Thanks so much for downloading these blog posts. I hope they allow you a greater understanding of both sciatica and piriformis syndrome. It is our mission to help people work through pain and discomfort of all kinds through improved movement patterns and posture.

In the next couple of weeks we'll send you some emails sharing our story and some more blog posts. And we'll also share information on some of the movement programs we offer.

# Sciatic Nerve Symptoms: A Pain in the Back.

BY JONATHAN FITZGORDON



Sciatic nerve symptoms take on a number of forms. Sciatica isn't a condition unto itself but a symptom of an injury to the sciatic nerve. Piriformis syndrome, something we'll talk about in other posts, is site specific. It only happens at the location of the piriformis muscle and it only happens because that muscle is in spasm and pushing on the sciatic nerve. Sciatica on the other hand can happen at any point along the lumbar spine where one of the nerve roots is exposed. Something—like a slipped disc— is pressing on the sciatic nerve sending pain down through the leg and sometimes all the way to the foot.

The sciatic nerve, also known as the ischiatic nerve, is the longest, widest nerve in the body. It's the yellow nerve in the illustration above. At its largest point, it's as big around as an index finger. Take a moment to look at your index finger. It's pretty incredible to have a nerve this large moving through us. It deserves respect. The sciatic nerve provides most of the energy to the lower part of the body relaying signals from the brain to the legs.

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Sciatic nerve symptoms always occur in the lower back where the nerve takes shape. The sciatic nerve is actually made up of five nerves that come out of the right and left hand side of the lower spine. You have a curve in your lower spine, and this area is referred to as the lumbar spine. The lumbar spine includes five vertebrae (L1 - L5). Below the lumbar spine is the sacrum. The sacrum also consists of five vertebrae (S1 - S5). However these sacral vertebrae begin as unfused (like the rest of the spine), and then once we are standing and walking they fuse together making more of a plate. The nerves that make up the sciatic nerve come out of the bottom two lumbar vertebrae (L4 and L5 and the top three sacral vertebrae S1, S2, and S3).

These five nerves come together out of L4, L5, S1, S2, and S3 to form two nerves, the tibial and the peroneal. These two nerves eventually form one sheath and together make the sciatic nerve which runs through the pelvis passes in front of the piriformis and extends all the way down the back of the leg to the toes. At the back of the knee those two nerves, the tibial and peroneal, divide again. The peroneal nerve travels sideways (laterally) along the outside of the knee to the upper foot. The tibial nerve continues to travel downward to the feet, and it innervates the heel and sole of the foot.

Sciatic nerve symptoms manifest in all sorts of pain from a mild ache to a sharp electric shock like sensation running down your leg. When the problem is particularly bad the pain radiates down to the foot resulting in eventual numbness. We will continue to explore the nature of sciatica and ways to alleviate its discomfort.

### Sciatica/ Piriformis Syndrome: To Stretch or Release?

BY JONATHAN FITZGORDON



As soon as I started teaching I began to come across people who didn't seem to be served by stretching. They would come to class regularly, but their hips or hamstrings or whatever, never seemed to change. It took a while but I came to realize that stretching isn't always the answer. In certain cases we must learn to release the tension and/or trauma from a muscle in order to get to the point where we can stretch it.

If I had to guess, if you have had these issues, you have tried to stretch your way out of whatever problem you are having for a long time. There is a point where you look at your system, situation and condition and say that stretching is not the answer. Unfortunately, for the most part, when you go to doctors with sciatica and piriformis syndrome, they first tell you to stretch and then tell you to have surgery. We need to figure out a way out of that.

For the human nervous system to work at its peak the bones have to be well aligned. And the bones can only be well aligned if the muscles are properly toned—we need toned muscles to allow for the nervous energy to flow.

One solution is to have a more educated look at your muscles. A lot of muscles are tight and a lot of muscles are full of tension. And you can be both; you can be tight and full of tension. A muscle that is tight can very often be stretched open. However, a muscle that is full of tension (carrying physical and emotional tension) must be released out of that tension before it can be healed and repaired.

