



Hoof and Musculoskeletal System Co-Relation

Optimizing your horse's body mechanics for power, performance, and function begins with his foundation. The body depends on this base of support for balance. If the hooves are not properly balanced, the rest of the body has to compensate, which can create postural faults and other related ailments. In turn, imbalances in the body can further affect the shape, balance and overall health of the hooves. When you know what to look for, it is possible to recognize postural faults as they show up in the hooves. These wear patterns and distortions can reflect what may be going on with the body's alignment. (i.e. Hind hoof capsules fanning out, "v" shaped cracks at the toe, possibly quarter (side) cracks as well, with heel growth that follows the toe forward; could indicate pelvic rotation, often seen in mares after foaling).

It is sometimes necessary and always beneficial to balance hooves and body together. This harmoniously allows for good posture, rarely can you achieve balance of one without balance of the other. A "hoofman" ("man" meaning "human") cannot always rely on just balancing the hooves to rebalance to the entire body. The horse's soft tissue has cellular "memory" which could hold him in patterns of discomfort until the musculoskeletal issues are addressed. When trimming a horse on a given day, you have simply balance the feet for the posture he has at that time. There could be a multitude of reasons "why" he has adopted that posture in the first place. (Abscess, injury, bone alignment, ill fitting saddle, rider imbalance, poor trimming methods, ect...) In some situations, if you come in and "take away" the support the horse has "created" himself, you could make him extremely uncomfortable, possibly pull a tendon or even torque a ligament. The medial lateral (side-to-side) hoof balance is crucial here, and is often misunderstood or overlooked entirely. Take the hind hooves for instance, when the trimmer is right-handed and uneducated about medial-lateral hoof balance, his power stroke (when using the rasp) could make the right hind quarter and heel of the hoof, lower on the outside and higher on the inside. This can cause problems with the hip and hock, due to the lengthening and shortening of the muscles. (This could be why we have seen such an epidemic of right hind lameness.) You see where the horse is today, and where he could be heading. At the next trim you make the required adjustments, after considering what the horse is communicating to you. Posture and hoof form can change readily, because both could be a result of, or cause of the other. Changes, whether desired or undesired, can occur instantly or may take a long time. Furthermore, bodily imbalances and hoof imbalances can be a result of other seemingly unrelated problems, so the "whole horse" approach is a must. When facilitating change, we should give the body the time it needs to rebalance, enabling a more natural transition to homeostasis.

Homeostasis is complete body balance, not necessarily symmetry or perfection, but intrinsic balance. The natural transition from and to homeostasis is a continuous process. The body is always striving to do its best with what it has to work with. Life's challenges can alter homeostasis, as can maintenance practices. One may observe horses in the pasture doing a variety of things in an effort to facilitate a return to homeostasis. For instance, repeated yawning could indicate attempts to adjust a temporomandibular joint (jaw) misalignment; rolling and bucking may be attempts to adjust spinal subluxation; rubbing, leaning and pushing on the neck or head could be attempts to correct cervical misalignments; rubbing, leaning and pushing on the hindquarters may be attempts to correct pelvic rotation or hip subluxation. Pay attention to detail, your horses are an open book for those who learn how to read them.

In theory, the “hoofman’s” eye may be one of the most valuable tools the hoofman can possess. The hooves can tell the story of the horse’s overall health, and they generally do not lie. As the hoofman’s eye develops, it will see the importance of heeding all the information. The hairline connects the hoof to the body. Knowing how to read the hairline, as well as the rest of the components of the hoof, one can answer a multitude of questions about the horse’s overall health. This kind of “hoofsavvy” can only be realized by considering the interconnectedness of all the body’s systems. When we can learn to read the “whole horse” we can see where things are now and where they may be heading in the future. For example, unhealthy (crumbly) hooves may indicate a lack of nutrition, which could be related to poor mastication (chewing) of food; one hoof being larger than the other could be due to a musculoskeletal imbalance, increasing the weight load on one side can stress the hoof causing it to spread.

The proper balance of the horse’s mouth is often overlooked and is a major link to the horse’s health, attitude, and performance. Acquiring real “hoofsavvy” contemplates the big picture, looking at all the “whole horse” variables, inside and out. The body’s “co-relations” are crucial and it is by all means fair to consider them. “Serve the horse with justice”. What does that mean? The word “justice” encompasses many forms of fairness. It pertains to what is right, true, and equitable. Getting the foundation right will render a truly dependable structure which in turn becomes an equitable investment in your horse’s health.

Over the past 10 years, the equine community has made themselves more aware of the function of the hooves, and to their credit, they are asking questions and making more educated decisions about the care of their hooves. This is inspiring to the educators who wish to “serve” horses far and wide. The more horse owners learn to ask questions and read the signs of imbalance in their horses, the more farriers, vets, and trainers will have to learn to address their concerns. Often when postural faults and other ailments appear due to imbalance, the imbalance (the root cause of the ailment) may elude conventional diagnosis entirely. The problem may be written off as minor, or imaginary, or may be characterized as untreatable. Too many horses grimly live with pain that is very real and could be easily relieved if care providers would simply take the time to acquire the appropriate knowledge (learning to “co-relate” and consider what the “whole horse” is communicating). Misdiagnosis and misunderstanding of pain and ineffective treatment often result in enormous unnecessary cost, both to the pocketbook and to the horse’s quality of life. Fortunately, there are more and more equine care providers that are adding this valuable knowledge (reading the horse and detecting imbalance) to their repertoire of medical and holistic services. Holistic services are aligned with the body’s mission to continuously seek homeostasis for itself. When care providers complement one another’s work, it supports this mission and makes for a much more harmonious outcome.

