

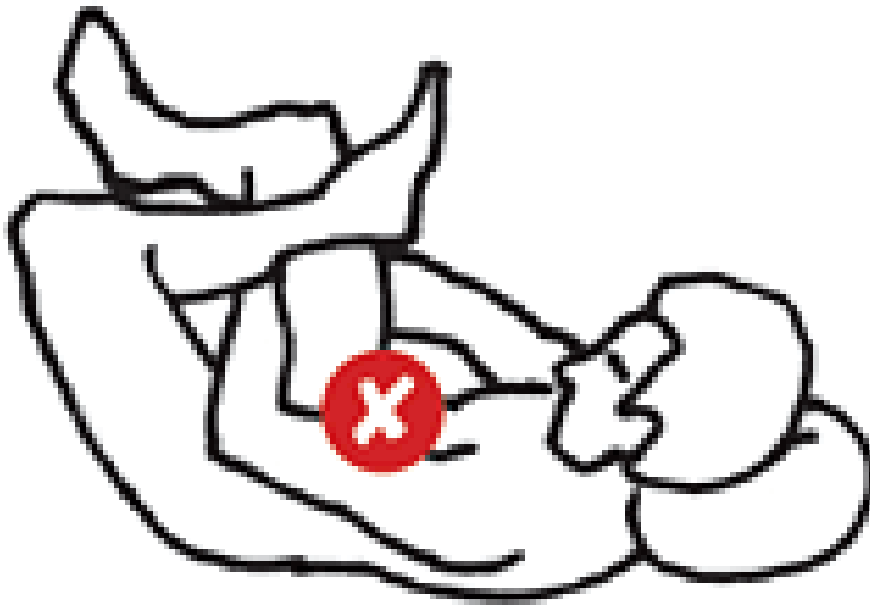
## Stop Stretching - or at Least Stop Stretching the Lower Back Into Flexion and Rotation

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The evidence about stretching is a bit hazy, but certainly points in a particular direction. Stretching does not do what we used to think it does. I'll refer you to the Save Yourself blog by a skeptical PT, Paul Ingraham. He is sometimes a bit over the top and may throw out the baby with the bathwater, but I basically agree with what he is saying [about stretching](#).<sup>1</sup> To quote: "*In a nutshell*: Stretching just doesn't have the effects that most people hope it does. Plentiful recent stretching research has shown that it doesn't warm you up, prevent soreness or injury, enhance performance, or physically change muscles. Although it can increase flexibility, the value of this is unclear, and no other measurable and significant benefit to stretching has ever been proven."

### Two Clinical Examples

Here are two of my favorite stories; two mini case histories. The first involves an extremely healthy, fit, motivated former athlete; a 70-year-old who looks and acts like a 50-year-old. He's a snowbird, so I only see him in the summer. Last year he came in with low back pain, vague onset, vague location. I treated him several times, and he got slowly better, but I still wasn't sure what the problem was or what the solution was.



Don't teach these common used stretches for the piriformis. They tend to lever the hip out of socket. The supine one often pulls the lumbar spine into flexion.

This year, he came in after his winter journeys with the same LB complaint. I found multiple biomechanical issues, but none of them seemed clearly connected to his pain. I asked him about his daily exercise routine. He said that he did an hour a day of stretching. I told him to stop stretching for a while, just to see what that did. He came in the next week and said, "My back feels fine, the best it has in two years."

I have another patient whom I strongly suspect has a torn disc, causing axial discogenic pain. He has historically responded well to my care. He came in with recurrence of pain again and I asked, what are you doing differently? He showed me a Pilates flexion stretch, in a long sit position on the table. I cringed.

I found midline tenderness at L5-S1 and pain on standing lumbar flexion. We did a traction correction, and that worked quite well on him. I rechecked and he was no longer tender. I told him to do the Pilates flexion stretch again. He did for 20 seconds. On recheck, his midline tenderness had immediately returned, and he hurt on standing flexion.

After that, he got it. He stopped trying to increase flexion in his spine and his pain stopped.