This is why we emphasize release work – the idea of letting go, the idea of changing conditioned patterns, not by doing more but by doing less and letting go.

Especially when you're talking about a muscle in spasm like the piriformis or an overly tight or tense muscle like the psoas—stretching is often meaningless because the muscle

is in spasm or stuck in contraction. In these cases, a focus on release will be much more productive.

What is the best approach to a muscle – is it best to stretch a muscle to bring it relief from its tension or is the best approach to release a muscle? Stretching the piriformis is about making a muscle longer. Releasing the piriformis is taking a muscle that is over worked and letting it not work; you change its relationship to life.

It is not that you will never want to stretch your muscles but you have to explore for yourself. See what brings you relief but also check in to see if you have ever had the experience of stretching and stretching, but nothing will change. Maybe there is an alternative approach.

### Why Do We Get Sciatica and Piriformis Syndrome?

#### BY JONATHAN FITZGORDON



Sciatica and piriformis syndrome are similar in that they are both issues involving the sciatic nerve but also very different. There are many possible reasons for the onset of sciatic pain.

In many cases something is pressing on the sciatic nerve—most often a slipped or herniated disc. These are the discs that live in between the vertebrae of the spine, often referred to as intervertebral discs. These discs slip and degenerate for all different reasons.

First of all, genetics and imitation play a role. So a family can truly have a bad back issue through many generations where the integrity of the spine is compromised. Discs also become damaged because of trauma. There's the trauma of an acute injury, like a car accident. There's also extended emotional trauma.

Our bodies remember everything, and we store tension in our muscles. A history of emotional trauma is going to affect the physical structure of the body. Our posture can contribute to poor bone alignment and poor muscle tone, both of which can lead to slipped discs. Diet and nutrition can also a play a role in the development of our bodies, and health of the spine.

You could also be experiencing sciatica or sciatic pain from a bone pressing into the sciatic nerve. Certain conditions can lead to degeneration of the spine that may result in bone pressing onto the spinal column or the root of the sciatic nerve. Also, the nerves at the base of the spine are vulnerable.

The spinal cord stops growing in infancy, but the bones of the spine and rest of the body continue to grow. The spinal cord ends near the top of the lumbar spine and yet a bunch of exposed nerve roots continue the journey towards the lower extremities. As a result of this, it becomes very easy for something to irritate one of these nerves.

In the case of piriformis syndrome, there is a muscle pressing on the sciatic nerve. The sciatic nerve actually forms directly in front of the piriformis muscle. So if the piriformis muscle goes into spasm, then it will press on the sciatic nerve and create the same radiating pain that you'd get from a bone or disc pressing on the sciatic nerve. Muscles spasm for similar reasons – genetics, physical and emotional trauma, poor posture, diet and nutrition.

In all of these situations, whether it is muscle or bone or disc pressing on the sciatic nerve, the key to healing both sciatica and piriformis syndrome is to change your habits. Those with chronic pain have an immediate incentive to seek solutions in changing their habits. Others may have pain every so often, but they too should change their habits to prevent the situation from continuing or growing worse.

Perhaps you always seem to get injured in the same place or the same side. Maybe you've been to physical therapy that has been effectively only for the injury to recur again at a later date. Those who have had surgery should definitely examine their habits to create new, healthy patterns. Or perhaps you are not in pain but recognize these postural issues in yourself and know people in your life with sciatica.

For all of us, it is vital to our health and healing that we consider the nature of the ways in which we move, get injured, and recover. How you live, move, and care for yourself will determine the quality of your life.

## What is Piriformis Syndrome?

BY JONATHAN FITZGORDON

What is piriformis syndrome? A pain in the butt, that's what.



