

## **Lumbar Disc Evaluation and Correction**

By Todd Turnbull, DC, CCSP

Whenever a patient tells me they have a bulging disc, the first question I ask them is, "How do you know?" If they respond by telling me about their MRI, I have more confidence that they are correct; however, if they tell me their doctor said it was bulging, but they don't have an MRI to support that contention, I tend to be skeptical.

The most important factor many doctors tend to forget when it comes to lumbar discs is that the psoas muscle directly attaches to the discs. The origin of the psoas is the anterior bodies of T12 to L5 bilaterally, and it inserts into the lesser trochanter. The psoas flexes and externally rotates the thigh and/or creates more hyperlordosis in the lumbar spine.

If a psoas muscle is hypertonic, shortened and irritated, would that not be a major cause of disc stress leading to tears and bulging? I suggest that all patients with disc problems should have the psoas muscle evaluated for dysfunction.

### **Evaluation**

Patients presenting with disc problems can quickly be recognized by their ipsilateral, antalgic gait. Range-of-motion testing will note loss of motion in extension, lateral flexion to the unaffected side and rotation. There are also dynamic movement tests that most disc patients will not be able to perform, such as hip circles and movements involving hip and pelvic motions.

Palpation of the psoas is difficult since most of it is not accessible, except the insertion at the lesser trochanter, which should reveal more tenderness on the involved side. Muscle testing of the psoas should reveal more weakness on the involved side.

To isolate the psoas muscle from other hip flexors when testing strength, I prefer to have the patient supine with the knee bent. I ask the patient to flex their hip and externally rotate the thigh so the psoas is in a fully

contracted position. Apply force on the distal thigh and note the power output and endurance of the muscle as you attempt to break the contraction. A fully functional psoas will lock and hold for up to three seconds without weakening or experiencing total failure. Keep in mind that both psoas muscles may be dysfunctional, as well as the iliacus, abdominals and quadratus lumborum.

### **Correction**

How can the psoas muscle be adjusted when it is buried deep inside the body? Two manual adjusting techniques I prefer to use are intra-abdominal traction and rotational torque of the femur.

To perform *intra-abdominal traction*, compress the superior hand into the abdomen to the anterior aspect of the lumbar, creating superior,medial pressure to reduce hyperlordosis while the patient is supine. Your inferior hand contacts the patient's bent knee and abducts the thigh; you should feel stretching occur under the superior hand. This technique should be a gentle stretch of the psoas and should feel good to the patient.

*Rotational torque* is the term used to describe the action of rotating a limb to create stretch and traction of a muscle. Rotational torque to the psoas should also be done with the patient supine. The superior hand slides under the upper leg until the hand wraps around the medial side of the thigh. The superior forearm should be touching or just below the ischium.

Slide the patient's lower leg just off of the table and let it rest against your inferior knee to allow for slight hip extension. The inferior hand will make contact on the upper leg exactly opposite the superior hand. The femur is then rotated internally until maximum tension is reached, at which point you perform a series of nudges, torquing the thigh into more internal rotation. The patient should feel this stretch occur in their low back and will usually express their sense of relief with a sigh.

### **Comments**

I find that many doctors tend to use passive release techniques on the psoas, but do not have protocols for how much, how long and when to stop. I recommend performing pre- and post-treatment muscle testing to prove to the patient (and their primary care doctor) that the treatment is or is not effective. After applying the two techniques described above, post-treatment MRI should reveal decreased disc bulging.

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