

Cycling is My Passion but it's Killing My Back! Is There Anything I Can Do?

By Ron Fritzke, D.C.

We already spend far too much time in flexion. Remember, flexion is a position that is made possible by a joint angle decreasing. For instance, our legs are in flexion when we sit. Most of us sit for long periods of time throughout the day resulting in short, contracted hip flexors. We even spend time curled up when we sleep.

Cycling also involves a lot of flexion which is driven by the machine that we ride, the bicycle. All of this flexion shortens muscles in the low back region and hip flexor area. These muscles include the psoas, iliacus, rectus femoris, and sartorius muscles. So much flexion in our lifestyle often leads to low back pain. Most riders, especially older ones, seem to experience some form of low back pain.

Picture it, you've just had a monster ride. You finished a challenging ride with steep climbs and many winds, and in record time. You get off the bike and you can't stand up straight. You wonder why you're so stiff, and when you try to straighten your posture you get a searing pain in your low back.

OK, so you know you have pain. You think, 'I probably pulled a muscle in my back' or 'I just threw my back out'. Thoughts like these tend to paint an incomplete picture. Just knowing you have pain is the easy part. Knowing what the 'exact source of the problem' can be pretty difficult. The low back region (spine and pelvis) are part of the neuromusculoskeletal system, which has many important interactions between the nerves, muscles, and joints.

Yes, My Back Hurts. What's Really Causing the Pain?

We've already established that in many of our daily activities there is too much flexion. For cyclists, road biking demands that we subject our low back to a prolonged flexed posture. This is hard on the joints and hard on the muscles. One muscle group that has a direct affect on the low back region, whether you are in pain or not, are the hip flexors. There are several muscles that comprise the hip flexors. It is important to take some time to appreciate how complex the low back region is. This will go a long way in helping you to prevent many common low back injuries.

For instance, the hip flexors are a group of skeletal muscles that act to flex the femur onto the lumbo-pelvic complex, i.e., pull the knee upward. The muscles that make up the hip flexors include: the iliacus (originates on the pelvic crest and attaches on the femur), the Psoas Major (originates on the lumbar vertebrae and attaches to the femur), and the Rectus Femoris (it is one of the four Quadriceps muscles and the only one that crosses the hip joint). The Rectus Femoris's ability to cross the hip joint enables it to operate as a hip flexor as well as a knee extensor (straightening the knee).

Ok, now you know about the hip flexors. So how does this apply to low back pain prevention? For starters, there are very few activities of daily living that stretch out the hip flexors. When cycling, the hip flexors are often extremely flexed which forces them to work in a range between 'short and shorter'. 'Short and shorter' muscles are prone to fatigue and spasm. The 'shorter' range really comes into play on a long hill climb. After a while your hip flexors tire and start to feel painful. In order to get some relief, you stand on the pedals, which stretches out the hip flexors.

But I stretch regularly before rides

Most discussions of cycling stretches include the hamstrings, quadriceps, and calves. Some discussions will cover stretching the hip flexors, the IT bands, and perhaps some general low back stretches. These are all important, but there is a critical group of muscles directly affecting the sacroiliac joints and lumbar spine which is often neglected.

Here are three overlooked muscle groups that should be emphasized in addition to those mentioned above:

- The psoas muscle is critical to hip flexion, and because cyclists are bent at the waist, this muscle has to do its work while in a 'shortened' position. Because the psoas muscle begins along the lumbar spine and crosses the sacroiliac joint on its way to the femur (long bone in the thigh), it can directly contribute to many forms of low back pain. Do everything you can to keep it long and loose.

- The gluteus muscles are a complex of muscles composed of the maximus, medius, and minimus muscles. Chronic tightness of this group can lead to painful trigger points along the backside of the top of the pelvic bone (iliac crest). Effective massage therapists are well aware of the location of these trigger points. When they find them, you'll be overly aware of them, too!

