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Control Your TORSO For a Better Seat

To improve your riding, develop an eye for self-correction by understanding body mechanics.

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Illustrations by Sandy Rabinowitz

We achieve superior balance as we sit on horses by controlling and efficiently using the core strength of our torsos. The torso is anatomically defined by the skeletal structure and muscles that encase the entire human spine. We use the strength of our torso to ask horses to balance more on their hindquarters and to control the rhythm. The correct riding position necessitates that the thighs are rolled in from the hip, the abdominal and back muscles are engaged and the back of the rider's neck is elongated, making the entire torso a connected, integrated unit. To the horse, this makes the rider an efficient and predictable mass, which is easier for him to carry.

A continuous elongation of the torso is essential to good movement in riding (we call it being connected) and is comparable to a dancer. Dancers reinitiate balance continuously in the torso as they work in order to move as effortlessly as possible against the forces of gravity. In partnering with another dancer, the one who is about to be lifted must be stretched and connected, so that she becomes one integrated unit herself for the other dancer to lift. If the dancer to be lifted is not connected, or are only partially connected, she becomes more of a "dead weight," and the result is that the lift will fail or the lifter might be injured.

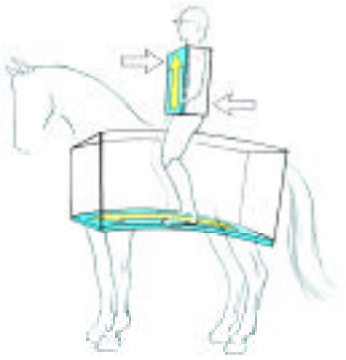
Having a clear idea of the structure of the human body can really help explain this concept of becoming firm but tall in your posture and yet fluid like a dancer.

Your Body Speaks to the Horse

The language of the torso is spoken to the horse through the pelvis and its bony protuberances, the seat bones. This is what the horse listens and responds to first. The anatomy of the rider's seat is, therefore, a function of how the pelvis is balanced on the saddle and the way in which it achieves co-existence with the motion of the horse's back. Exquisite control of that motion by a rider is how the horse knows (or feels) what is

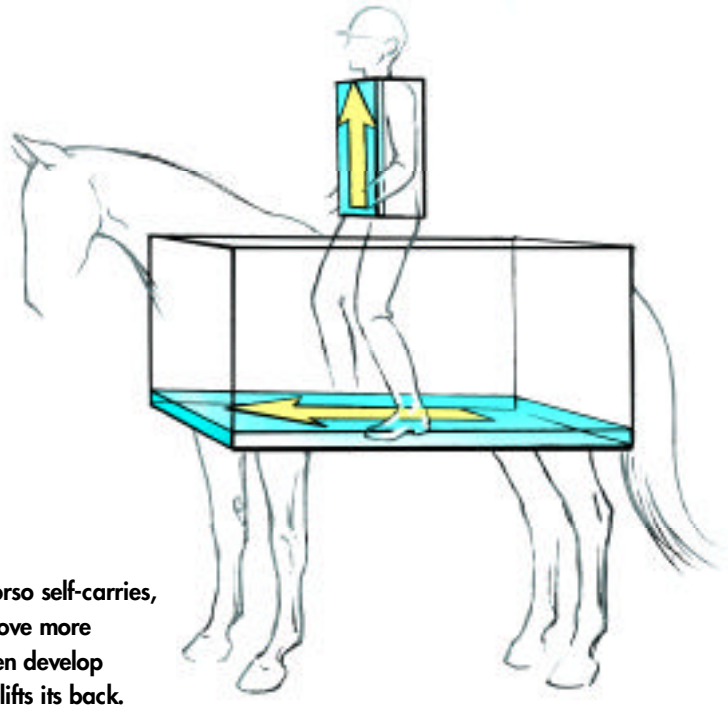
The Torso & the Half Halt Concept

The upper body, when properly connected, is a balancing rod that shifts the horse off the forehand and onto the hindquarters. When you "brace your back" to half halt, you make your torso firmer still with the abdominals and back muscles working together. Creating the pulse of a good rhythm with your torso keeps the horse from rushing and getting the hind legs too far out behind. When the upper body comes back, the horse feels the weight shift and brings the hind legs more underneath to hold up the rider. This may necessitate coming behind the vertical momentarily in order to use the torso effectively in transferring the horse's weight back onto the hindquarters. As the horse becomes more supple and learns the language of the torso, the aids become more subtle. But if you start subtle and get no effect, the half halting aid (engaging your torso) needs to be stronger.



