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Piriformis Syndrome

Description: The piriformis is a deep posterior hip muscle that connects from the sacrum (low back bone) to the femur (thigh bone). The job of the Piriformis is to assist in stabilization of the hip and to lift and rotate the thigh away from the body. Piriformis syndrome is pain caused by the tightening or spasming of the muscle.

The sciatic nerve runs very closely to the piriformis, and in some people, the sciatic nerve actually runs through the muscle belly of the piriformis. In this case, if the piriformis is tight, it can restrict the sciatic nerve and cause symptoms such as pain, burning, tingling, and/or numbness down the leg.

Symptoms:

- Pain in the buttocks
- Pain may radiate down the leg into the hamstring and calf
- Increased pain after sitting for long periods
- Pain walking up an incline
- Decreased range of motion in the hip

Possible Causes:

- **Overuse/repeated stress:** Running and walking are a highly repetitive, almost purely forward motion. Performing these exercises without supplemental strengthening can weaken the stabilizing muscles and lead to imbalances. Espcially as we fatigue, we tend to have increased motion of the hips, which causes more stress on the surrounding muscles and tendons.
- **Poor foot biomechanics:** Pronation is a necessary function of the foot. Pronation allows the foot to disperse shock and provide stability to the joints of the foot. However, overpronation is an excessive amount of pronation, in which the arch collapses with each step. Overpronation can cause excessive motion up the chain, through the knees and hips, and increase piriformis usage, which may lead to overuse.
- **Running and walking form:** Most runners and walkers use a form which puts excess stress on the joints, especially in the knees and lower back. This is typically caused by overstriding (reaching out) and heel striking. Both of these lock out the joints, minimizing their ability to absorb shock, as well as put you in a less stable position. Therefore, the stabilization muscles of the body, including the piriformis, must work even harder to keep the body upright and as stable as possible.

Other considerations:

- Herniated discs can also put pressure on the sciatic nerve and cause similar pain/nerve symptoms down the leg. This is not piriformis related though.
- Sacroilliac (SI) Joint Dysfunction can mimic Piriformic Syndrome symptoms. The SI joint connects the sacrum to the pelvis and lies between the lumbar spine and the tailbone. Any alteration in the normal movement of the hips can put pressure on the SI joint and can cause pain in the lower back, hips, buttocks, and radiate down the leg and groin. The treatment for this is different from Piriformis Syndrome.

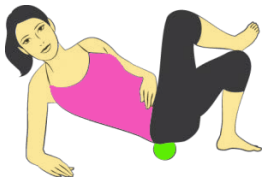
Self-Treatment Options:

☐ **Support:** If overpronation is determined to play a role, shoes with a supportive medial arch can help stabilize the foot and joints up the chain. You might consider adding removable insoles (i.e. Stabilites, Orange Insoles, Powersteps) to shoes you currently have that might not be supportive enough. If you have a rigid foot, you may want to avoid shoes that are overly supportive and don't allow adequate pronation to occur.

Note: We always recommend seeing a physician or attending our Injury Clinic on Wednesdays from 6-8pm for more information.

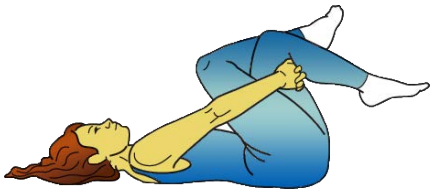
- ☐ **Stretching:**
  - Piriformis stretch and trigger point release: Releasing tension in the piriformis will help relieve symptoms.
  - Stretching and trigger point release for hamstrings, glutes, hip flexors, and quads: If the musculature surrounding the piriformis is tight, in can pull on and create tightness in the piriformis as well.
- ☐ **Strengthening:** By strengthening the hip stabilizing muscles surrounding the piriformis, the piriformis will be required to do less work and become less stressed.
  - Fire Hydrants, Lateral Band Walks, Clam Shells, and Body Weight Squats
- ☐ **Rest:** "Play it by pain" - Use pain to dictate your level of activity.
- ☐ **Products:** Addaday/Trigger Point/Foam Roller, Trigger Point Massage Ball, Insoles
- ☐ **Free Clinics:** Most people walk and run in a way that puts excessive braking and friction on their joints, muscles, and tendons. Take a **FREE Good Form Running** and/or **Good Form Walking** clinic to have your form analyzed! Our **Stretch, Strengthen, and Roll** class will cover common muscle imbalances and how to correct them.

