

Making the transition from shod to barefoot

What is "Transition?"

After you pull the shoes, there is a rehabilitation period of several months to well over a year, depending on the amount of internal damage in the foot. Increased blood flow starts to rebuild internal structures that were damaged by the shoes. Until the rebuilding is complete, most horses are "sore on gravel" and will need hoof boots to ride on gravel roads, rocky trails, or frozen ground.

Transition is the reason why so many people have said, "Barefoot doesn't work for my horse." It is admittedly a time of inconvenience for the rider. However, once we understand that horseshoes do weaken the hooves, we can do certain things to make the horse rideable while it grows out a new, better hoof.

The transition period is over when the sole regains concavity (due to the white line tightening up completely) and the horse walks on gravel as if it were grass.

The "inconvenience" of transition can be eliminated by not putting shoes on young horses in the first place.



Being realistic about transition

The "white line" is a layer of interlocking laminae. Like a sort of living Velcro (hook-and-loop tape), it connects the hoof wall securely to the coffin bone. (See photos on Hoof Shape page.) The white line carries the entire weight of the horse when the foot is weighted. It takes an enormous supply of blood (nutrients) to keep the white line strong enough to handle this

awesome job. Horseshoes reduce circulation inside the hoof; the "starved" white line becomes weak and stretchy.

I don't think I've ever seen a horse that was shod for more than a year, that didn't have white line damage. Anyone who helps lots of horses return to a barefoot condition, comes to recognize that horseshoes (plus infrequent trimming due to shoeing) do damage the feet. Most feet are going to be sore for a while after you pull the shoes; fronts much more than hinds, because they carry more of the horse's weight.

It can be very hard to admit to ourselves that we have caused this much damage to our beloved horses' feet by doing what we thought was best for them, e.g. keeping them shod. I know how hard it is from personal experience, as well as from "holding the hand" of horse owners while they go through the early part of Transition. The truth is, we made them sore; and so we get to live through the recovery time with them, including not riding for a while if necessary.

In general, it takes about a year of correct care before the de-shod hoof returns to the complete soundness it had before-shoes. The issue when you pull the shoes is not "Can I take him on a long, rocky trail ride tomorrow?" but rather "What's a good program to rehabilitate his feet?"

The "white line strategy" trim (see Strategy page) dramatically shortens the early part of transition; in some cases months of unrideability can be reduced to days. Generally it will not mean the week after the "first trim" will be totally pain-free.

Hoof boots (see list below) are an important tool for the transition to barefoot; the comfort they provide will help your state-of-mind as much as they help the horse.

Another tool is your decision to be patient and trust the horse to heal. They do heal. They get better than you can imagine. I get email from people happily reporting on "my horse's rock-crunching hooves."

All the de-shod horses I know of became barefoot-rideable within a few days to about a year, given these conditions of care:

- a non-invasive, "natural" or "wild-horse" trim;
- "white line strategy" used wherever there is white line separation (flaring); stretched white line is painful;
- a consistent trimming schedule so that the walls never get more than "the thickness of 2 credit cards" longer than the sole;

- hoof boots used on front feet when riding on gravel, rocks, pavement, or frozen ground;
- the most turnout you can arrange; 24 / 7 is most effective;
- a lot of hand-walking (if unrideable) or riding on firm footing; many miles per day is most effective.

Eliminating transition soreness

Pete Ramey came up with a trim strategy for getting horses out of shoes and back to work (see Strategy page). He is now able to do the "first trim" in a way that nearly every horse he pulls the shoes off of can go to work within a few days. Most of them he fits with boots immediately.

Here are the trimming steps that allow the horse to transition without soreness (see Trim page for more detailed instructions):

- Scrape out chalky, flaky, or crackled "dead sole" until you get to solid (so-called "live") sole.
- Use the sole itself as the landmark or guide for trimming the hoof wall. Trim excess wall and heel length to the edge of the sole, no farther. Balancing the foot side-to-side is included in this step.
- Shorten overgrown bars down to the level of the sole, or until there is no dirt line between the bar and the sole.
- Rasp off flares with a vertical cut (see Photo Gallery #13b and #18a); be sure to round-in in so that there are no bulges or corners in the outline of the footprint.
- Where the white line (yellowish) is tight, bevel or "mustang roll" the bottom of the wall as far as the water line (white layer of wall). Where the white line is stretched or separated (looks dirty, or there is a groove between wall and sole), extend the roll all the way to the edge of the sole.