The half-halting torso

Advanced riders make these half halting corrections with the torso all the time and very quickly. The correct rider response time is measured in fractions of a second to keep the horse from moving on the forehand or disrupting the rhythm. Like dancers, advanced riders reinitiate their own balance in the torso before the horse has a chance to make an out-of-balance mistake. Self-carriage in horses is achieved when the horse and rider balance together and only minor rider adjustments through the torso, arms and legs are required.



A rider with a correct torso self-carries, allowing the horse to move more freely. The horse can then develop strong abdominals and lifts its back.

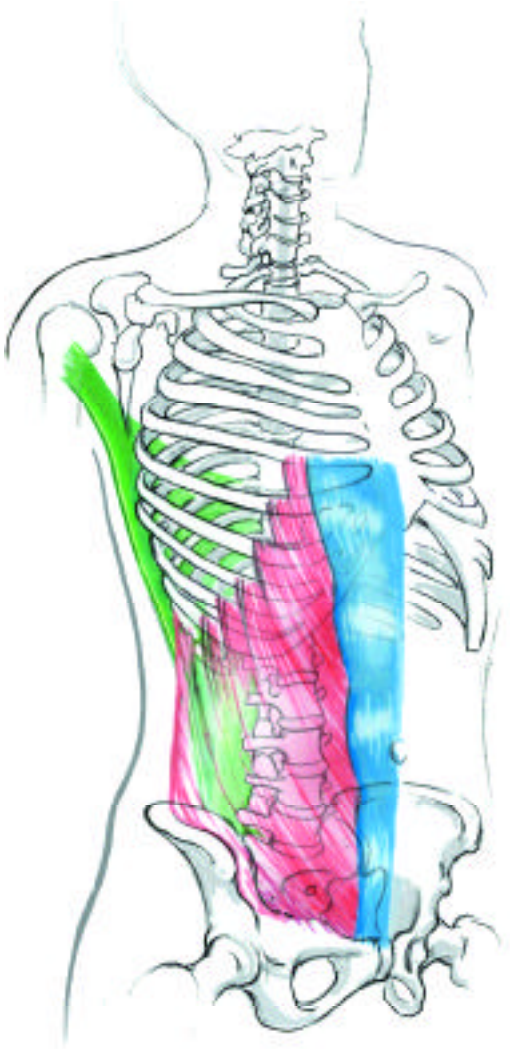
required of him in terms of collection, extension, halting, half halting, etc. The rein and leg aids are secondary to this.

Anatomically speaking, the pelvis is influenced by the rest of the torso from above and by the thighs and legs from below. For horses to move fluidly under us, we must lift OUR torsos in a dynamic way, allowing motion to flow through their backs. Even the smallest rider on a big horse can, with sloppy posture, very effectively keep the horse's back from moving well. The slight tipping forward or backward of such a position also puts additional weight on the horse's shoulders and the base of the neck. If this occurs, the back of the horse, especially behind the saddle, moves less and less. If the lower back of the horse isn't mobile and swinging, the hind legs cannot take a long enough step underneath the rider's center of gravity.

The Structure of the Torso

Imagine the spine as a set of building blocks (vertebrae) arising vertically out of the pelvis with a bowling ball (the head) perched on top. Now think of the lumbar spine as the bottom five of the blocks. This represents the most flexible part of the spine because it has no rib cage for stability. The lumbar spine must try to support both rib cage and head while counteracting the natural SOFTNESS of your abdominal region and stomach. Flexibility of the lumbar spine is great if you want to bend over to pet a small dog. Flexibility is not good if you want to balance a bowling ball (your head) on top of wobbly blocks (your spine) on top of a bowl (your pelvis) sitting on top of a bouncing object (your horse).

Here come your muscles to the rescue. It is muscle power that generates stability in the lumbar and abdominal area and in the torso as a whole. The human postural muscles are arranged in layers that criss-cross the abdomen and run parallel to the spine. They even reach under the shoulder blades and up to the head. All these muscles arise out of the upper rim of the pelvis. Additionally the spine itself is interwoven with smaller muscles that refine postural balance, movement and torque. Layered over all these are the latissimus dorsi muscles (lats) that rise out of the low back, fan out on each side of the spine and swoop up under the armpit to attach very close to the shoulder on the FRONT of the upper arm. These two muscles aid in the postural stability of the spine but also secure the upper arms down by your side.



