

## BACK TALK

## Avoiding the Wrath of the Psoas

A new twist at training the abs and low back.

By Mark Saracino, DC

Lower back pain is the second most common ailment in the world. The first is the common cold. Lower back pain causes grief to no less than 80% of the world's population at some time in their lives and remains number one on the list of work-related injuries. The ironic thing is that, unlike the common cold, lower back pain can be avoided or at least min-

imized by using certain precautions and by correctly performing exercises that will strengthen the supporting muscles of the spine.

In the March issue of *MUSCLE & FITNESS*, Dr. Tom Deters talked about micro-trauma — those tiny tears you can't see but know are there because you can feel them when your back hurts. Micro-trauma is a condition caused by stress to muscle fiber and connective tissue. It can happen when you twist, strain or turn, stand, sit or exercise improperly. I'm going to talk about how to make the back muscles, as well as the abdominal muscles, stronger while minimizing exercise micro-trauma.

Let's take a look at a section of your lower back from the top down. You're probably surprised to learn that the spinal bones make up only a small portion of the support system of the back.

### PSOAS MUSCLES

On either side of the vertebrae are the psoas muscles. Most people don't know about these muscles until they act up. If you've ever done leg raises or sit-ups incorrectly, you might have experienced the wrath of the psoas muscles. It begins with a painful spasm that encompasses

the lower part of the ribcage (where the psoas muscles start) through the abdomen and into the top of the thigh.

The pain feels like kidney or groin pain but is often elusive because the muscles are so deep. If the psoas muscles become excessively tight, they increase the curve in the low back and jam the spinal bones together. The result is lower back pain.

A few years ago, straight leg raises and sit-ups were routinely taught in gym classes. No more! Performing these exercises with the legs extended causes the psoas muscles to overwork and become elongated. The result is all pain and no gain, so avoid incorrect form when doing these two movements.

The correct way to exercise the abs is also often misunderstood. The largest muscle, the rectus abdominis, is a long rectangular muscle that starts at the bottom of the ribcage and runs down and attaches to the bone just behind the pubic area. Exercising the rectus abdominis will not provide direct support for the lower back area, however. It is the lower stomach muscles (internal obliques) that start along the crease between the thigh and abdomen and run toward the midline, that add most of the support to the lower back. The obliques are best exercised with the trunk rotated. When the trunk is rotated to the right, the left internal oblique is stretched (along with the right external oblique). This synergistic action creates a coordinated abdominal contraction that is very effective.

Sit-ups should be started in the upright position with the trunk rotated to one side. Cross your arms over your chest and bend your knees, then with your feet inserted into a low slant board, inhale and extend the trunk over the pelvis. This forces the internal obliques to work. Exhale while contracting. While performing this exercise, keep your eyes on the lower stomach where it meets the thighs, making sure that the pelvis does not move. Do 10 reps with the trunk rotated to one side; rest; then do 10 more reps to the other side. Performing 10 reps one side at a time rather than switching back and forth minimizes the risk of low back injury. Be patient. Most lower abdominal muscles have not been exercised enough and are weak.

### THE ROMAN CHAIR

The roman chair, if used properly, can be one of the best exercises for building



*A slight bit of rotation while doing movements such as crunches or light good mornings may help reduce stress on the vertebral joints of the lower back.*

Photo by Paula Crane

strength in the erector spinae muscles located, as their name implies, on either side of the spine. These muscles are the springs that hold the trunk erect. They originate along the top of the back portion of the hip and attach to the bottom six ribs. When you hang in the roman chair, rotate the trunk about 30 degrees. One shoulder should point toward the ceiling. Extend back so that the muscle group on one side contracts to reduce the compression of the spinal bones. Small variations in motion can be detrimental because of the possibility of compressing the spinal bones, which is one of the most common causes of low back injuries.

We want to work in degrees, say, 0–80. Beginning with 0, you are positioned in the chair in a relaxed mode with your head closest to the floor. Arms are crossed over the abdomen. Extend the

back 30 degrees and rotate the trunk to one side as if a string is pulling your top shoulder to the ceiling.

Now extend the back up to 80 degrees. Do not extend all the way so that your head is parallel to your hips (90 degrees). Exercising at that angle (from 80–90 degrees) compresses the spine. It doesn't exercise the back muscles efficiently and safely. Be sure to perform the movements smoothly. Abrupt bouncing at the top or bottom of the range of motion causes microtrauma. Do 10 reps, two sets each side. Continue this regimen for a few weeks so that these sensitive low back muscles can adapt to the stress and gradually provide the strength you need.

### GOOD MORNINGS

An excellent stretching and warm-up exercise for both stiff-legged deadlifting

and deadlifting with bent legs is a modified good morning, incorporating the same principles we described for exercising the stomach and low back muscles. This will include trunk rotation.

If you have an inguinal hernia, high blood pressure or a slipped disc, consult your physician before trying this one. Remember, exercise can be a boon to your back but you must learn to master the art of proper back care and exercise form to minimize the risk of injury. □

*This information is not to be construed as medical advice. For a diagnosis or if you have questions or problems, see your physician.*

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