The piriformis muscle is one of only three muscles connecting the legs to the spine (the psoas major and gluteus maximus are the others). It originates on the front or anterior portion of the sacrum at the base of the spine. It exits the pelvis and inserts on the greater trochanter of the femur, or leg bone. The greater trochanter is a bony knob on the outside of the femur that houses the tendons of many muscles. On the inside of the femur is the lesser trochanter that only has two inhabitants— the psoas major and iliacus.

Directly in front of the piriformis muscle five nerve endings that emanated from the spine, meet up to form two separate nerves, the peroneal nerve and the tibial nerve. These two nerves are encased in a sheath and together this is the sciatic nerve. When the sciatic nerve reaches the back of the knee it will split again and the peroneal nerve and the tibial nerve will finish their journeys on their own.

It is important to make a distinction between sciatica and piriformis syndrome. They both involve sciatic pain but the condition known as sciatica usually stems from issues in the lower back when part of the spine pushes on the sciatic nerve sending pain through the lower back and often down the leg.

The pain associated with piriformis syndrome originates deep in the butt when the piriformis muscle is chronically tight, or goes into spasm, or for whatever reason, presses on the sciatic nerve to create the pain and discomfort.

The sciatic nerve is the longest nerve in the whole body and behind the piriformis where the peroneal and tibial nerves meet to form the sciatic nerve, it can be as large around as your pinky finger. This is why proper alignment of the pelvis plays such an important role in treating piriformis syndrome or sciatica. There isn't a lot of room for the nerves to make their way through the muscle and any misalignment can have far-reaching effects.

In so many cases healing begins with the proper diagnoses. It is important to understand exactly what you are dealing with if you want to heal in a lasting way.

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Changing the way you walk to align the bones and use the muscles correctly, creates space for the piriformis muscle and sicatic nerve facilitating relief for sciatica and pirformis syndrome.

### Learn to Walk: The Sciatic Nerve and Good Posture

BY JONATHAN FITZGORDON



If you learn to walk in a new way and develop better posture habits you can move towards freeing your body from issues with the sciatic nerve and the two main problems associated with sciatic nerve pain: sciatica and piriformis syndrome.

At the base of the spinal cord just below the bottom of the ribcage the nerves exit the spinal cord and flow freely, in what's known as the cauda equina, or the horse's tail. Without the protection of the spinal cord these nerve bundles are more prone to injury from assorted spinal dysfunctions (herniated disc, stenosis...).

Five of these nerve bundles will make their way down towards the leg where they will form into two nerves, the peroneal & tibial. The two nerves meet and form the sciatic nerve directly behind the piriformis muscle, one of only two muscles connecting the legs to the spine.

The spot where it comes together behind the piriformis is about as thick as your index finger, making it one of the thickest nerve segments in the body. The tibial and peroneal nerves will split again at the knee and travel separately down to the foot. An unfortunate 15% of the population has a peroneal nerve that doesn't gather together with the tibial to form the sciatic nerve. For these folks, the peroneal nerve passes directly through the piriformis which could lead to very painful consequences.

So why learn to walk to heal sciatic pain? The nature of sciatic pain is determined by the nerves ability to flow freely to innervate the legs. A misaligned pelvis affects the sciatic

nerve in many ways. We believe everyone tucks their pelvis under, thereby flattening the lower back and shortening the piriformis muscles. Both of these results can lead to sciatic pain whether it manifests and sciatica or as piriformis syndrome.

To learn to walk correctly means to use your pelvis the way it was designed when both walking and standing. If your pelvis lives in the correct un-tucked position, the piriformis muscle should lengthen and make room for the sciatic nerve to pass behind it.

Many factors can lead to a degeneration of the spine– natural aging, illnesses and injuries — but maintaining the proper position of the pelvis and thereby the lumbar spine(lower back) goes a long way to creating the best environment for the flow of the body's longest nerve. Learn to walk correctly and then maintain good posture and you will see relief from many of your body chronic aches and pains including sciatica and piriformis syndrome.