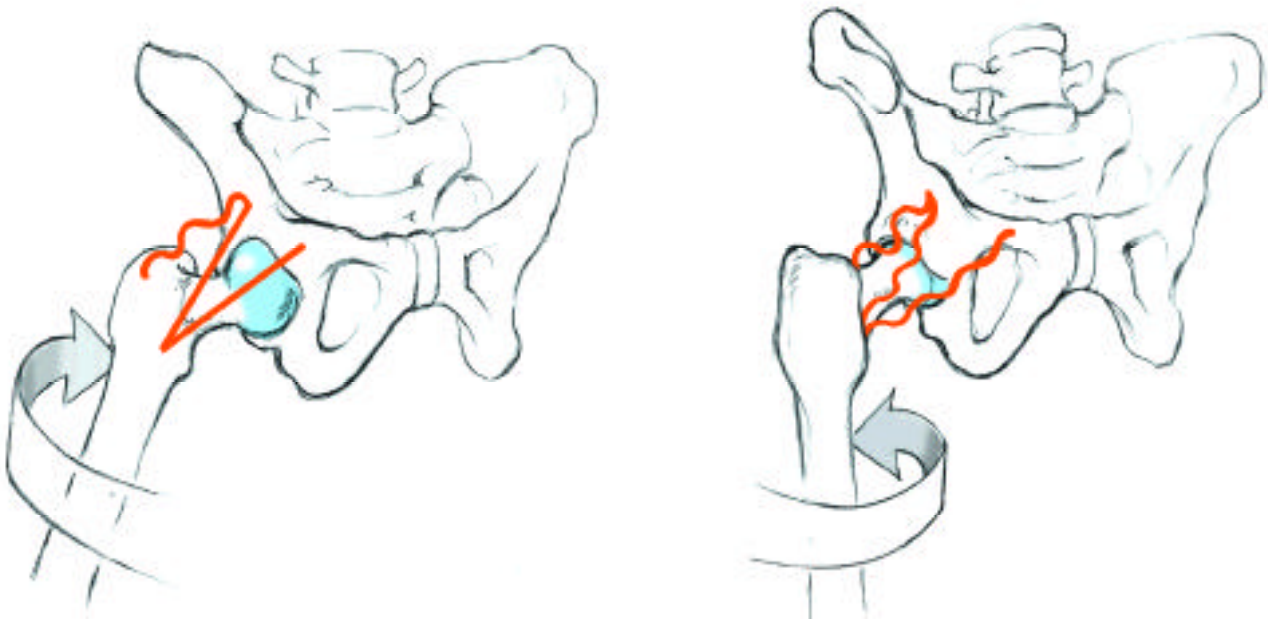
The abdominal muscles used in conjunction with key back muscles provide stability to the entire torso.

The postural muscles work in two opposing groups. Broadly speaking, the abdominal ones flex the torso at the waist (useful for petting that small dog) and the spinal ones extend (arch) the back. The key to upper-body stability is to get the two opposing groups to work together creating a sort of bodice around the abdomen, which prevents slouching but is not so stiff as to create rigidity.

You can practice this anytime, anywhere, standing or sitting: Put your hands on your stomach and blow out an imaginary candle. Feel the tension in the abdomen. This is good tension. It is not enough force to create a contraction of the abdominal group, which would result in full flexion (pet the dog) but it is enough to stabilize the soft tummy in front and prevent too much lateral wiggle. Practice holding that kind of tension while walking, driving, doing dishes, etc.

As for the spinal muscles, they get a break when the abdominals are doing part of the postural work, and they can relax a little to allow movement to flow up the spine from the pelvis all the way to the head. You are now "through your back" in exactly the same way that a horse must be "through" his back.

The most important thing to remember (although counter-intuitive) is that the more you work at creating tension in the abdominal group, the easier movement can flow in a wave-like motion up your spine. If you never think to engage the abdominals in this way, then you are forcing your spinal group of muscles to try to do all the work of holding your torso upright, balancing your head and absorbing motion from below. This is a recipe for back strain for both you and your horse, because your pelvis will not be able to move enough to follow and influence the gaits. Jarring will inevitably occur. Firmness in your abdominals is key to a healthy back, on and off your horse.



The pelvis with the femur rolled in (right) allows the best anatomical position for riding. Riding with your knees rotated outward (left) leads to a disruption of the pelvic balance and precludes the development of really good riding technique.

How the Hip Works

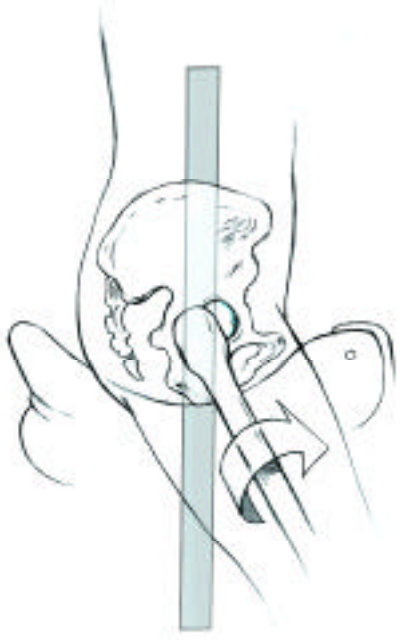
Now let's look at the pelvis from below. The twist of the saddle is designed to push up into your pelvis so that you can balance on your seat bones but let your thighs hang down the sides of the horse. The idea is that the thigh can stay relatively still while the pelvis moves with the horse. The front-to-back motion of the horse is absorbed by a subtle glide and roll of the ball-in-socket hip joint. The up-down movement is absorbed by the entire spine with the pelvis staying as close as possible to the saddle as discussed above.

