What is the “Whole Horse” approach?

By Esco Buff, PhD, CF

The term “whole horse” has been used by many different professionals to describe a whole host of ideas and concepts. In recent years, the term “whole horse” is emerging again due to the fact that many professionals feel that the emphasis of treatment appears to be more focused on symptoms rather than treatment of the insult or underlining source of the symptoms.

The term “whole horse” means taking a holistic viewpoint. A holistic viewpoint is based on the law of nature which implies that a being is a whole made up of interdependent parts. When one part is not working at its best, it impacts all the other parts of the being. It simply means looking at the whole picture in order to restore soundness and wellness to the horse. A holistic approach considers anything and everything that could affect a horse’s health. It means asking WHY the lameness is occurring, WHAT is the original insult or root cause, and HOW can we treat the cause as well as the symptoms, not just the symptoms.

A holistic approach can be accomplished in many different ways. Too often some individuals confuse holistic with an alternative or complimentary approach. A holistic approach can be accomplished by traditional methods of treatment, alternative methods, and/or anything in between. In reality, all veterinary medicine may be considered holistic in that it should consider all aspects of the horse in the context of its environment. The same concept should also apply to the farrier. For the farrier, it means recognizing that the imbalances in a hoof are directly caused by the body and conformation of the horse. Examples of this may be returning hoof imbalances, hoof cracks in one hoof not due to injury, crushed heels, hoof heel height differences, rotational deformities in one limb, etc. It also means that recognizing that many lameness problems are either directly caused by or made worse by uneven body weight bearing. Examples may be palmer-heel pain issues, suspensory strains in one leg, laminitis/founder, etc.

Example of a hoof crack created by a body imbalance (photo by Esco Buff, PhD, CF, 2004).
This crack had been treated for over a year by patching, lacing, stapling, and shoeing without any success. The body imbalance was treated and the crack completely resolved.

Example of the body imbalances on many horses with navicular disease and/or palmer-heel pain issues. (Photo by Esco Buff, PhD, CF, 2006).

It was the classic high-low syndrome or club footed horse that really put me on the road to a more holistic approach to farrier treatment. Albert Einstein defined insanity as "doing the same thing over and over again and expecting different results. Every farrier visit, I would trim the heel down on the more upright foot and it would be there when I returned in five or six weeks - insanity. No shoeing options would make this stop – insanity. Why if I did nothing to the heels of the one hoof would they eventually just stop growing at some point? They did not just keep growing and growing. What would cause the heels of one foot to grow more or stop at some point? The answer to that question was not resolved by the many different farrier and veterinarian treatment approaches. The answer became simply, I was not treating the insult as I was trying to treat the symptoms.

The obvious answer to me was that the insult was in the body not the foot. I began to notice with many lameness problems a certain commonality. They all appeared to have noticeable body imbalances such as a curved neck and back spine, scapula height indifferences, and muscular indifferences. No wonder they had problems in their limbs and feet. I soon went on to discover that nearly every navicular diseased horse, one legged palmer-heel pain horse, and club foot not club feet horse I evaluated or worked on, had the same commonality.

Looking over the rump of a horse and observing body indifferences
(photo by Esco Buff, PhD, CF, 2007).

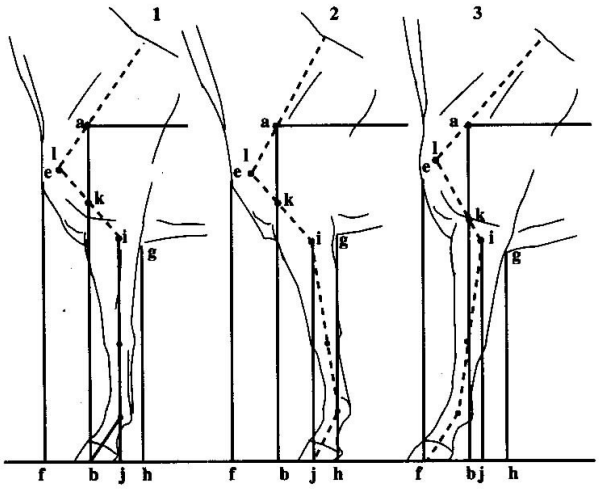
After attending chiropractic classes, I soon learned that this commonality of body imbalances was known as limb length inequality (humans) and limb length disparity or bilateral asymmetry (in animals). Limb length disparity (LLD) is an observable body imbalance and physical deviation that manifests itself in a structurally and/or functionally different limb length, and more than likely has been created due to congenital, hereditary, injuries, environmental, muscular and/or spinal problems (Esco Buff, PhD, CF, 1999). There are two types of limb length disparities, structural and functional. Structural LLD is an actual anatomic short limb, is rarer, and I've only seen this in a few horses. Functional LLD is a limb that functionally behaves as a short limb and is very common in humans and animals.