Here is Mike Boyle's take on this issue:<sup>2</sup> "The biggest mistake we have made in training over the last 10 years is an active attempt to increase the static and active range of motion of an area that requires stability. Most, if not all, of the many rotary exercises done for the lumbar spine were misdirected. Physical therapist Shirley Sahrmann in *Diagnosis and Treatment of Movement Impairment Syndromes*, and James Porterfield and Carl DeRosa in *Mechanical Low Back Pain: Perspectives in Functional Anatomy*, all indicate attempting to increase lumbar spine range of motion is not recommended and is potentially dangerous. Our lack of understanding of thoracic mobility caused us to try to gain lumbar rotary ROM, and this was a huge mistake."

## The Lower Back Muscles

Let's take a look at a few of our favorite lower back muscles and what the patient should do for them. I used to show patients how to stretch the hamstrings. The downside is that this is typically a stretch that takes the patient into lumbar flexion. Very few patients can stretch the hamstrings and simultaneously maintain neutral lumbar spine. The real challenge in stretching the hamstrings is maintaining a lumbar lordosis while stretching. If they don't, they are very likely to hurt themselves.

Hamstrings may be happier with functional strength training, such as Nordic hamstring curls, or the woodpecker exercise (foundation training). How many patients with sciatica have you seen who thought they had just strained their hamstrings, and kept re-irritating their sciatic nerve by stretching the hamstrings?

What about the psoas? I've ranted enough about this. I think the kinetic control model understands this best. Here are a couple of examples, including one by Sean Gibbons, PT.<sup>3-4</sup> Mike Boyle has a simpler take, with the same conclusion. My view is that the hip flexors that begin at the hip, such as the TFL and rectus femoris, get short and tight, and need stretching. (Although stretching is not enough to change this pattern; you have to get the gluteus medius and maximus activated to change the overactive hip flexor pattern.)

The hip flexors that begin above the hip, the psoas and iliacus, tend to get weak and tend to not do their job. When the psoas is inhibited, then hip flexion is not carried out well, especially above 90 degrees, and guess what happens? The lumbar spine takes over, and you get too much lumbar flexion to compensate for the lack of hip flexion. Plus, as the psoas, as one of the deep lumbar stabilizers, is inhibited, it fails to stabilize little motions in the lumbar spine. The direct effect of the psoas as a stabilizer of the hip joint is also lost, and the hip starts to "fall out of its socket," and loses flexion and internal rotation. So, strengthen and wake up the psoas.

On to [the piriformis](#) and the deep rotators of the hip.<sup>5</sup> Stretching these areas feels good to many patients. But maybe that is just a sensory illusion. In one of the classic patterns, the knee falls into valgus strain during gait. This can be easily tested via having the patient do a lunge or step down into a lunge from a 4-inch step. What muscles prevent the knee from going medially? Look upstream, at the hip. It's the gluteus medius and the deep hip rotators.

When the patient cannot control the medial motion of the knee, the deep hip rotators are functioning as long and weak. They are being overstretched every time the knee goes medially. Should we stretch them? No; we should train and strengthen the complex, the whole lateral and posterior hip muscular complex, to control the medial motion of the knee. Some would say to specifically train the deep hip external rotators for strength and motor control; others would say to focus on the bigger and more efficient gluteus medius. So, for patients who fall into a valgus knee, the goal is to strengthen rather than stretch the piriformis area.

Patients whose hips lack mobility into internal rotation may need the posterior muscles released. But sometimes the stretches we give them can be counterproductive. Patients are sometimes taught to take the hip into the extreme end range of hip external rotation. This happens in the common figure-four sitting stretch. It happens when patients try to sit yoga style, cross-legged. For patients who lack hip internal rotation, this exercise can lever their hip out of socket and reproduce their hip dysfunction.

The spinal twist is another exercise that works for some people, but not for others. I have seen many patients injure themselves from either too vigorous or too prolonged of a twist. Discs are vulnerable in rotation.

You need to know when stretching is useful and when it is not. If the patient is only willing or able to do four or five exercises, you should stick with the most significant ones. You need to be very selective about which stretches you teach your patient. You need to look at what else the patient is doing, even if you didn't teach it to them. If you want to help your lower back patients, teach less stretching and teach more functional activation of the posterior chain (including integration of the glutes, hamstrings and lumbar extensors).

## References

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