



Put Your Back Into It

Lauren Weber

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PUT YOUR BACK INTO IT!

Athletes participating in the sport of show jumping report low back pain as a common injury that interferes with training and competition. Although there are many reasons for low back pain, for show jumpers it is due often to muscle imbalances and poor posture in the tack.

Our spine has a natural curvature to it, like an S. This curve allows forces to be distributed and absorbed evenly through the intervertebral discs (shock absorbers) that separate the individual vertebrae of the spine. The natural curves can be exaggerated (hollow back) or insufficient (flat, rounded back). Changes in the curve of the spine affect how the loads are distributed through the spine and soft tissue like ligaments and muscles. When these changes become habitual, we ask our bodies to work at a biomechanical disadvantage that increases the risk of injury.

It is important that we find the balance in the curvature of the spine. To find the correct curves, a rider must be able to sit directly on their ischial tuberosities (seat bones) with a slight arch in the low back, and their shoulders over their hips. The correct seated position in the tack will help a rider maintain a biomechanical advantage for the spine, and by doing so also reduce the muscular work required to hold the rider in the tack.

Often riders have difficulty obtaining and maintaining a neutral spine due to muscle imbalances. Muscle imbalances occur when the length and strength of opposing muscles surround the joint are not even. Think of it as a tug-of-war on the joint(s) resulting in the shorter/stronger muscles winning. When there is an imbalance, the shorter/stronger muscle pulls on the bone it is attached to and changes the load on that joint.

Consider the short/strong hip flexors and the weak/long abdominal muscles, for example. These muscles together are responsible for bending the hip. The hip flexors pull the pelvis forward while the upper trunk leans backward to counteract the forward lean, stretching the abdominal muscles. This results in an exaggerated curve (hollow back) and puts undue stress on the lumbar discs and surrounding musculature.

Hip flexors also inhibit (win against) the gluteal muscles, which are responsible for hip extension. Without the gluteal muscle strength, the hamstrings compensate by gaining strength and shortening like the hip flexors. To go even farther, due to neurological connections, other muscles of the deep stabilizing mechanism in the low back may become dysfunctional and further compound issues.

It sounds complicated, and it can be. If a rider finds it difficult to maintain their seat position, the rider may benefit from a consultation with a physiotherapist to develop an individualized, comprehensive stretching and core-strengthening program. This program will target the specific muscles that may be contributing to muscle imbalances and preventing the rider from being able to get the curves of spine to line up in the tack. Incorporating deep core exercises will allow for lumbar stabilization in a neutral spine position, while still allowing movement to occur so that we can connect with our horses.



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Just as we will call the vet or physiotherapist for our horses' injuries, it is just as important that we seek professional medical advice regarding our own aches and pains. We may even improve our riding!