Recognizing body imbalances will help you identify current and future lameness problems. Body imbalances may show up as mismatched hoof sizes and shapes, different heel heights, different heel angles, different phalanx angles, chiropractic misalignments, pectoral muscling differences, chestnut and knee height differences, shoulder size and form differences, scapula height differences, to name a few. In motion, body imbalances may show up as a difference in the cadence or hoof beat rhythm, hip hiking more on one side, hips sashaying more on one side, the horse turning better one way than the other, unexplained behavioral issues. For the farrier, body imbalances may show up as a shoe pulled constantly on one foot more than any other, a hind limb that is easier to work on and one that the horse is more rigid or difficult.

For the farrier, as time passes and our understanding of the horse increases, it becomes all the more important to take the entire horse into account before trimming or shoeing. As farriers we need to remember some principles of biology. The first is "function follows form," which means the horse's body conformation and spine control the way that it moves, not the hoof. The second is "form follows function," which is a secondary effect to "function follows form, " and means that the hoof does not control the way the body moves, rather the hoof capsule distorts due to uneven loading.

Being in balance is obviously important to many farriers and in the best interest of the horse. A whole horse approach or holistic approach is to use the entire body to determine the balance of the foot, not the hoof or lower limb or T-Square method.

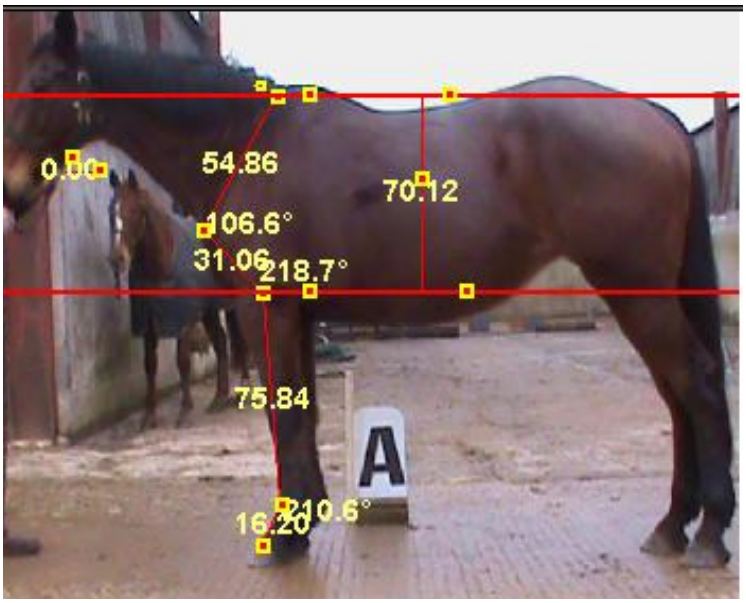
When determining how form effects function and therefore hoof balance; you will need to first analysis the form for conformational issues. Each leg has a center of gravity. Its position can be determined by dropping a plumb line from the point of attachment of the limbs to the body trunk. Ideally, this will pass through the center of the insertion of the deep flexor tendon on the semilunar crest of the distal phalanx. Any deviation of the foot from the plumb line indicates a defect in limb conformation that will affect hoof balance. Understanding the illustrations from The Exterior of The Horse by Armand Goubaux and Gustave Barrier, will help you start to recognize how conformation affects the hoof.



Lateral view of the front limbs from, The Exterior of The Horse , Armand Goubaux and Gustave Barrier, 1892.

In the front conformation illustration, how will the drawing of the far right horse's conformational effect the loading on the hoof? How will it effect the motion of all the limbs? By recognizing this conformation issue, a farrier can help provide support for this issue in order to minimize future lameness problems. What if the horse is currently lame? How does this affect your farrier treatment? Do both front limbs have the same conformational issue or are they different? If the same, how can you provide farrier treatment to better bring the center of the limb back in line to where it belongs (move dotted line dividing limb back in line with j). If the front limbs are different, how is this possible and what is it telling you (try looking at top line and you will see a whole body imbalance and more than likely a LLD).

Conformation can also be documented on each horse with the aid of photography and/or computer programs. Providing documentation will allow you to be able to access you farrier treatment in order to make sure the horse is progressing forward.