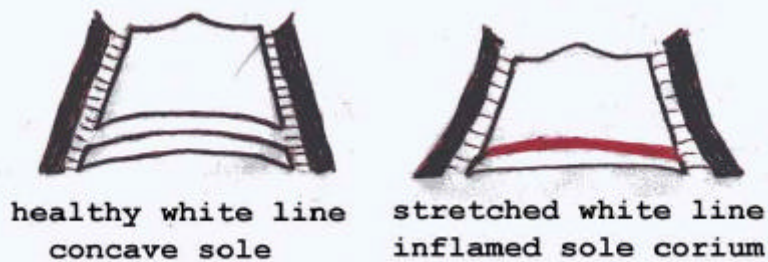
Why horses in transition are "sore on gravel"

The transition from shod to barefoot is not about "toughening up" the sole. It is not the sole that is sore, it's the corium -- a layer of living tissue on the bottom of the coffin bone that grows the sole. Iodine or other drying

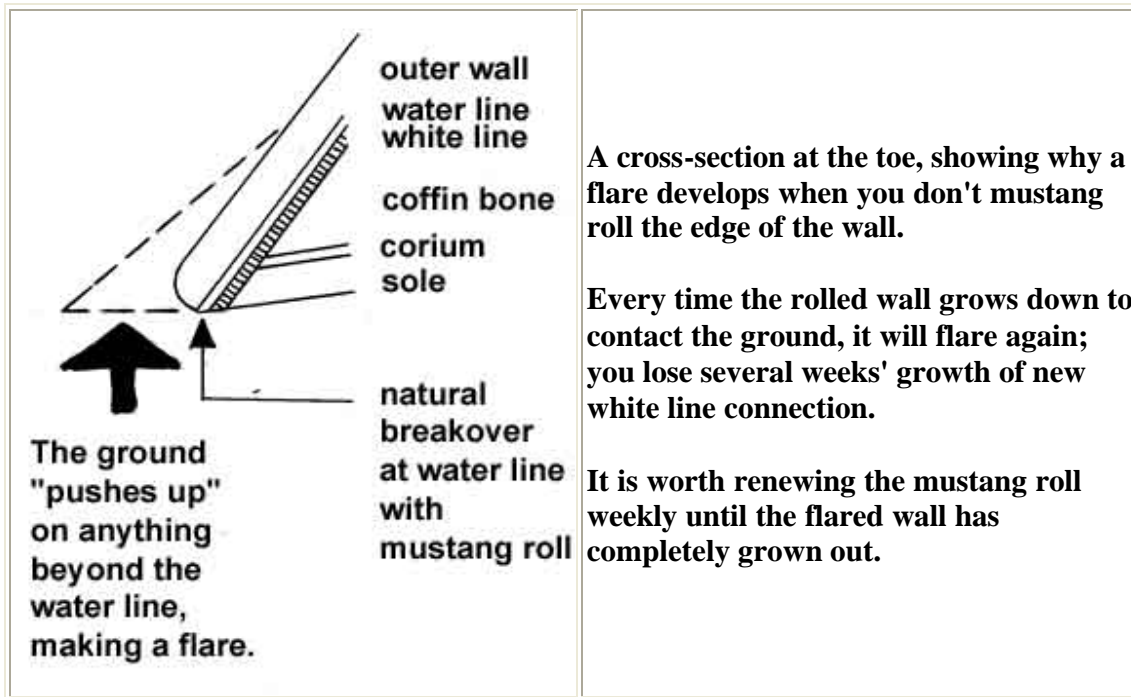
treatments do not speak to the actual problem. Putting gravel in the horse's turnout to "toughen the feet" will work against you; wait until after transition is completed.

When we have a stretched white line -- due to the lack of nutrition in a shod hoof, or due to the mechanical forces of a flare -- the coffin bone sinks away from the hoof wall and presses down onto the sole corium. The corium gets inflamed by the constant pressure of the bone. When the horse walks on gravel or rocks, it hurts. It's like when you have an inflamed finger; you'd rather not bump into sharp corners with it.

Here is a cross-section diagram through a hoof with a tight white line (left), and a hoof with a stretched white line (right). Notice that the coffin bone actually hangs lower inside the hoof capsule; it sits down onto the sole corium and inflames it; and the sole is flatter.



