

PIRIFORMIS SYNDROME: IT'S A PAIN IN THE BUTT, AND HIP, AND LEG...



Discomfort from too much sitting? Inactive glutes? Buttock and leg pain? Though small in size, the piriformis could have a big impact on keeping the human movement system moving smoothly. Addressing an overactive piriformis may be part of the solution.

The piriformis is a tiny muscle that originates on the anterior surface of the sacrum, travels through the greater sciatic foramen, and attaches to the greater trochanter of the femur (1,2). It accelerates hip external rotation, abduction, and extension.

Piriformis syndrome has traditionally been described as a referred neural pain in the posterior hip and leg caused by hypertrophy or spasm of the piriformis. The pain is caused by pressure applied to the sciatic nerve by the piriformis due to the passage of the nerve through or under the muscle (2). Pain associated with this problem often mimics the signs and symptoms of lumbar nerve root compression or sciatica in the buttock and posterior leg. The client will often report sciatica-type symptoms and experience tenderness in the piriformis fossa. Pain when sitting is common, as is pain with hip flexion, adduction, and internal rotation.

While the signs and symptoms of the syndrome may be similar to other lumbo-pelvic pathology, the cause of piriformis syndrome remains relatively undefined as to reasons for development of spasm or hypertrophy of the muscle. It is interesting to note that a description of the syndrome is found in most medical texts, yet the criteria for diagnosing piriformis syndrome and pathophysiology still remains a controversial issue (3,4). However, the reason why the piriformis is hypertrophied or in spasm is often described as “undefined and confusing.” If the practitioner considers the principles of the kinetic chain and dysfunction of its linked components, it is not difficult to hypothesize why the piriformis may become involved in an impingement of the sciatic nerve. If the client has chronic tightness of the hip flexor, the gluteus maximus will become reciprocally inhibited (1). This is significant because of the functional responsibility of

the glute to decelerate medial femoral rotation during heel strike or functional movements. Since the piriformis is a primary external rotator of the femur, it becomes synergistically dominant in controlling the femur. This type of dominant function has the potential for causing the spasm, hypertrophy, or tightness described in most texts. The external hip rotators have also been noted as being the least stretched muscles of the lower body (5).

If a client complains of pain associated with that described above, the health and fitness professional should first instruct the client to visit their medical professional. If a client has been released from therapy or their doctor and the pain persists, an effective [strategy for correcting](#) this type of dysfunction would be to first release the hip flexor through appropriate integrated flexibility techniques, then implement reeducation of the gluteus maximus through isolated strength training, and, finally, recondition the lumbo-pelvic hip complex through integrated functional movements in the appropriate range of motion, plane of motion, and speed, specific to the needs of the client.

Try These 5 Steps to Success!

1. Foam Roll the Piriformis, Quadriceps and IT-Band



SMR Piriformis

Sit on top of a [foam roll](#) with the foam roll placed directly on the back of the hip. Cross one leg over the other, placing your foot onto the opposite knee. Slowly roll the back of the hip, applying prolonged pressure on tender spots for roughly 30 seconds.



SMR Quads

Lie on your stomach with a foam roll placed under the front of your thigh. Support your upper body on your forearms. Slowly roll the front of your thigh, applying prolonged pressure on tender spots for roughly 30 seconds.



SMR IT Band:

Lie on your side with the foam roll placed under your hip. Cross your top leg over the leg on the foam roll and place your foot on the floor. The leg on the foam roll should be raised off the floor and remain that way during the exercise. Slowly roll from the hip to the knee, rolling along the outer thigh, slightly in front of the hip and knee, applying prolonged pressure on tender spots for roughly 30 seconds.

2. Statically Stretch the Piriformis, Biceps Femoris and Hip Flexors



Static Stretch: Piriformis:

Lie on your back with one foot placed on top of a stability ball and the other foot crossed over your knee. Pull the ball toward your body with your heel. Press the crossed knee away from your until a stretch is felt in the back of your hip. Hold for 30 seconds.



Static Stretch: Biceps Femoris

Lie on your back and bend one hip and knee 90-degrees. Leave the other leg extended on the floor. Hold your bent leg and extend at your knee, moving your lower leg straight into the air until a stretch is felt in the back of the upper leg. Hold for 30 seconds.



Static Stretch: Hip Flexors:

Kneel on your back leg, bending your front leg 90-degrees. Contract your glutes and shift your body forward. Raise the arm that is on the same side as the knee that is on the ground, stretching to the opposite side until a stretch is felt in the front of your pelvis. Rotate backwards and hold for 30-seconds.

3. Leg Slides



Leg Slides:

Begin by lying on your back with your knees bent and your feet flat on the floor. Breathe normally as you gently draw-in your navel towards your spine. Hold the contraction and relax as you slowly extend one leg until it is completely flat against the ground. Remember to keep your navel pulled in and be careful not to move your spine. Slowly return your leg to the starting position and repeat with opposite leg.

4. Floor Bridge



Floor Bridge:

Lie on your back with your knees bent and place your feet flat on the ground, shoulder-width apart. Draw-in your navel and contract your glutes. Slowly push through your heels and lift your pelvis off the floor until your knees, hips and shoulders are in-line. Hold the top position for a few seconds and then slowly lower your pelvis back down to the floor.

5. Lateral Tube Walking and Ball Squats



Lateral Tube Walking:

Stand with feet placed hip-width apart, knees slightly bent. Place a piece of tubing around your ankles. Keeping your feet straight, take small steps to one side. After recommended number of steps, repeat the exercise to the opposite side.



Ball Squats:

Stand with your feet pointed straight ahead and placed shoulder-width apart. Rest your low back against a stability ball that is placed on a wall. Keep your feet under or slightly in front of your knees. Slowly squat, bending your knees and keeping your feet straight. Keep your chest up, contract your glutes and press through your heels as you return to the starting position.

In many cases, tightness in the piriformis can be alleviated with the proper steps (as noted above). However, we must always remember that we are not licensed medical professionals, we should always consult a licensed practitioner to help understand our client's problems and refer our clients out whenever necessary.

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References

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