bowker, VMD, PhD, professor and head of the Equine Foot Laboratory at Michigan State University, in East Lansing.

"When barefoot and on a conformable surface, the dirt plug loads the solar part of the hoof," he explains, noting that biomechanics transfer the load directly to the frog, digital cushion (the soft tissue mass at the back of the foot responsible for shock absorption), and bone. In the shod hoof, on the other hand, the majority of the horse's weight often (but not always) loads the perimeter hoof walls.

Bowker believes only a small percentage of the load should be on the hoof wall, with the sole, frog, and bars bearing the majority of its force. "The bone gets stronger by loading from (the) solar surface (sole, frog, and bars) as opposed to being suspended from the hoof wall, where the force is transmitted through connective tissues to the bone," he says. The exact loading, however, depends on the shoes applied and the footing the horse is standing on.

Vern Dryden, DVM, CJF, APF, owner of Bur Oak Veterinary and Podiatry Services, in Lexington, Kentucky, explains that an additional physiological benefit of being barefoot is that the hoof capsule can expand naturally. "With a shoe, there is some restriction of the normal expansion of the hoof capsule, depending on the type of shoe and the method of application," he says. When shod with a standard steel shoe, "the hoof capsule is restricted in those areas where the nails are placed—the further back toward the heel, the less expansion of the heel will occur." He goes on to note that clips and glue-on aluminum shoes further restrict the hoof, whereas polyurethane shoes allow for more give and hoof expansion.

So if barefoot offers many benefits, when are shoes necessary or preferred? First, our sources remind us that shoeing serves the purposes of protection, stabilization, and therapeutic applications.

Both Dryden and Bowker note that certain disciplines might dictate shoes. So approach each horse as an individual, considering his job and his need for shoes to perform it effectively.

"The horse in work can wear down the hoof capsule quicker than the rate it is able to reproduce horn," says Dryden. "A horse with a therapeutic need would call for some type of shoe application, such as a horse with an abscess in need of a treatment plate or some other hoof capsule distortion which would need stabilization. If a horse is compromised in some aspect, whether it be a laminitic horse, a horse with white line disease, or some other disease process, being barefoot is not necessarily the best thing."

Dryden explains that many horses with laminitis (failure of the laminae, or tissues connecting the coffin bone to the hoof wall) can go barefoot if managed correctly, an approach that is routine in his practice; however, severe laminitic cases in which the coffin bone has penetrated the solar surface might require deep digital flexor tenotomy (transecting the tendon surgically to eliminate tendon pull on the coffin bone) and derotational shoeing (to return the coffin bone angle to its original position).

When dealing with a hoof disease such as laminitis (without coffin bone penetration of the sole), says Bowker, "The horse must be maintained on a conformable surface, such as pea rock or deep sand. You want to unload that portion of the hoof where pain originates."

Trimming and Techniques

One of the downsides to maintaining a horse without shoes, cautions Bowker, is that the horse's feet require more frequent management. "With the barefoot horse, a lot of people misinterpret it as meaning that the horse's foot doesn't need to be trimmed or attended to as frequently," he says. "It means just the opposite—the foot should be looked at more frequently. I trim my horses every four to five weeks."

If owners don't trim their barefoot charges' feet for eight to 10 weeks, the hoof will grow too long. "Then you get different structures loading at different times of the cycle; that's when you start to have problems with the hoof," says Bowker.

Dryden also encourages owners to maintain a four-week trimming schedule for barefoot horses. But getting the right trim requires an individual approach. "There are multiple ways to trim; you have to read the foot, taking knowledge from each methodology and applying it to that horse," Dryden remarks. "I don't think there's any one hard and fast rule; not every foot is going to respond the same way every time."

Environment's Effect

External factors also play a role in whether your horse can go barefoot successfully. Dryden notes that a sandy or rocky environment can wear a horse's hooves down to the point he becomes foot sore and can't withstand the rough terrain. Conversely, in a wet climate, cracks caused by moisture can develop into white line disease, abscesses, or capsular distortions.

"In order to keep a horse in work and barefoot, the (arena or riding) footing needs to be forgiving—free of rocks and not too abrasive," says Dryden. "Otherwise you won't be able to maintain the horse barefoot. You have to be cognizant of your environment; you may need shoes or some sort of application to keep the foot protected." For owners that choose to keep their horses barefoot yet need temporary protection, a wide variety of boots are available.

Stabling surface is just as important as riding terrain. Bowker explains that standing barefoot on hard surfaces, such as asphalt or cement, causes discomfort. And while not as obvious, diet is another consideration when horses are barefoot.

"Owners have to be aware of diet," Bowker remarks. "In humans, for instance, diets with high sugar levels can cause secondary diabetes. The same is happening with horses: A diet that is too rich influences the overall health of the hoof (e.g., leading to conditions such as laminitis)."

Transitioning From Shoes

A best-case scenario for barefootedness is a horse that hasn't been shod previously, notes Bowker. But if your horse is shod and you'd like to transition him to barefoot, he recommends removing the shoe and beveling (rolling) the hoof around the perimeter. Keep the horse on comfortable surfaces, such as grass or dirt, which he's likely to seek out naturally. "The hoof will strengthen and adapt over a period of a few weeks," notes Bowker.

Dryden allows a horse to make the barefoot transition when the hoof has adequate sole depth and wall quality. After applying a hoof-hardening product to toughen the solar region, he advises his clients to introduce barefoot turnout first with boots, increasing turnout time without hoof protection gradually.

On the other hand, if a horse cannot handle being barefoot and continually comes up lame, Dryden suggests providing protection via shoes as opposed to making him "tough it out." When transitioning back to shoes, "if the horse does not have enough substantial hoof wall to nail to, you can apply alternative means such as glue-on or synthetic shoes," he says.

Take-Home Message

Recent barefoot research includes a 2011 study by Hilary Clayton, BVMS, PhD, Dipl. ACVSMR, MRCVS, in which she evaluated a specific barefoot trim's efficacy on horses with underrun heels and found improvements in hoof shape; and a study from the University of Queensland in which scientists evaluated environment's effect on feral horses' foot morphology. More research, however, is needed to prove the precise benefits of barefoot hoof care.

So whether you choose to shoe your horse or have him go barefoot involves answering a variety of questions central to your horse's own situation. Bowker notes that horses will run into the same problems whether barefoot or shod if they are not managed properly.

"Be a knowledgeable horse owner," he says. "Be proactive, ask good questions of your veterinarian and farrier. By being knowledgeable about the environment and having an idea of the functional

physiology of the foot, you can use these aspects of foot care to your advantage during severe disease conditions, including laminitis and navicular syndrome."