The top of the thigh (the head of the femur) connects to the sides of the pelvis in a ball-and-socket joint. Ligaments and muscles surrounding the joint direct and control the way in which the ball can glide and roll in the socket like a trailer hitch. There are a deep set of muscles called the external rotators of the hip that attach to the pelvis and to the top and back of the femur. When these muscles contract, they turn the whole femur and the knees outward. In the rotated out position, small ligaments (see diagram C) in the front of the hip joint are placed under passive tension, which in turn restricts the glide and roll of the hip (trailer hitch).

Additionally, the bulk created by the contracted external rotators of the hip in the knees-out position raises the pelvis up off the saddle and interferes with the desired deep following motion of the body. Even worse, in the knees-out position, it is harder to let go with your inner thigh, which is also necessary for a deep, following seat. You can see how the small sin of riding with your knees rotated outward leads to a disruption of the pelvic balance and precludes the development of really good riding technique.

Daily Practice

Developing a good seat is a long process. But if you understand how your body works, you WILL LOOK AT your riding with a more discerning eye. The combination of muscles used and the angles required of the body is peculiar for the brain to master. It is always wanting to direct you back to known patterns of muscle employment. Beginner riders typically look as if they are sitting on a barstool with legs and knees ahead of them, toes turned out and heels in. This is an instinctive posture but one which must gradually be retrained into one of truly vertical and stable balance.



When the rider's femurs are rolled in, the human pelvis moves correctly for stability and balance, as well as receiving the motion of the horse's back in the most effi - cient way. Note: The head of the femur in the hip joint moves most efficiently with the femur turned inward.

The daily monitoring of how you move while off your horse will help you ride better. There are many disciplines (yoga, Pilates, tai chi, dance, etc.) that can help you build fluid, balanced strength off your horse. The rest is making a commitment to the mental and physical regimen of walking and standing in good balance throughout your entire torso and neck every day.

Experiment, while walking, with pulling your pelvis through and under your shoulders by engaging just your lower abdominals (use the candle concept mentioned above). Eventually a firm "muscle sandwich" for the spine is built and you will acquire efficient torso strength. Your horse will love you for it and so will your joints as you age.

Holly Mason lives in Rhode Island and teaches in the United States and Canada. Her emphasis is on the biomechanics of horse and rider and has had articles published on the subject internationally. Her video "Focus on Flexibility" is available on her web site dressagebydesign.com.

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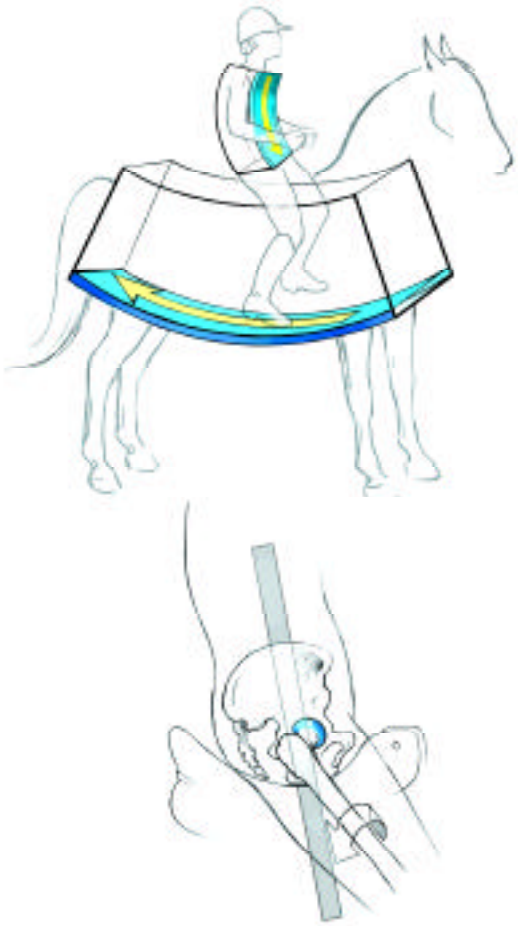

The effects of incorrect rider torso and pelvis without proper abdominal control