

How to Get Rid of That Pain in Your Butt

By
Dr. Clay Hyght
DC, CSCS, CISSN

No, of course this is not an article about how to knock off your nagging wife or lazy husband. Instead, this article is about Piriformis syndrome: What is it? What causes it? How can you get rid of it? Just 'cause most people have never heard of it doesn't mean that this important problem isn't affecting thousands of athletes every single day.

What is it?

Piriformis syndrome is what we nerdy doctor types call an entrapment neuropathy. In laymen's terms, that means that a muscle deep in the gluteal area (the piriformis) is tight and/or inflamed which decreases the conduction or flow of the largest nerve in the body (the sciatic), which lies nearby.

Pain can be in or around the piriformis muscle, or along the distribution of the sciatic nerve, generally in the back of the thigh, but possibly all the way down into the foot. Shooting pain along the sciatic nerve distribution is called sciatica. (Please note, that's pronounced sigh-AT-ika; don't revealed to everyone within earshot that you have no idea what you're talking about and say "my ski-atik nerve..."). Pain can also be referred up into the lower back region.

Unfortunately, this condition is often misdiagnosed as a disk herniation. Doctors tend to assume that sciatica = disk herniation. Off you go to get an MRI. Since 50% of the adult population has a disk herniation, they may find one. Now it's off to surgery to cut that thing out. Sadly, this does happen, and the condition may resolve for a little while due to the rest after the surgery. But it'll be back.

The moral of this story is to get a second and third opinion; and try to see someone who has extensive knowledge in conservative care and has no vested interest in surgery.

To get an idea whether or not you may have piriformis syndrome, in addition to the pain patterns mentioned above, you would quite possibly have pain walking uphill or up stairs, along with pain after prolonged periods of sitting.

The stretches mentioned below may also exacerbate the symptoms. In many cases, contraction against resistance would also make the symptoms worse.

Anatomy - Where's It At?

Let's take a step back and look at the anatomy of the piriformis muscle. The origin of the muscle is the anterior portion of the sacrum. For the record, the sacrum is a large wedge-shaped bone that forms the base of the spine and lies between the two hip (coxal) bones, forming the pelvic girdle. The piriformis muscle then goes through the greater sciatic

foramen before it blends into its tendon and inserts onto the top of the greater trochanter. You can feel the greater trochanter a few inches below your belt line (unless you're a member of the "hip hop generation and go around rockin' the ultra baggy pants style) on the sides of your upper thigh. Many lay people often call the greater trochanters hip bones.

Typically, the sciatic nerve exits the greater sciatic foramen *behind* the piriformis muscle. But, as you well know, there are exceptions to every rule. In about 15% of the population, the sciatic nerve (especially the common peroneal branch of it) will go *through* the piriformis muscle.

If you are a forward thinker and thought that those within that 15% would be much more likely to have piriformis syndrome, give yourself a gold star, genius; you are correct. Regardless, an affected (tight and/or inflamed) piriformis can eventually lead to sciatica.

Biomechanics - What's It Do?

The function of the piriformis is to abduct and laterally or externally rotate the femur. Abduction of the thigh means to move the leg out to the side away from the body. Lateral (a.k.a. external) rotation means to rotate the hip such that your toes are pointed out to the side instead of forward.

Etiology - Who Gets It?

According to most references, women tend to get piriformis syndrome about six times more often than men. Although most people don't propose a mechanism, I'm fairly certain that it has to do with the anatomic variation of the female pelvis as compared to that of a male.

Likewise, women tend to have a greater Q angle, which means that their legs angle in more, thus seemingly putting the piriformis in a slightly stretched position. On a somewhat similar note, some have suggested that coitus (a.k.a. "knocking boots") can aggravate piriformis syndrome due to the abduction and external rotation of the hip joints by the female in the standard "missionary" position. Hmm....?

Therefore, in women who suffer from piriformis syndrome, maybe copulating in the prone or canine positions would be better choices to avoid exacerbating the condition.

As for athletes, it seems that runners, cyclists, and weightlifters most commonly acquire the condition. Another hazard is sitting for prolonged periods with the hips abducted and externally rotated. This can occur at one's desk, but it is also very common while driving for long periods of time.

Treatment - How to Go 'Bout Fixin' It.

In many cases, especially if they are not chronic in nature, stretching alone (I don't mean you have to be by yourself when you stretch) will often reverse the symptoms. The goal of stretching is to return the piriformis back to its normal resting length and tension.