- The piriformis muscle begins along the side of the sacrum and crosses the sacroiliac joint to the femur. Any muscle that crosses a joint will directly effect that joint and this little muscle as it relates to the sacroiliac joint is no exception. Additionally, 15% of the population (cyclists included) has their very large sciatic nerve running through this muscle instead of under it, making them more susceptible to sciatic nerve impingement when this muscle is too tight.

Due to limitations on space, we leave it up to the reader to do some some Internet sleuthing to find effective stretching excercises. There are many excellent websites that cover stretches in good detail for the three muscles groups above.

Ok, Now I'm Learning, What else do ya have

No discussion of low back pain would be complete without emphasizing the necessity of increasing the core strength. The "core" consists of many different muscles that stabilize the

spine and pelvis and run the entire length of the torso. These muscles stabilize the spine, pelvis and shoulder and provide a solid foundation for movement in the extremities.

Core conditioning exercise programs need to target all these muscle groups to be effective. The muscles of the core make it possible to stand upright and move on two feet. These muscles help control movements, transfer energy, shift body weight and move in any direction. A strong core distributes the stresses of weight-bearing and protects the back. Again, we'll leave it up to the reader to "Google" the plethora of websites that explain effective ways to develop a strong, stable core. Having a strong core keeps us cyclists pedaling when the going gets tough.

There is Professional Help Out There

In addition to stretching oft overlooked muscles and strengthening your core, deep tissue massage can be very beneficial. When there is chronic muscle tension or injury, there are usually adhesions (bands of painful, rigid tissue) in muscles, tendons, and ligaments. Adhesions can block circulation and cause pain, limited movement, and inflammation.

Deep tissue massage works by physically breaking down these adhesions to relieve pain and restore normal movement. Just look at pro athletes, many of them use deep-tissue massage regularly. What's good for the pros is good for the amateurs.

So far we've mainly dealt with muscles. We also need to pay attention to joints and nerves. The sacroiliac joints are often overlooked when low back pain is involved. The muscles that affect these joints, which include hip flexors, are complex. The sacroiliac joint is the junction of the lowest part of the spine (sacrum), and the pelvis (ileum).

Up until about eighty years ago, it was thought that there was no movement in the sacroiliac joints, but it is now known that these joints do have some limited normal movement. When this movement gets stuck, one will most likely experience searing pain. If there is already low back pain, going to a chiropractor to free the restricted sacroiliac joints usually offers a great deal of relief. If there is not pain, regular chiropractic visits can help ensure that muscles, nerves, and the spine are working in harmony to keep you pain free.

Summary

In general, people's bodies are in flexion too much. As cyclists, we are in flexion even more so due to the nature of the machine we ride. As we ride, it is the repetitive, short range, very controlled movements that can cause a number of overuse injuries.

To greatly reduce the chances for low back injuries, it is important to take some preventative measures. There are stretches for muscles groups in the low back region that are often overlooked. Performing these 'obscure' stretches along with the common ones is a great start. Besides stretching, professional help such as deep tissue massage, and chiropractic adjustments assist to keep the muscles, nerves, and joints working in harmony.

As a cyclist, having a better understanding of the low back region and its complexities and being proactive instead of reactive with this knowledge will keep us riders on the road for many, many awesome miles.

About the Author

Ron Fritzke, D.C. currently serves as the chiropractor for the College of Siskiyou sports medicine team. He has also maintained a private practice in Mount Shasta, California for 22 years. He is a former marathon runner who sports a personal best of 2 hours and 17 minutes. His current sport of choice is cycling. He competes in bike races and writes about cycling related topics such as <http://cycling-review.com/clothing/bicycle-shoes/> (bicycle shoes), <http://cycling-review.com/clothing/bicycle-jersey/> (bike jerseys) and <http://cycling-review.com/accessories/bicycle-trainer/> (bicycle trainers) on his website, <http://www.cycling-review.com>