Many times conformation is confused with posture. Conformation has to do with the skeletal structure; the dimensions and proportions of the bones and how they are put together. Posture has to do with soft tissue and conditioning of the muscles. The word “posture” or “posturing” can also refer to the mental attitude the horse displays, yet another aspect of the “whole horse” consideration. In this case, we are referring to the soft tissue of the body. Postural faults can predispose (make susceptible) a horse to certain conditions, (i.e. “over at the knee”, cow hocked, ect). Because the muscles support the skeleton, the horse can make remarkable postural changes instantly. This can go either way; the horse’s posture can greatly improve or drastically decline. Postural changes can make a horse appear to have gained 200lbs instantly by realigning his top line and rounding out his hips; an improper, unbalanced trim can make a horse instantly; “choppy”(shorten his stride), or make him “point,”(standing with one foot forward, possibly dragging dirt up under that heel for support), or make him “camp under”(stand with feet way underneath himself), or even make him dead lame from leaving him with too much sole pressure (standing on the sole area of the hoof resulting in a lot of discomfort.)

Gravity is a major player in all of these postural issues. The forces of gravity are working on the body at all times. Have you ever carried two bags, one weighing more than the other? You made postural changes to maintain your upright “balance”, and eventually felt pain. The pain you felt was because gravity exposed parts of one side of the body to more tension or exertion than the other. You were unbalanced, and you do not have to carry bags to experience this. Unbalanced or poor posture or perpetual compensation, often result in chronic pain that can become a debilitating part of life. Your horse is no different. With a whole body approach, postural conditions can be prevented, minimized, and even reversed when properly addressed.

Proprioception (the body's feedback on the internal status) is the horse's sense of position, direction and motion. Their body continuously responds to sensors in the muscles, joints, limbs, and hooves. Since the body is always seeking to achieve homeostasis, whatever adjustments are made, can affect his proprioception. Bodywork, dental work (jaw realignment), and use of drugs all can affect his sense of time and space. Hoof adjustments, especially when unnatural apparatus is applied, affect his exteroception (the body's feedback on the external status). Attempting to balance the horse by applying an unnatural base of support is a temporary fix that could result in serious problems which may not show up for a while, (i.e. deformation of bone tissue, abnormally developed blood vessel complex, unhealthy cartilage development.) The horse's hooves are their understanding (exteroception) and his connection to the earth. Hooves literally work the ground, feeling and sampling the texture with every footfall. Horses depend on their hooves to flee from fear and defend themselves. They are an avenue to expressing their pent up emotions and for experiencing pure joy. Not much can compare with the beauty of a carefree herd running and playing. Conversely, there is nothing quite so excruciating as the sight of a lame horse. That is why, when you ask horses to trust you with their feet, you owe it to them to do them “justice”. Clearly, there is a lot wrapped up in those feet. They are dynamically complex as well as eloquently forthright.

Improving the body mechanics and posture by properly adjusting the foundation helps prevent improper musculoskeletal reshaping, premature musculoskeletal aging, arthritis and related ailments. The “co-relation” of the hoof and musculoskeletal system is obvious. By seeking appropriate education and learning to read the signs of imbalance before they become chronic problems, horse owners can save themselves and their horses a lot of misery.

Now that Randy has set a great “foundation” for you, let's get more involved with the musculoskeletal system. The musculoskeletal system is basically comprised of muscles, tendons, ligaments and bones. Muscles create movement as well as provide structural support. Tendons attach muscles to bones, and ligaments attach bone to bone. If a muscle (or muscles) is overly tight or overly stretched, it puts stresses on the joints (skeletal structure) compromising the integrity of the connective tissue (tendons & ligaments). Obviously, this creates abnormal skeletal alignment. This then clearly results in a compromise of the overall movement and health of the horse. It is a medical fact that imbalance of the musculoskeletal system has an adverse effect on the other systems of the body (i.e. circulatory, neurological, lymphatic, etc.) How do we address this system? Bodywork...it just makes sense!

Let's start off by explaining how diverse the term bodywork can be. In my opinion, it is utilizing one or more manual modalities to restore function and balance to the horse's body. It may be massage, trigger points, myofascial release, joint mobilization, stretching and even skeletal alignment manipulations. These are just some example of the techniques a qualified practitioner may incorporate. Again, we are talking about restoring and/or achieving full function and balance; basic ingredients in what creates optimum performance, especially if your horse has a job. Don't you want your horse to be capable of performing to the best they can? Imbalance causes problems, that is a fact and foundation is everything (i.e. the Leaning Tower of Pisa).

The body will create muscular holding patterns to support itself due to the fact that the feet are overloaded in one area or another. This in turn can and will create what most call “postural faults” (i.e. “over at the knee”, cow hocked, etc). Muscle imbalance dictates poor posture, which dictates poor movement and performance. This obviously creates a vicious cycle of feet growing unbalanced and the musculoskeletal structures adapting to its foundation looking for a place that’s comfortable, not only at rest but also more importantly during movement. We have decided to start speaking up for the horses that live their lives in discomfort. They do a lot for us and they put up with a lot. As Randy says, “serve the horse justice”, isn’t it only fair?

Essentially, we now have a “chicken and the egg” question of which came first, imbalanced foot or body? Well, in my opinion, when it comes to the horse, it doesn’t matter which came first. The bottom line is that “it is what it is” and what you do now is treat it..... together! Bodywork and hoofcare when addressed together can greatly increase the opportunity for homeostasis. By restoring balance to the body, the body is now ready to accept the newly restored balance of the feet. Since there is an action/reaction relationship in everything, it just makes sense to have as much balance throughout the horse’s body as we can. Providing the best balance possible and making their full range of motion available enables the horse to respond with excellence to the demands placed on them.