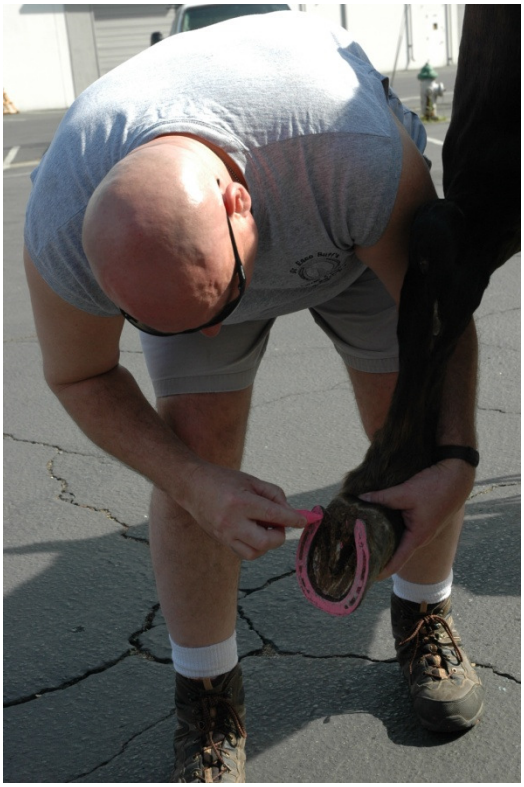
ONTRACKEQUINE software used to document conformation (Photo courtesy of David Hall, UK, 2010).

After recognizing conformation issues, next is to balance the hoof to the horse's way of going. This can be done in several ways. One way is to learn to site the limbs in a more correct manner that does not cause false interpretations. Due to the anatomy of the hind limb it is not possible to assess medio-lateral balance in relation to the long axis in the same way as for the front feet, even though many Farriers do this. Because of the reciprocal apparatus the hind leg cannot be hung loosely when picked up; the fetlock cannot extend with the hock flexed. Looking over the point of the hock gives some information but this alone should not be used to decide the exact plane of the foot. More accurate information can be gained by observing the foot on the ground and sight down the leg from behind. A foot that is not in balance to the body will appear more to one side of the fetlock.

Sighting down a hind leg to observe imbalances (Photo by Esco Buff, PhD, CF, 2010).

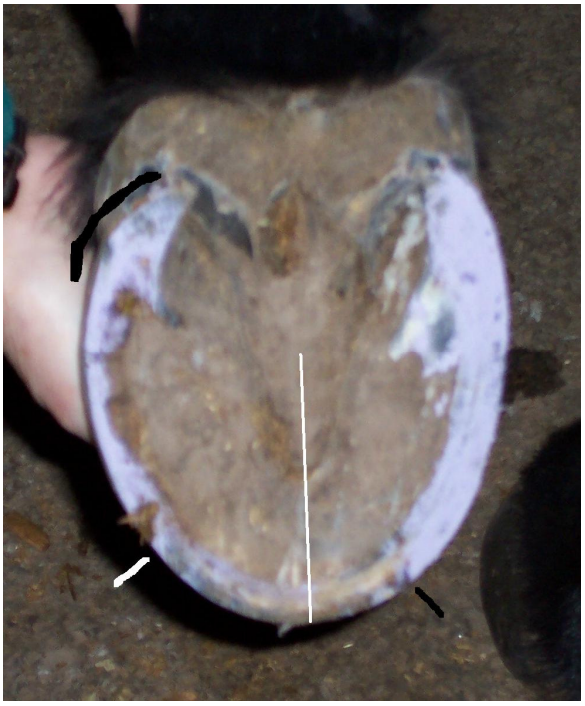
In the front leg, a farrier needs to pick up the limb between the fetlock and knee with the outside hand. Therefore, you would use your right hand to pick up the horse's left leg. Bring the leg up to the knee and slowly let it down. In order to not have your brain over analysis the balance, only take about three seconds to determine the medio-lateral balance.

Another method and one of the simplest ways to accomplish balance evaluation is to use sidewalk chalk. This method can be done on a horse that is barefoot or with shoes on. Pick up the foot and completely clean the ground surface. Now using sidewalk chalk (red and blue work best), completely color the ground surface of the hoof wall or shoe. Walk the horse in a straight line for about twenty feet. Concrete and macadam work best for this observation, however with practice, one can accomplish this on hard packed dirt surfaces. Note how the chalk wore off the foot or shoe. Ideally, the chalk should wear evenly off both heels and toe. More than likely you will see the chalk worn off one side of the foot or off one heel and a toe quarter more than the other diagonal heel and toe quarter. If so, this is telling you that the hoof is not in balance with the body. The chalk wears off the high side or the side that hits the ground first. Trim again and re-test and you will see the chalk wear off the heels and toe evenly. In a horse with a conformation issue like the far right horse in the illustration from The Exterior of The Horse, the chalk will be more worn off at the heels than the toe.



