



From the Foot, UP

How hoof form affects your horse's limb function and conformation.

by Lisa Huhn and Catherine Katsirdakis EqMT

Is it possible?? Can foot form really affect a horse's conformation?

Yes, it can, and does – in fact it affects much more than that! The condition, overall shape and functioning of your horse's feet influence not only his posture, stance, attitude, personality and movement, but also his innate and biological bodily functions such as circulation, lymph function, digestion and muscle development. We will even go so far to say that foot form and function have a great influence on your horse's trainability and soundness -- physically, emotionally and mentally.

Conformation is not always etched in stone. This is a 20 year old 'barefoot behind' mare who got ONE EQ trim treatment. The pictures are 4 days apart!



Before we can start to fully realize the correspondance between form and function, conformation and behaviour, we must first place in our minds what *is* normal? What *is* common? They may not turn out to be the same thing ... take a look ahead

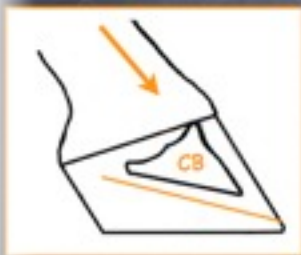
What is good hoof form?

A few simple guidelines can be used to assess whether your horse has healthy hoof form.

Healthy Foot Shapes



Common, Unhealthy 'Box' Shaped Foot



Page 4 of the Equinextion Triminology 101 Guide Book

From the side, your horse's hoof should look triangular. With the limb fully weighted, the hairline (or coronet band) should be straight and resting at a 30° angle. The front (dorsal) angle should be roughly 45° to 50° in the forelimbs and 50° to 55° in the hind limbs.

From the front, the coronet band should appear level and straight -- any humps or deviations in shape indicate uneven pressure. From the rear, your horse's heel bulbs should be thick, round and low to the ground. You should be able to fit one or two fingers comfortably between the bulbs.

From the bottom, the frogs should be thick, dense, triangular pads, blending smoothly with the heel bulbs to form a "heart" shape. The sole should be smooth and convex, forming a bowl. The bearing surface of the heel should be level with the widest point of the frog, and the hoof wall should be approximately the same thickness all the way around.

The white line should be a solid elastic "seal" all the way around. Any black material or gaps in the white line are not acceptable and your horse could present with lameness until this is rectified.

Did you know?

Front and hind feet have significantly different shapes, which develop after birth to accommodate their differing purposes. The fronts should be quite round (or even triangular in shape with the rear of the foot being the widest) and very symmetrical in appearance. The symmetrical shape of front hooves provides proper weight bearing, shock absorption and dissipates concussion upon landing.

The hinds have more of a "spade" shape -- they are the basis of proper locomotion. The inner (medial) portion of the hind foot should be slightly narrower than the outer (lateral) portion. The horse uses the steeper medial wall for digging into the ground, gaining traction during takeoffs or on difficult footing. The wide lateral portion of the hind foot aids the horse during collection. If you're a dressage rider, imagine the collection capable of a horse working on full, healthy de-contracted hooves! A rarity in today's upper level horses, because of the outdated and mis guided beliefs that horses 'need' shoes.

Summer Feet ... In Transition

Did you know?

The natural horse can grow an entire new hoof capsule in as little as 8 months!

Horses in transition grow a much larger hoof capsule during their second and third natural growth cycle.



Fronts are more symmetrical and round while hinds stay spade shaped. These are mid-summer feet in transition and require periodic 'watering' with lots of movement to retain their inherent elasticity and to keep them growing at a healthy rate.



Above is page 8 of the [Equinextion Triminology 101 Field Study Guide](#). Every horse owner should have the knowledge supplied in this little book of treasures.

Available now on [Equinextion.com](#)

Common pathologies Look for them and you will find

1. *Contraction* refers to an excessively narrow foot, with heels and bulbs pinched together. This is one of the most common pathologies afflicting domestic horses today. Contracted feet can be linked to a host of behavioral problems such as bucking, rearing, teeth grinding, tripping, head-shaking, rushing or balking. Jumping horses with contracted hooves will be “dirty stoppers” – refusing to jump fences with the shock-absorbing system in their feet compromised. These are often horses who will “bronc” or bolt away from the landing site after jumping for example. Others may be spooky and nervous on the trails or short strides with stiff mobility to the limbs. Maybe someone labels them a ‘lazy’.

Contracted narrow foot VS Wide functional healthy foot

Frogs/Bulbs: An Insulating Pad



Both of these pictures are of 4 year old warmblood sport horses of different foalhoods. One was following traditional horse keeping practices presently being taught in equine university programs. The other was brought up in an enhanced natural living space we call the Eq system.

