

How *pilates* improves riding skills

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Figures by Sandy Johnson

The equestrian community increasingly acknowledges the importance of rider fitness and proper body mechanics for riding success and good health. More than ever, it is recognized that the sport combines two athletes – the horse and the rider. The pilates system of exercise is well-suited to develop and improve rider fitness and function. This article explains pilates and how it can help riders improve their skills on horseback.

Joseph Pilates developed his unique exercise system in the early 1900's, both to improve his own health and to support the health of fellow World War I internees. Later, as a hospital orderly, he incorporated the variable resistance of springs into rehabilitation programs for patients. He then translated the use of springs into machines and created his equipment now used in the exercise system. In the late 1920's he and his wife Clara established the first pilates studio in New York City. Initially, it was primarily the dance community that embraced his system finding enhancing strength, balance and flexibility. In the 1980's, however, pilates enjoyed increased popularity as its benefits for all people were realized.

The exercise system is usually taught in one of two formats: in private or semi-private sessions using the pilates spring-based equipment, or in group mat classes without equipment, but sometimes with props such as an exercise ball, foam rollers, free weights, etc.

Important principles of pilates include the use of mental focus to improve body awareness, the use of breath to center and organize movement, awareness of proper posture and position of the spine, support of posture with the deep muscles of the abdomen and back, and strength and suppleness in the muscles of the torso, shoulders and legs.

What is proper posture?

There is no dispute that the basis for an effective and beautiful riding position is proper posture in the saddle, but it can be challenging to find and keep this position while riding. Good posture is the proper alignment of the vertebrae of the spine. Figure 1 shows that the spine is a series of stacked bones or vertebrae. These bones are not stacked in a straight line, but form several curves to promote shock absorption.

In the absence of spinal or muscular abnormalities, the position of proper posture can be achieved with minimal muscle work while at rest. However, while on a moving horse, preservation of posture requires muscle activity. The deep muscles of the abdomen, the Transversus Abdominus and the Internal Oblique shown in Figures 2 and 3, and the deep muscles of the back shown in Figure 4, are vital to supporting good posture. These

muscles work cooperatively to keep the trunk upright and balanced by creating a deep, elastic wrap for the spine. Riders able to use these deep postural muscles to preserve balance are less likely to have excessive tightness and gripping of the muscles of the thigh. Similarly, connecting with the deep muscles of the trunk for balance helps to prevent hanging on the reins for balance.

Essentially all of the pilates exercises teach access and function of these deep muscles of the abdomen and back and promote efficient balance, and it is this feature that makes it so useful to riding. Some exercises directly strengthen these abdominal and back muscles, while others challenge the ability of these muscles to maintain alignment during movement of the legs or arms. These approaches are both valuable to riding. The rider develops sufficient muscle connection and strength to stay in good posture and balance on the moving horse, and, can support this position even while giving a rein or leg aid. Truly independent aids are then possible.



Figure 1. The spine is a series of stacked vertebrae. Note the curves at the neck or cervical spine, the midback or thoracic spine, and the low back or lumbar spine. The spine ends at the pelvis.

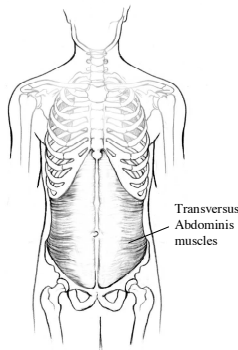


Figure 2. The Transversus Abdominis muscle; the deepest abdominal muscle. Activating this muscle pulls the abdominal wall in, or the tummy flat.

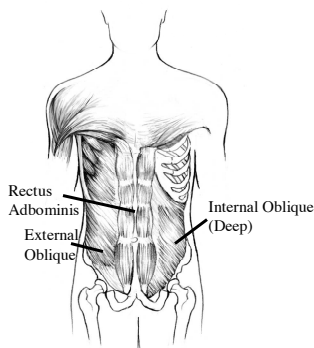


Figure 3. The Internal Oblique is another abdominal muscle important for spine stability. Other abdominal muscles include the External Oblique and the Rectus Abdominis.

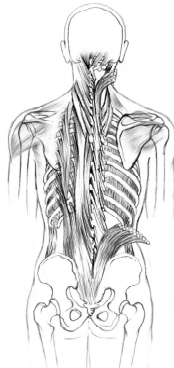


Figure 4. The muscles of the back. Note there are many layers of back muscle. The deepest layers are most important for spine stability.

Common problems with a rider's body

Many riders use their postural muscles asymmetrically as shown in Figure 5A-C. It is not uncommon that a rider, in an effort to “sit up straight with shoulders back”, develops too much tone in the muscles of the mid- and upper back. This tension can spread to the arms and limit suppleness of the shoulder. Connecting to and using the abdominal

muscles, in an inward fashion to pull the ribcage slightly closer to the pelvis, helps balance this muscle use. While riders initially feel like they are leaning forward, after adjusting, they then appreciate the comparative ease with which balance can be maintained by improved trunk muscle efficiency.

Imbalance in these postural muscles can also interfere with side-to-side symmetry. When the muscles on one side of the trunk are strong compared to the other, that side is shorter, the pelvis and hip pulled up on that side, and the rider's weight shifted to the opposite side as shown in Figure 5D and 5E. This asymmetry is very common, and sometimes, but not always, related to handedness. For example, a right handed person is often stronger on the right side of the body, the right side is shorter, the weight is shifted to the left, the right knee tends to be pulled up, and the rider may lose the right stirrup more often than the left. This asymmetry is best corrected by thinking of shortening the trunk muscles of the longer, weaker side and taking weight off of the heavily weighted side of the pelvis. This helps balance the muscle tone of the sides of the trunk and equalize the weight distribution over the pelvis in the saddle.