Chalking the shoe (Photo by Esco Buff, PhD, CF, 2008).

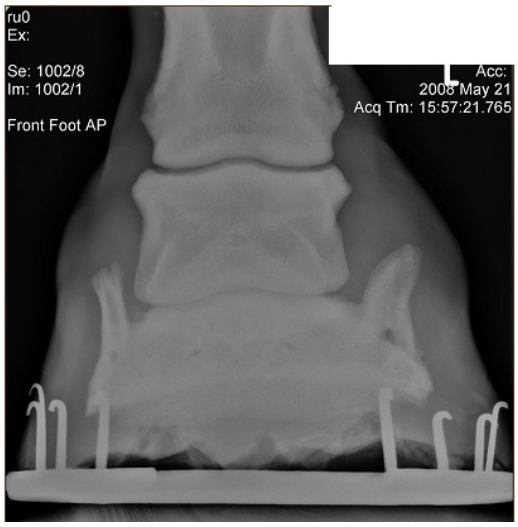
Chalking the hoof (Photo by Esco Buff, PhD, CF, 2008).



Chalk wear (Photo by Esco Buff, PhD, CF, 2008).

Imbalanced or balanced hoof? (Esco Buff, PhD, CF, 2008).

Everything is not as it always seems to appear. Chalking can be a very valuable tool in balancing a hoof to the body. If you did not chalk this left front hoof, what statement about balance would you make? Would you say the horse was inside or medial high? Chalking the foot told a different story. Look at the radiograph and check out the joint space and balance of this hoof after it was shod. Would you have removed more medial hoof wall? More lateral hoof wall could have been removed to balance the foot better.



Radiograph of Imbalanced or balanced hoof? (Photo by Esco Buff, PhD, CF, 2008).

You have now observed the conformation of the horse and trimmed the horse in balance to its own body. The next step is to observe the horse walking away and towards you in order to access the body movement and how any conformational or whole body imbalances are affecting the gait of the horse. Note how the tail hangs and moves as the horse is walking directly away. Does the tail equally appear to move from side to side; or lies motionless in center of body; or off to one side; or move to one side more than the other? Note how the belly or ribs of the horse moves as the horse is walking directly away. Does the belly or ribs equally appear to move from side to side; or more pronounced or further out on one side more than the other? Note the straightness of the front limbs from the shoulder joint or point of rotation perpendicular to the ground as the horse walks towards you. Does each limb appear straight and perpendicular to ground as the horse moves; or does one limb appear to move inside a perpendicular line, or outside? Note the tracking of the hind limbs in relation to the front limbs as the horse walks directly towards you. Does each hind limb appear to land directly behind, inside or outside the front limbs; or does one hind land to one side of the front limb and the opposite hind limb to the other side of the front limb? Standing behind the horse, observe the hips of the horse as the horse walks directly away. Does each side appear to equally move the same or up and down as other side; or does one side appear not to move; or hip hikes more? Standing behind the horse, observe the point of hips of the horse as the horse walks away from the observer. Does each side appear to equally move

forward or sashay the same as the other side; or does one side not move or sashay at all? Does the cadence sound uniform or in beat; or does one limb sound heavy or lighter?

As you can see, there is a lot more time involved when assessing the whole horse. Farrier treatment of lameness issues due to body imbalances is not a simple, "do this-do that", shoeing answer. Over the years, some individuals have presented hard and fast whole horse farrier treatments, which have had mixed results. It is not that simple but it is not so hard either. It takes some knowledge and observational skills in anatomy and locomotion. Increasing your skill level and knowledge in chiropractic, massage, and other related fields will help you along this learning curve. Often I think we forget that the front limbs and hind limbs are attached via a body that greatly affects both as well as one end affecting the other end of the horse. An example of this is just because one front foot has a more upright heel does not mean that the issue is a front end issue. It is more than likely a front and hind end issue, and could have been totally created by a hind end issue. I have seen horses receive chiropractic treatment for pelvic issues, go completely sound, and watch the upright heel disappear over a couple trimmings. The hoof was deforming due to the imbalanced created in the body.

Some key points to remember about the whole horse approach.

- Body asymmetry is often the first clue that the horse may have future lameness issues.
- Understanding the prevalence of LLD and how these differences can contribute to lameness issues will yield important clues in helping you provide successful treatment outcomes for the horse's biomechanical problems.
- Addressing the chief lameness issue without looking at the interrelationship between the injury and the rest of the body can allow some problems to slip by without being properly identified. A Holistic Approach needs to be adapted.
- Learning how to assess the whole horse can be an easy addition to your biomechanical exam of the horse. Integrating this assessment into your diagnostic work-up will yield beneficial results.