Seated Piriformis Stretch: While sitting in a chair with your back straight, rest your ankle on your opposite knee. Then gently press down on your knee until you feel a stretch in your hip. Hold for 10 to 15 seconds. Repeat several times for each hip.

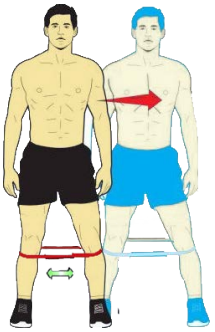


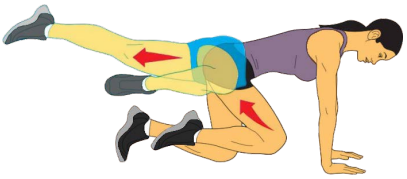
Trigger Point Release with a Ball: Sitting on a ball, search for trigger points in the buttocks area. With your legs bent, work against the edge of the sacrum (the bony triangle between the lumbar spine and the tailbone) and all the way out toward the hip joint. Progress in a line about halfway between the top of the pelvis and the bottom curve of the butt. Continue moving the ball around until you find a trigger point or "hot spot". Hold on this spot for 10 to 20 seconds. Move on to find others, returning to the spots if necessary. Start with a tennis ball and progress to a lacrosse ball or a Trigger Point ball as more tension is released.

Lying Piriformis Stretch: Lie on your back with your knees raised and your feet flat on the floor. Put your right ankle on your left knee. Grab the back of your left knee and pull it toward your chest until you feel the stretch in your right hip and buttock. Hold for 10 to 15 seconds. Repeat several times, then reverse the leg positions to stretch the left side.

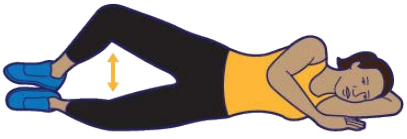


Lateral Band Walks: Place a resistance band around both legs, just below the knees. Take small steps to your right for 20 feet. Then, sidestep back to your left for 20 feet. That's one set. Progress by doing this in a squatting position and by using a more resistant band.

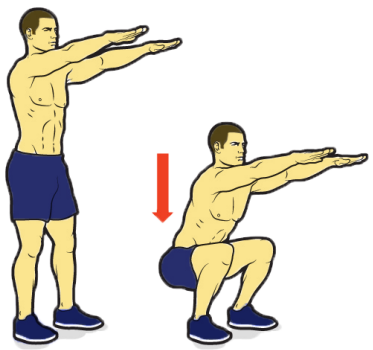




Fire Hydrant In-Out: Get down on your hands and knees with your palms flat on the floor and shoulder-width apart. Engage your core so that your lower back and abdomen are in neutral positions. Without allowing your lower-back posture to change, raise your right knee as close as you can to your chest (your knee may not move forward much). Keeping your right knee bent, raise your thigh out to the side without rotating your hips. Extend your raised right leg straight back unitl it's in line with your torso. That's one rep. Do 10-15 and then repeat with the other leg. Doing these slowly is more beneficial. Progress by adding ankle weights.



Clamshells: Lie on your side with legs stacked on top of each other and knees bent. Using your hip, lift the top leg away from the bottom while keeping your feet together, like a clam shell opening. Be sure not to rotate the hips or upper body. Raise until you feel your body start to turn. Lower slowly down again. This is one repetition. Work up to 3x10 repetitions each side.



Body Weight Squat: Begin with your feet about shoulder width apart. Be sure that your weight is concentrated on the heels and not the forefoot. Bend at your hips and push your butt back. Continue sending your hips back until your knees bend. It is important to begin by sending the hips back and not bending at the knees. Keep your back straight, with a neutral spine, and your chest and shoulders up. As you squat down, focus on keeping your knees in line with your feet and ensure that the do not move forward in front of your toes. If your knees begin to drift inside of your feet or in front of your toes, correct them. Squat down as far as is comfortable without pain. To stand back up, drive up through your heels, push the knees outward, and clinch your glutes at the top to be sure you're using them. The more slowly you do these, the more benefit you will get. Progress by holding weight.