Can you see the differences in frog pad development?

41

Contraction is so common that it is looked upon as ‘normal’. It’s not just about the width of the frog but also the width and depth of the bulbs. More information available on Equinextion.com

Know This...

THRUSH is EVERYWHERE!!



Thrush really IS everywhere. It is so common that it is often overlooked and just considered normal. While common, it is not normal! These pictures are of the same foot before and after changes in trim and lifestyle. The owner did not realize that this frog was actually white – not black! Thrush can be found in wet climates and desert dry ones – it just presents itself a little differently.

2. *Thrush* always goes hand in hand with contraction. When the heel bulbs are pinched together, the frog is also stressed, pinched and crowded. It can atrophy and shrivel up which makes it susceptible to ever-present opportunistic bacteria and fungi. ***Many horse owners do not recognize thrush because it is so common.*** We are told to occasionally apply some caustic goo in blue, purple or green and forget about it. What is not realized is the impact unhealthy frog pads can have on limb function. When the frog pad is hurt, the horse will begin to avoid using them and land “toe first”. This landing limits the horse’s stride range by several inches, and the compromised use of the limb with each stride predisposes him to soft tissue injuries such as tendon or suspensory injuries. Long term, this type of movement leads to navicular or DDFT lameness. Thrush pain can also cause a horse to stand over at the knee; commonly considered a conformation fault, this flaw can often be “cured” with improved hoof management! We have posted pictures in the past showing this and more is included in [MTC Triminology 101](#).

3. *Under-run heels* are also known as “under-slung” or “crushed” heels. This condition is often confusing people and labelled as “this horse doesn’t grow heel” or “no heel.” The fact is that these horses generally have excess amounts of heel, but it is easily overlooked because it grows on a dramatically forward plane and ‘appears’ flat to the uneducated eye. These horses can be predisposed to bowed tendons and suspensory injuries, shoulder troubles etc.

4. *Flares* are one of the most preventable hoof pathologies, and a major contributor to winging/paddling gaits. Simply provide a balanced trim at regular intervals, and flares will become a non-issue in your horses. Some horses do need a shorter trimming/shaping schedule of just a few weeks to gain control and heal the flare thoroughly. Do not leave your horse for months between trims. Provide him with a clean environment and lots of exercise and he will heal.



This owner was told “Do NOT take these shoes off, his feet will fall apart! He can barely hold on a shoe now and we have to ‘fix’ that crack. Fast forward 4 months and a smooth transition and there is much healing that took place ... following all EQ Protocols results are not as long as you think

5. *Cracks and chipping* are also very preventable. Balanced trimming at short intervals will “cure” chronic cracking problems. If your horse has quarter cracks, or chips in the quarters, he is receiving a “flat” or non-functioning trim. He is simply shedding excess material. Trimming to accommodate the natural plane of the foot will eliminate the problem. If your horse has a coronary band injury, he will probably grow out a thin crack like a scar. This should not affect his performance.

6. *Medial/lateral imbalance* refers to a horse whose hooves are imbalanced left to right. Shockingly, many horses are trimmed and/or shod out of balance for years at a time! These horses often have uneven arthritic changes in the joints of the lower limb (appearing as hard “bubbly” material surrounding the joints). This imbalance can be a major contributor to ringbone and sidebone. Improvements can be made to these conditions through regular, balanced trimming, resulting in increased comfort and longevity for your horse.

Did you know?

ALL hoofed mammals on our planet have similar attributes to their feet. These include round front hooves, spade-shaped hinds, and a flexible pad towards the rear of the foot. Every single one of these mammals, including the horse, has a natural arch in their feet, which allows for optimal hemodynamics. Flat trims hinder circulation.



Moose: Front sole, Arch and Hind Sole view

Five hearts

When a healthy and fully functioning equine foot strikes the ground, it will expand approximately 3 mm to 5mm and *fill* with cushioning blood. Built in support! As the foot leaves the ground, it contracts, expelling blood from the foot. The action of your horse's feet assists his heart in pumping blood throughout the limbs and body, as if he has five hearts. Certain

pathologies (including wearing metal shoes) can disrupt this process, restricting blood flow and limiting the function of his feet. Now think -- if four of your horse's "hearts" are constricted, how is the fifth to function at full capacity? Imagine the potential of your horse if he were able to fully utilize all his resources.



As you can see, a properly formed and functioning foot affects your horse's entire well being. Pay close attention to his hooves, and address any imbalances and pathologies with your trimmer as they arise, for optimal health and performance.