The horse will not go sound-on-gravel (or other hard or uneven terrain) until the white line has healed and tightened up, and the coffin bone is held firmly up inside the hoof wall. This should generally happen within a year, with a consistently renewed mustang roll.



Do not expect to ride your horse on gravel, rough pavement, frozen ground, or rocky trails without front hoof boots, during the first year after pulling the shoes.

Winter is a hard time for transition horses. Expect that your horse will be sore when the ground freezes, through the first and sometimes the second winter after pulling the shoes, even if he is sound on soft ground. You may need to provide boots for turnout.

Some transitioning horses go sore on deep sand or very soft arena footing. This is because the soft landing doesn't provide enough concussion to flex the hoof, so that there is reduced circulation and the feet become uncomfortably congested. The best solution I can suggest is to ride at least 10 minutes on firm ground, before and after the arena work, to get lots of circulation inside the hooves.

There are types of arena footing that are quite firm without being slippery. One kind used in my area is quarry screenings left over from making gravel. I would like to see us replace soft arenas with firm footing that gives the feet enough concussion. After all, for many of our horses, the arena is where their hooves get most of their work.

Other reasons for transition soreness

Several structures in addition to the white line are damaged by shoes:

- The unpigmented, inner layer of hoof wall ("water line") is a tough, shock-absorbing structure. Horseshoes weaken it, reducing shock absorption in the entire hoof wall. In the barefoot hoof, the water line gets more concussion and gradually becomes denser and stronger.
- The digital cushion is a shock-absorbing structure just above the frog. Made of fatty tissue with a "hammock" of fibrous webbing, it supports the descending pastern. It loses condition in shod and confined horses. Increased use of the digital cushion rebuilds its fibrous toughness.
- The typical "long-heel, toe-pulled-forward" trim makes the front feet land toe-first and leads to "navicular" pain at the impar ligament. A wild-horse trim with a rockered toe changes the stride so that the foot can land heel-first (see Trim page).
- Where shoes have pressed the heel together, resulting in a crease between the bulbs, a fungus infection can become chronic in horses living in rainy areas. Fungus shows up as heel lameness, and prevents widening of the frog and heels. (See More Topics page.)

Abscessing should be unusual after pulling the shoes. Most often it is the result of thinning the sole, or invasive trimming of other hoof parts. To avoid abscessing, do not thin the sole in any area, other than scraping off chalky/crackled material.

Pete Ramey reports that only one in ten foundered horses that he sees, ever abscess as part of their healing process (see Founder page).

Muscle soreness

If your horse has had long heels, fungus, or other chronic hoof pain, this can make him stiff in the shoulders. Look for tight triceps, deltoid, and trapezius muscles. Massage, myofascial release, Reiki, Equine Touch, or acupressure will help free up shoulder movement after you have changed the trim and/or treated for fungus in the frog.

Hoof boots

When hoof boots are called for:

- During transition or with any flared foot, when you ride on gravel roads, rocky trails, or frozen ground; protects the inflamed sole corium.
- If the old hoof walls are thin or brittle; prevents the wall from wearing too fast.
- For a horse working on a very abrasive surface that wears the feet faster than they are growing. May only be needed part of the time (such as alternate days).
- For foundered horses that are too sore to move around much on their own; protects the sole corium and the tip of the rotated coffin bone.

Usually boots are only needed on the front feet; a horse working on abrasive pavement might need boots on all four.

There is not yet a perfect hoof boot; they all have their pro's and con's. It's a challenging design problem to fit the cone-shaped hoof snugly, with a boot you can put on and take off easily, that's light and yet wear-resistant. Here are some of the best early attempts at boot design. We need more inventors working in this new field, so if you're creative, jump in!

The **Horse-Moc** has a soft pastern-sleeve made of neoprene with Velcro closure up the front; the sole is made of Kevlar and polymers. Designed by a Washington State trail rider to stay on in very wet or muddy conditions. It is individually made to a tracing of your horse's foot, so you can fit very small and very large hooves. I have seen one, it's very light and awesomely simple in its design. Available from Debbie Nelson, 425-788-0141 or www.horsemoc.com.

Frank and Mary Orza make two hoof boots. The older **Horsneaker** is made from a foam impression of your horse's foot; semi-custom sizes are available. Can be made in sizes for ponies, donkeys, mules, and draft horses.

Their new **Hoof Wings** is a sandal or clog that fits over the lower part of the hoof, with neoprene "wings" that wrap around the pastern. Excellent, comfortable design, available in a wide range of sizes. For transition only, not for competition trail riding. 520-455-5164 or www.horsneaker.com.

