

## The McGill Approach to the Lower Back (Part 1)

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*Author's note:* I attended two seminars this year taught by Stuart McGill, PhD. This article attempts to share a few of his concepts and make them practical for you. It's a bit of a mish-mash of McGill's ideas and my interpretation. I suggest you go to [www.backfitpro.com](http://www.backfitpro.com), McGill's website, for additional information / resources.

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Stuart McGill, PhD, brings a unique combination of tools to the table. He is a scientist who also functions as a clinician. He describes himself as a medical consultant who is referred challenging patients. He is both evidence based and practical. He individualizes the care he provides. Most scientists do not participate in the challenge of assessing and treating real patients.

As a practitioner, McGill's practice is limited to lower back patients. He assesses and treats two subsets: world-class athletes who have back problems; and the worst-of-the-worst lower back patients who have failed with multiple approaches. His therapies are primarily movement coaching and exercise, with a bit of mobilization.

As a researcher, he directs a lab at the University of Waterloo focused on understanding the biomechanics and injury mechanisms of the lower back. Luckily for rehab practitioners, he also teaches and writes, educating the rest of us and making us more effective.

When you read his books and articles, you can see the importance placed on the evidence. Rehab is one the areas in which our work is truly evidence based thanks to the many researchers, including McGill, who have deepened our understanding. There is something unique about McGill's take on the integration of research and practice. McGill recognizes that advanced observation, coaching and palpation skills are hard to measure. Rather than downplay these hard-to-quantify aspects, he encourages clinicians to develop these tools.

### End Range - The Danger Zone

McGill states that the back only has a certain number of bends in a lifetime, although this is highly influenced by anatomy and genetics. He suggests people consider how they use them. For example, a powerlifter needs a stiff spine to bear load (and should limit spine mobility), while a golfer needs spine mobility (which will limit load-bearing ability). This concern on end-range loading applies to flexion, extension and rotation.

This consideration also extends to some therapies. While McGill appreciates McKenzie end-range extension loading as very effective for some types of disc bulges, the variation known as "floppy push-ups" will eventually trigger the facet joints. Repeated end-range extension should be a temporary strategy, not a life strategy. A safer strategy he suggests: Simply lie prone in extension for 5-8 minutes and avoid the repeated motion.

McGill points out that far too many patients (and athletes) do sit-ups or crunches, which puts an excessive flexion load into the discs and can cause cumulative delamination of the annulus fibers.

Think of sit-ups as bending a wire over and over until it breaks. (I love sharing this analogy with my patients; it is so vivid.)

How many of your low back patients wake up in the morning and bring their knees to their chest? This is an end-range flexion stretch. Why do they continue to hold it? In the moment, it feels good; it takes some tension out of the tight erectors and activates muscle spindles, providing a "feeling" of relief. But as McGill points out, this is another misdirected strategy. These end-range flexion stretches overload the discs and stretch already-irritated nerves, keeping them sensitized. Hearing this was really an "ah-ha" moment for me.

One of my patients, a very body-aware massage therapist, shared her experience with me. She had never suffered a severe back injury before, but was experiencing chronic pain after a bad fall. It was clearly a flexion injury. She noticed that bringing her knees to her chest would give her 10 minutes of relief; but two hours later, her back would start to hurt more.

Even if a flexion stretch feels good in the moment, it probably is harming the patient. They need to avoid end-range flexion. They should not stretch either the sciatic nerves or the posterior annulus. We want them to reduce their triggering level and become less sensitive over time.

So tell patients to stop the morning knee pulls. Instead, they should get on all fours and do [cat-camel](#) - not as a stretch, but as a gentle mobilization. Teach them to avoid intense exercise that involves stretching or bending right after rising in the morning. It takes about an hour for the extra fluid to be wrung out of the discs through normal motion.

Yoga has a component of static end-range stretching. This is not all that yoga offers; it is just a way of looking at the end point of many yoga postures. Yoga, unless extremely carefully coached, may be inappropriate for some patients whose anatomy is already compromised.

So many of our patients, in this culture of prolonged sitting, have flexion-intolerant lower backs. I think these are missed or misdiagnosed much of the time. The disc does not show up on the X-ray; in fact, the disc often does not show up as anything other than a minor bulge on the MRI. As chiropractors, we get seduced into thinking the cause is the joint that is locked up, immobile or misaligned. Unless you see the underlying [flexion-intolerant](#) pattern, you will not solve these problems.

#### A Different View of "Get to the Cause"

What is the first thing we need to do for all of our back pain patients? There is no magic you can do that will override what the patient is doing 24/7. You have to teach your patient to move differently to solve any back pain. The first step in any exercise progression is to remove the cause of the pain; the perturbed motion and motor patterns. If they are injuring their back first thing in the a.m. while putting on socks, they will have a bad day.

McGill's approach starts by removing activities that are irritating the patient's back. The second step: work to create good movement. The final step, if necessary, involves stabilization and mobilization.

I have always thought that the ups and downs of patients struggling with chronic pain were just what soft-tissue pain is all about. McGill's take on this has changed my view. If the patient has good days and bad days, McGill suggests they are likely doing something "stupid," either on the bad day or the previous day.

Another light-bulb moment (and this has made me a better historian, coach and doctor): I search, I

ask, I try to help the patient figure out what they did wrong. When questioned, they usually can find the activity. Asking the patient to keep a journal may be very helpful, both in improving their awareness and in figuring out the timing and causes of the "bad days."

"I just swept up the kitchen," "I just twisted to get something out of the back seat," "I just trimmed my toenails." The patient tends to minimize the effect of these activities. The pain often does not start immediately after the damaging activity. You can't get them better if they keep hurting themselves.

My patients tend to have a set of exercises they are already doing. Ask the patient to show you the various exercises they are doing daily. So many patients are doing crunches, flexion stretches or some other inappropriate exercise. They are creating ongoing irritation via activities they think are good for them.

This is a very different model than either the traditional medical model or the typical chiropractic approach. The focus is on self-care and figuring out what the patient needs to change in their day-to-day life and activities.

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