



Piriformis Syndrome

Exercises:
10 seconds
10 times
1 time per day

DESCRIPTION

Piriformis syndrome is a rare nerve condition in the hip that causes pain and occasionally loss of feeling in the back of the thigh, often to the bottom of the foot. It involves compression of the sciatic nerve at the hip by the piriformis muscle, which rotates the hip and allows the thigh, foot, and knee to point outward. The piriformis runs from the pelvis to the outer hip, and the sciatic nerve usually passes between this muscle and other muscles of the hip. About 15% to 20% of the time, the sciatic nerve travels directly through the piriformis, causing pressure on the nerve.

COMMON SIGNS AND SYMPTOMS

- Tingling, numbness, or burning in the back of the thigh to the knee and occasionally to the bottom of the foot
- Tenderness in the buttock (occasionally)
- Pain and discomfort felt as a burning or dull ache in the hip or groin, mid-buttock area, back of the thigh, and sometimes to the knee
- Heaviness or fatigue of the leg
- Pain that is worse with sports activities such as running, jumping, long walks, and walking up stairs or hills
- Pain that is often felt at night or with prolonged sitting
- Pain that is lessened by lying flat on the back

CAUSES

Pressure on the sciatic nerve at the hip by anything that may cause the piriformis muscle to spasm and constrict the nerve can cause this syndrome. This includes strain from a sudden increase in the amount or intensity of activity or overuse of the lower extremity. It may also be due to compensation of other extremity injuries.

FACTORS THAT INCREASE RISK

- Sports that involve running, jumping, or prolonged walking
- Being born with a sciatic nerve that runs through the piriformis muscle
- Poor physical conditioning (strength, flexibility)

PREVENTIVE MEASURES

- Appropriately warm up and stretch before practice and competition.
- Maintain appropriate conditioning that includes hip flexibility, strength and endurance, and cardiovascular fitness training.

EXPECTED OUTCOME

Piriformis syndrome is usually curable with appropriate treatment within 2 to 6 weeks, and it sometimes heals spontaneously. Surgery is rarely necessary.

POSSIBLE COMPLICATIONS

- Permanent numbness in the affected knee, leg, and foot
- Persistent pain in the buttock, knee, leg, and foot
- Increasing weakness of the extremity
- Disability and inability to compete

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of rest from the offending activity and medications to reduce inflammation and pain. Stretching exercises for the muscles of the hip are useful, and referral to a physical therapist or an athletic trainer may be recommended for further treatment, including ultrasound and other modalities. Injections with cortisone, often with numbing medicine, in the area where the nerve is being pinched may help reduce the nerve inflammation and pinching. If this conservative treatment is not successful, surgery may be necessary to free the pinched nerve by cutting the muscle or tendon where the nerve is being pinched. Surgery is rarely necessary but does provide almost complete relief in most patients.

MEDICATION

- Nonsteroidal antiinflammatory medications, such as aspirin and ibuprofen (do not take for 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician, and contact your doctor immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Pain relievers may be prescribed as necessary, usually only after surgery. Use these only as directed, and take only as much as you need.
- Injections of corticosteroids may be given to reduce inflammation.

HEAT AND COLD

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. It should be applied for 10 to 15 minutes every 2 to 3 hours as needed and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage.

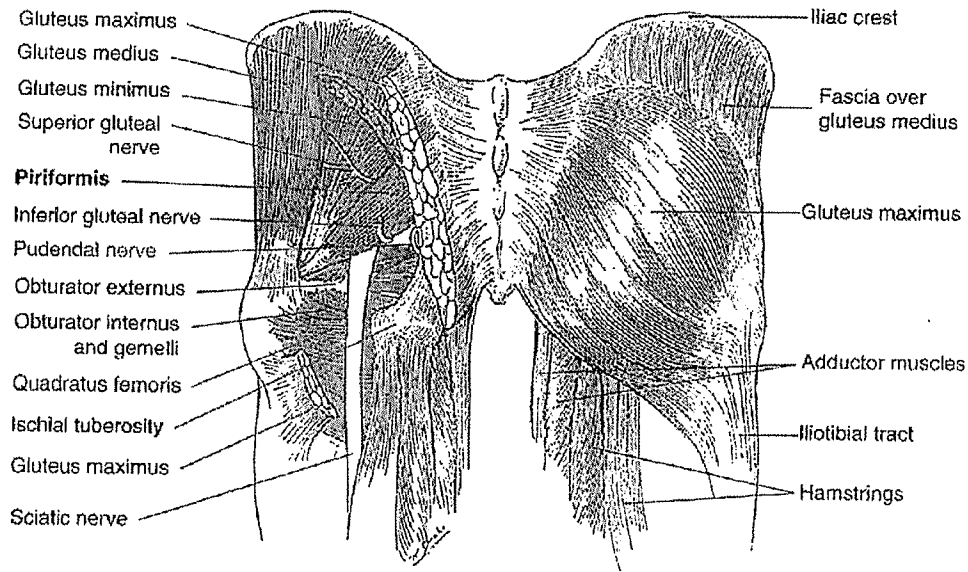


FIGURE 1 From Jenkins DB: *Hollinshead's functional anatomy of the limbs and back*, ed 6, Philadelphia, 1991, W.B. Saunders, p 258.

- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

WHEN TO CALL YOUR DOCTOR

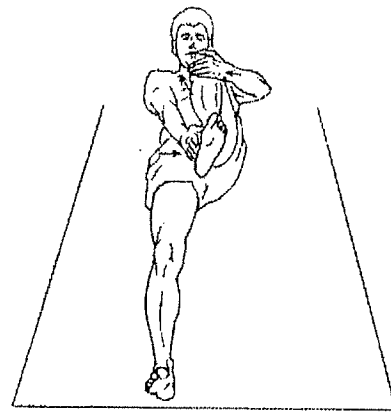
- Symptoms get worse or do not improve in 2 weeks despite treatment.
- New, unexplained symptoms develop. Drugs used in treatment may produce side effects.

RANGE OF MOTION AND STRETCHING EXERCISES

Piriformis Syndrome

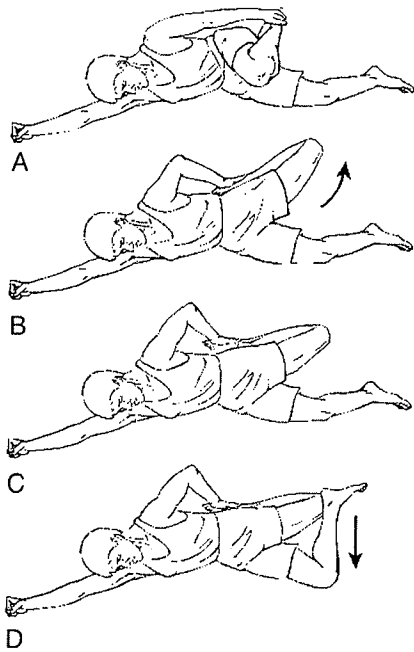
These are some of the *initial* exercises you may use to start your rehabilitation program, until you see your physician, physical therapist, or athletic trainer again, or until your symptoms resolve. Please remember:

- Flexible tissue is more tolerant of the stresses placed on it.
- A *gentle* stretching sensation should be felt.



FLEXIBILITY • Hip Rotation

- Lie on your back, and use your hands to bend your hip and knee up as shown.
- Pull your knee toward your opposite shoulder. You will feel a stretch on the outside of your hip near your buttock.
- Hold this position for ____ seconds.
- Repeat this exercise ____ times, ____ times per day.



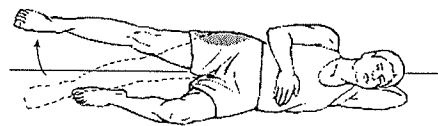
FLEXIBILITY • Iliotibial Band Stretch

1. Lie on your side as shown. The muscle and iliotibial band to be stretched should be on top.
2. Grasp your ankle and pull your heel to your buttock, bending your hip so that your knee is pointing forward as in the top drawing.
3. Rotate your hip up so that your thigh is away from your body as shown and in line with your body. Keep your heel to your buttock.
4. Bring your thigh back down and behind your body. Do not bend at the waist, and keep your heel pressed to your buttock.
5. Place the heel of your opposite foot on top of your knee, and pull the knee down farther. You should feel a *gentle* stretch on the outside of your thigh near your kneecap.
6. Hold this position for ____ seconds.
7. Repeat this exercise ____ times, ____ times per day.

STRENGTHENING EXERCISES Piriformis Syndrome

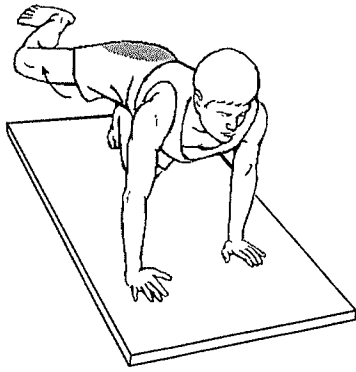
These are some of the *initial* exercises you may use to start your rehabilitation program, until you see your physician, physical therapist, or athletic trainer again, or until your symptoms resolve. Please remember:

- Strong muscles with good endurance tolerate stress better.
- Do the exercises as *initially* prescribed by your physician, physical therapist, or athletic trainer. Progress slowly with each exercise under their guidance, gradually increasing the number of repetitions and weight used.



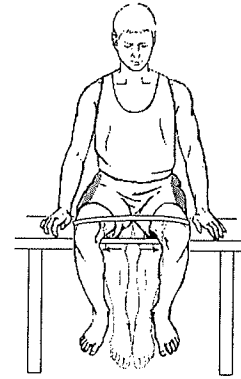
STRENGTH • Hip Abduction

1. Lie on your side as shown, with your weak leg on top.
2. Bend your bottom knee slightly for balance, and roll your top hip slightly forward.
3. Lift your top leg straight up, leading with your heel. Do not let your leg come forward.
4. Hold this position for ____ seconds, and *slowly* lower your leg to the starting position.
5. Repeat this exercise ____ times, ____ times per day.



STRENGTH • Hip Abduction in Quadruped

1. Position yourself on your hands and knees as shown.
2. Keeping your knee bent, lift it up and out to the side from your hip.
3. Hold this position for ____ seconds, and *slowly* lower your knee to the starting position.
4. Repeat this exercise ____ times, ____ times per day.



STRENGTH • Hip Abduction

1. Sit on a chair or table as shown.
2. Place a piece rubber tubing or an elastic band around your thighs just above your knees.
3. Spread your legs as widely as possible, and hold this position for ____ seconds.
4. *Slowly* return to the starting position.
5. Repeat this exercise ____ times, ____ times per day.