

Expert Q&A: Treating Back Spasms

Physical Therapist Mitchell T. Yass answers a reader's question about treating his back spasms.
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Q: I'm a male in my early 30's and have been suffering from severe back spasms for the past five years. I'm in great physical shape, but the spasms cause me a great deal of pain and inhibit my ability to work out on a regular basis. What causes back spasms, and how can they be treated?

A: Before you can understand what actually causes back spasms, you must first understand how the lower back works and which other muscles work in conjunction with those of the lower back.

The lower back muscles (Quadratus Lumborum or QLs) attach from the ribs to the top of the pelvic rim or back of the waist. The length of these muscles can vary based on the position of the pelvis, which can be affected by muscles that attach to the pelvis from the thighs. The two main muscle groups that attach at the front and the back of the pelvis are the front thigh muscles (quads) and the posterior thigh muscles (hamstrings). In many people, the quads are much stronger than the hamstrings, which results in the individual maintaining a posture called an anterior tilt. In this posture, the back of the pelvis is raised toward the rib cage, shortening the QLs.

When a muscle is shortened, it not only loses its ability to create force, but it is also more susceptible to straining and going into spasm. Sometimes, seemingly insignificant movements like bending wrong or lifting a small object can put these muscles into spasm. The solution to this problem is to stretch the quads and strengthen the hamstrings—once the hamstring strength is balanced with the quad strength, the position of the pelvis is maintained in a "neutral" posture (where the front and the back of the pelvis are level). This neutral positioning prevents the QLs from shortening and allows them to create force and achieve optimal functional performance without the chance for straining or going into spasm.

It is important to remember that very rarely will someone actually have a weak lower back; therefore, strengthening of the lower back muscles is not advised. Additionally, the theory that strengthening the abdominal muscles is necessary to resolve lower back pain and spasms is overly stressed. In reality, the abdominal muscles actually create very little force—usually just enough to help keep the organs of the abdominal region supported—making maintaining the lower back muscles at their optimal length the key to back health. You can accomplish this by maintaining proper balance between the quads and hamstrings and maintaining strong hip abductors (Gluteus Medius).

One exercise that will help to strengthen the hip abductors is a *side lying hip abduction*:

Lie on your side, bending the knee of the leg that you're lying on bent and keeping the top knee straight. Lift the leg with the unbent knee just enough to bring it parallel to whatever surface that you're laying on (any higher and you will be using the lower back muscles to lift the leg instead of the intended hip abductors), all while making sure that the thigh is running down as a straight line from the torso. Repeat up to 10 times and switch legs. Do 3 sets of 10 reps on each side.

Ankle weights can be used to further increase the strength of the hip abductors.

Mitchell T. Yass, PT is the owner of PT2 Physical Therapy & Personal Training facility in Long Island and the author of Overpower Pain: The Strength Training program that Stops Pain without Drugs or Surgery. Mitchell was also the lead lecturer for the NYC exhibit Bodies—The Exhibition

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