There are a number of good piriformis stretches. I'll describe a couple that you can do without the aid of a partner; although, as with other things in life, it's often better to have a partner.

My favorite piriformis self-stretch is as follows: sit on the edge of a chair, couch, bed, etc. that puts your hip at about 90 degrees of flexion when your feet are on the floor.

To stretch the right piriformis, place your right ankle on the left side of your left knee. Grasp the right side of your right knee with your left hand and reinforce with your right hand. Now pull your right knee toward your left shoulder.

Another common stretch is to lie on your back with your knees and hips flexed and feet on the ground. From that point you essentially finish the stretch in the same manner as the one above - cross your leg and pull your knee to your opposite shoulder.

Brief Tangent

I don't want to confuse you, but I must address another stretch that many feel does not stretch the piriformis. It, however, is supported in at least one piece of literature. I.A. Kapandji states that the function of the piriformis inverts above 60 degrees of hip flexion.

This means that the piriformis would, at that point, be a medial or internal rotator of the hip while still maintaining its function as an abductor. If this is the case, then the final step of the above stretches would essentially be incorrect. Instead of pulling the knee toward the contralateral shoulder, one would need to push the knee away from the body to externally rotate the hip and stretch the piriformis.

That happens to be a stretch that some people prescribe as a piriformis stretch. Although Kapandji's work is incredible and recognized around the world, I'm going to humbly disagree. I, along with many other doctors, have successfully treated piriformis problems with stretches that flex and internally rotate the hip.

Who knows, maybe I'm just really lucky; or maybe it was the Active Release and periodic ultrasound that cured the piriformis problems. I'll maintain an open mind.

One must keep in mind that Kapandji also says that the gastrocnemius does not aid in knee flexion to any significant degree. I vehemently disagree with that. Try doing lying leg curls with your foot dorsiflexed (toes pulled toward your shin, which lengthens the calf) and with your feet plantarflexed (toes pointed away, which shortens the calf). I believe you'll notice the same thing everyone else does, you can do less with your feet plantarflexed because the gastrocs are shortened and can't help as much with the knee flexion. If Kapandji were correct, then it wouldn't matter either way.

My point is not to downgrade Kapandji (who is quite a biomechanical genius), but to point out that no one knows everything. So keep an open mind.

End Tangent

In general, hold the stretch position for five to ten seconds initially, but work your way up to holding it for one minute. Repeat at least three times per day.

If your piriformis is in acute spasm, I recommend stretching it once per waking hour. Be careful not to overdo the intensity of any stretch. Doing so can do more harm than good by actually tearing tight muscle fibers.

Remember, when trying to permanently increase the length and ROM of a muscle by causing plastic deformation, the ideal method is to apply low intensity but long duration stretches - sorry High Intensity fanatics.

Besides stretching, there are a couple of therapies that can greatly assist in treating piriformis syndrome. Ultrasound can be used to provide an anti-inflammatory effect to a swollen piriformis. It can also be used to essentially heat up scar tissue that may have formed within the muscle.

A qualified doctor or therapist would administer the ultrasound in an appropriate manner. It's not a treatment you should do yourself, as it could cause some fairly serious damage if used improperly. You don't just turn it on and rub the ultrasound head over your gel-coated butt.

Deep tissue massage can also be invaluable in treating piriformis syndrome. In my opinion, the best and most specific technique is Active Release. It's a very precise technique that's used to remove any adhesions that might have formed within the piriformis or between it and the sciatic nerve.

A generic deep tissue massage can help if the clinician knows the anatomy of the deep gluteal muscles very well. As much as you may enjoy it, having a buxom blonde massage therapist with little to no knowledge of anatomy simply rub your butt isn't going to do a whole lot for alleviating your piriformis syndrome.

Conclusion

I hope you feel enlightened now that you have a basic understanding of piriformis syndrome. As some old guy once said, "an ounce of prevention is worth a pound of cure". If he were still around, he'd tell you to stretch your piriformis (and other muscles) on a regular basis. Don't wait until you feel pain.

'Till next time - I'm Dr. Feelgood, I mean Dr Clay.

--

Along with being a Doctor of Chiropractic and Certified Strength and Conditioning Specialist, Dr. Clay Hyght is also a national-level bodybuilding competitor and fitness model that writes for various fitness publications.

For more great health and fitness information, log on to www.DrClay.com.

© 2008 J. Clayton Hyght. All Rights Reserved.