The **Boa Boot** from the Easy Boot company is a completely new design made from materials used in running shoes. Available from www.easyboot.com

For another new boot, see www.castleplastics.com

The **Swiss Horse Boot** is made of a high-tech material that can be warmed to fit the individual hoof, and re-fitted as the hoof shape changes over time. The Swiss Boot is available through www.primechoice.com/swissboot and through trained boot fitters listed at www.AANHCP.org

Jaime Jackson has written a manual for fitting the Swiss Boot, **Guide to Booting Horses**. It's clear and well illustrated, and I recommend getting it if you have no trained fitter nearby. Available from www.star-ridge.com

The **Old Mac** boot from Australia fits around the hoof with layers of neoprene fastened by Velcro. It is shaped for a more upright foot than the mustang trim we are using in the U.S., and could turn on a short-heeled hoof working at speed. Many people are using it satisfactorily for trail rides as well as for recovering foundered horses. Sometimes it fits the foot closer if you add a layer of extra thickness inside the sole. www.oldmacs.com.au lists outlets in Australia and several other countries. www.oldmacsusa.com lists outlets in the US.

The **Marquis** boot from Germany opens across the front. It is unusual in being designed for the short-heeled barefoot trim (wild horse trim and Strasser trim). There is an inflatable air sac to make it fit the hoof snugly. You can get a soft sole insert for foundered or other sole-sore horses. Each part of the boot is replaceable as it wears out.

The German website is www.marquis-vetec.com. In English, for Europe, www.procedis.com/equestrian-select/. In Canada and the U.S., www.strideequus.com, phone 1-800-403-0689 (Pacific Time).

The **SabreSneaker** is a soft bootie for foundered horses. Phone 203-322-9002 or www.sabresneaker.com. Can be left on for longer periods; could be used for turnout of a transitioning horse on frozen ground.

There are websites where you can buy used hoof boots.

Lifestyle changes that support barefoot

Jaime Jackson in **The Natural Horse** and Dr. Strasser in **A Lifetime of Soundness** describe how horses live in their natural environment, and how, in the domestic situation, we can approximate the things they need to in order to be sound, healthy, and happy.

The horse living in an unnatural situation (which includes most domestic arrangements) loses health and fitness in his

- metabolism (how the body uses food)
- immune system
- joints and ligaments
- heart and blood vessels
- structures of the hoof
- social world (the skills and security of the herd)
- mental and/or spiritual balance.

No matter how expensive or "well-bred" the horse, they are all "made of the same stuff" and they need the same conditions as a wild horse if they are to give us their best.

A "natural lifestyle" or "natural boarding" is the basis for healing any illness or injury. The horse's entire physical makeup is exactly "tuned" for a particular environment (for most breeds, dry plains and desert, with extremes of heat, cold, wind, etc; or for some, marshy areas). In a similar enough situation, horses are capable of healing nearly anything that happens to them.

Here is one observer's estimate of what a wild horse does over 24 hours (from Eva Mueller):

- 60% eating -- on the move, about 20 miles (30 km.) daily
- 20% standing around
- 10% lying down
- 10% other (play, social activities, sex)

And here is what a stalled horse does over 24 hours:

- 47% eating -- not moving
- 40% standing around
- 10% lying down
- 3% other (play, social activities)

We can make changes in our horse's boarding situation so that his activities shift as much as possible towards the wild-horse lifestyle. Begin with what you can provide easily; this might be not-blanketing, or providing 24-hour hay rather than large feedings of grain. Then tackle the harder parts, such as 24-hour turnout or riding lots of miles daily. For me, the hardest is that I still haven't arranged for the "bare minimum" of 10 miles per day of movement, though my horses live outdoors and can move around freely.

Soaking the feet

Both Jaime Jackson and Dr. Strasser say that domestic horses' feet should get wet daily, whether in water, or a muddy spot by the water trough, or from living on wet ground.

I personally think that foot-soaking is an open question and may be unnecessary. I have heard of horses living in dry areas, whose feet rarely get wet, yet they seem to be fine.

In rainy areas, there seems to be a lot of fungus (different from thrush; see More Topics page), which thrives in "warm and wet" places such as the deep crease in the frog between contracted heels. Daily foot soaking doesn't give the hoof a chance to really dry out and throw off a fungus infection. I have not soaked my horses' feet for several years now.