It can be challenging to understand and change one's postural habits while immersed in the busy environment of riding. Thoughtful exercising off the horse is time well spent to improve alignment and postural support in the saddle.

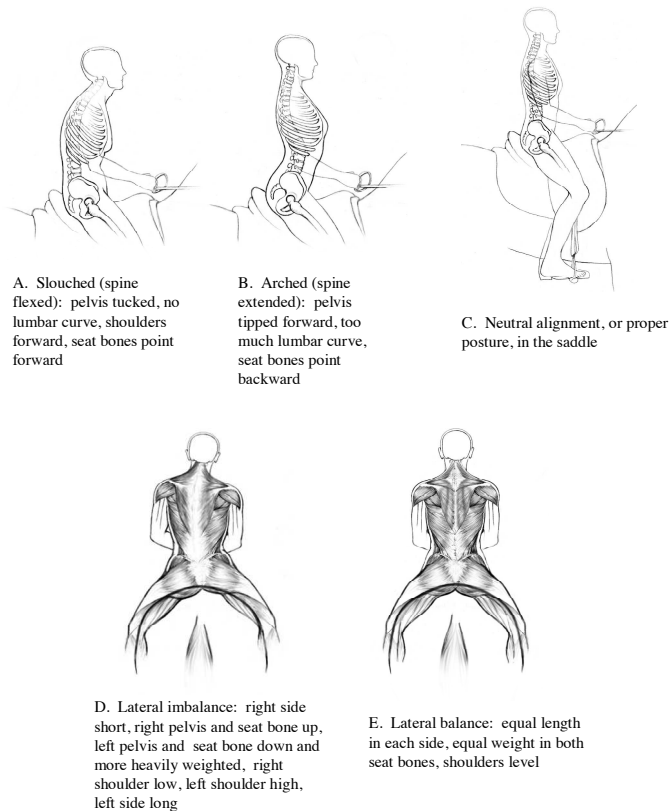


Figure 5. Postural issues

The leg and shoulder regions

The thigh bone, or femur, is connected to the pelvis and trunk by several groups of strong muscles including the gluteals, quadriceps, hamstrings, and the adductors. These muscles, particularly the adductors, are often a rider's first tool to stay in the saddle by pinching the knees together. While effective in the short term, this balance strategy both pings the rider's body out of the saddle, and limits movement at the hip joint. With the hip joint locked, the thigh bone is unable to move with the horse's back and it is difficult to give clear leg aids. Also, the locked hip joint forces excessive and unhealthy movement in the spine. Seeking balance from the trunk muscles reduces the need to grip and improves suppleness of the thigh muscles allowing the rider to stay with the horse.

Our intent use of the eyes and hands in daily life can lead to the upper body becoming the center of focus in the body. The shoulder muscles, rather than the muscles of the torso, then become an important source of balance. However, the shoulder muscles are not designed to be in charge of balance and can get tired and sore as a result of trying. In riding, this focus on the upper body can lead to assessing what is happening with the horse mostly with sight, rather than feel. Connecting with the center of the body helps the rider obtain a more global assessment of what the horse is doing and making corrections

not just with the hands but the whole body. If the rider relies on the shoulders and arms for balance, staying on the horse may tend to come from hanging on the reins. Using the deep postural muscles for support helps relieve the shoulder muscles of balancing duty and allows the shoulder and arm to stay supple.

Many of the pilates exercises teach efficient movement of the arms and legs. Exercises require stability of the torso while moving the legs in circles or other figures. Not only is balance in the center of the body challenged, but also the leg muscles must work cooperatively in a supple fashion. Arm exercises teach fluid movement at the shoulder, without disruption of postural alignment. Like a ballerina, the resulting movement is efficient and appears fluid and easy, but in fact it requires coordination and focus.

Nuts and bolts about starting pilates

Before starting any new exercise system, check with your healthcare provider. Before starting a pilates program, check that your potential instructor has received sufficient training in the pilates exercise system and understands any problems you may have. The Pilates Method Alliance (www.pilatesmethodalliance.org) can provide information about pilates instructors in your area.

Individuals with significant movement problems or injuries will benefit from several private sessions with a qualified instructor. While more expensive than a group or mat class, the time, money and effort devoted to learning the exercises correctly is well worth the investment. Exercises performed incorrectly can be worse for you than no exercise at all. Weekly or twice weekly pilates sessions may be enough, if you commit to practicing between sessions. Be sure that you are taught exercises that you can practice at home between your scheduled pilates sessions.

Sound and important principles of movement and balance important for riding are taught in some of the simplest pilates exercises. Don't underestimate the benefit of exercises that are simple, but not necessarily easy, that teach support the deep postural muscles of the trunk, awareness of proper spine alignment, and supple use of the shoulders and hips.

Given its roots in ballet and dance, some of the movements in the pilates system are very challenging. Some should be avoided in individuals with injuries or movement limitations. As with any exercise, avoid mental or physical fatigue as this is when proper form is lost and injuries more likely to occur. The exercises in this system should be mentally and physically challenging but not so difficult that you are struggling. If an exercise causes pain, stop and tell the instructor. You may be doing it incorrectly, or it may be too difficult.

Stick with it! Learning to use your muscles in a different way takes time and commitment, just as with your horse. In fact, as you learn and work to modify your movement habits, you'll become much more sympathetic with your horse! It is not easy to learn new movement skills. However, the relative quiet of your own workout, compared to the hectic environment on horseback, gives you the opportunity to make real changes in your body, rather than repeating engrained habits. You will be rewarded with

improved balance and coordination of your body and an ability to stay in sync with your horse's movement. Your horse will respond to your improved balance and you will be equipped to influence your horse in a positive way.