

## Hoof Care Corner

Welcome back to the Hoof Care Corner, a series of short articles written to educate horse enthusiasts about a variety of hoof care topics, ranging in scope from “the benefits of barefoot” to “when wedge pads matter”. Our topic today is the healthy hoof.

### Happy Feet- Knowing a good hoof when you see one February, 2015

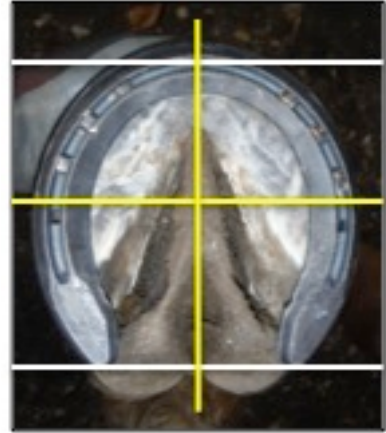
Is your farrier on speed dial? Do you base your riding schedule around those miracle days when your horse is actually sound enough to ride? We’ve all been there, I think, tromping around the pasture looking for that lost shoe AGAIN, grumbling under our breath that we will never choose another horse based on color, and that NEXT time we’ll remember to buy a horse with four perfect feet! This month we discuss the features of a healthy hoof and how they relate to soundness in your horse.

It first needs saying that there is no such thing as “the perfect hoof”. Every one is unique, and to try and make them all match is to invite lameness into your barn. Still, all horses share the same functional anatomy and most of you reading this column probably have seen enough hooves to know a great one when you see it. What is it about that great foot, though, that makes such a sound, durable horse? Read on to learn about the role of hoof balance, hoof protection and shock absorption in the ideal healthy hoof.

#### *Natural Balance*

Many farriers talk of “balancing the foot”, but what does this mean? A balanced foot is simply one that has generally equal portions side-to-side and toe-to-heel. You can assess it on your own horse with a black marker by drawing center-lines across the bottom of the foot- one that bisects the frog, and another across the widest part of the foot (Photo 1, yellow lines). Balance does not mean round (after all, a square is balanced), and good balance is possible for the long, narrow mule foot as much as for the hulking dinner platter that your warmblood sports.

Horses with good side-to-side symmetry tend to stride straighter and land more evenly. It is the toe-to-heel balance (a.k.a. dorsal-palmar), however, that is so critical to soundness. All the landing gear for our horses is located in the back of the foot, while the bone and rigid structures needed for lift-off are located in the toe portion of the foot. Healthy hooves have as much heel support as



**Photo 1 Caption:** Well-balanced hoof showing equal proportions side-to-side and toe-to-heel. Notice the well developed caudal foot including wide frog.



**Photo 2 Caption:** Distorted hoof showing imbalance between the toe and heel portions. This mare is not loading the back of her foot properly.

possible (Photo 1), while distorted hooves are “run-forward”, leaving little or no surface area behind center (Photo 2) and forcing impact to occur at the toe.

### *Protection- Sole Callus and Hoof Wall*

I'll concede that farriers and vets may be the only people who actually get goose-bumps thinking about how awesomely designed the hoof is for withstanding the elements. Anyone who has watched the sport of endurance racing, though, knows the rock-crushing power of hooves, and all of us who live in New England can marvel as our horses slog through ankle deep mud all spring with hooves intact. What makes this versatility possible? A strong hoof capsule and thick horny sole callus are both essential ingredients. This outer shell is designed to be groomed little and often in the wild by way of travel over sandpaper-like gravel for up to thirty miles per day. Domestic horses rarely have access to such natural trimming, and so their hooves may grow faster than they wear away. The resulting “over-protection” actually reduces hoof health in the same way that wearing thick boots prevents our own bare feet from toughening up. The best most of us can do is establish a routine of regular care (every 4-8 weeks) that allows the farrier to remove excess material without compromising the protective features of the foot. The ideal healthy hoof sports a uniformly thick outer hoof wall that is free of cracks, and a thick (3/4 inch) sole callus whose concaved, or cupped, nature helps elevate it from rocks and other debris.

### *Shock Absorbers*

Ever try going for a jog in dress shoes? How many miles could you run before your knees, ankles, heel and arches started protesting? Your horse is just the same. As previously mentioned, the caudal portion of the foot contains all the landing gear, and one trademark of a sound horse is a strong and confident heel-first landing. A healthy caudal foot includes a large wide frog, firm open heels and a thick digital cushion. The digital cushion (Photo 3, the portion of heel area being pinched) is a gelatinous shock-absorbing cushion inside the foot.

Besides the obvious utility of the caudal foot to dissipate load on impact, it is the frog, digital cushion and flexible heels that act together as a second heart for the horse, pumping huge amounts of blood through the foot and back up the leg with each step. This means that movement increases blood supply to the foot, which stimulates growth. In this way, a healthy back of the foot becomes essential to the health of the whole hoof and ergo, to the whole horse.



**Photo 3 Caption:** Oblique photo showing well-developed digital cushion. Hoof belongs to an 18 mo old captured mustang from the Pryor Mountains, WY

To sum up, the ideal hoof is well-balanced, with a thick hoof wall and horny sole callus, and a well-developed heel and frog. How can you grow one for your own horse? The short answer is that healthy hooves don't grow on trees. The long answer is an excellent topic for the next installment of the hoof care corner- titled "Your Farrier and You- A Team-Based Approach to Hoof Health".

**Contributer bio**

Liselle Batt is a full-time farrier in western Maine. She attended farrier school in Washington State, is accredited through the American Association of Professional Farriers and the current secretary for the Maine Farriers Association. Liselle advocates an educated, common-sense approach to hoof care and to that end offers barefoot trimming, booting fitting, conventional shoeing and glue-ons to clients. Additional information about Western Maine Horseshoeing and Trimming is available on her website.