

Piriformis Conditions

A Hidden Cause of Back Pain

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The Piriformis muscle is found posterior to the hip joint. It is triangular in shape with its position being situated deep in the buttock. The muscle performs outward rotation of the thigh (turning the knee out). However it is more functional in sitting. The muscle is now responsible for abduction (taking the leg outwards as in getting out a car). It helps to stabilise the pelvis when the trunk is rotated and controlling balance of the pelvis when standing on a moving bus.

Origin: anterior 2nd-4th sacral segments, additional attachment from Ilium and sacrotuberous ligament. The fibres pass downwards and laterally and then forwards narrowing into a tendon. the fibres run in a straight line.

Insertion: medial side of the greater trochanter of the femur



The Three Main Piriformis Conditions

The piriformis along with gluteus medius are two of the most common sites where trigger points develop. Active trigger points will present as buttock pain and/or posterior thigh pain. These muscles are usually found to be shortened. Careful palpation of the muscles is needed to find taut bands and exquisitely tender points that may be just tender locally or refer pain into the posterior thigh. It's important to realize that trigger points are a secondary cause developed from underlying back pain and adaptation from lumbopelvic instability. Back problems should always include treatment of the piriformis and gluteus medius.

Symptoms may mimic a herniated disc problem with nerve root impingement. The muscle impinges on the sciatic nerve causing possible referral sites into the posterior thigh and calf muscle. A herniated disc will be painful on coughing, and sneezing as where piriformis impingement will not.

The last condition is piriformis muscle strain. It can be acute or chronic. It may present as deep seated buttock pain aggravated by sitting, stair climbing and squats. Symptoms may also present on passive internal hip rotation, resisted hip abduction with the hip adducted and flexed. Resisted external hip rotation may also be sore and should be tested throughout the full range.

Overview of signs and symptoms

Low back pain is not usual but you may feel a pulling sensation on the lower back when squatting, climbing stairs or sitting. A dull ache will be felt in the mid buttock, if trigger points are present these will be very painful on palpation. Pain may worsen at night and felt in the morning. Difficulty walking up stairs or on incline. Weakness or numbness may be present down the posterior thigh and calf.

Specific assessment

Palpation will reveal point tenderness in the mid buttock (may be combined with gluteus medius trigger points felt in upper buttock). Weakness may present on hip external rotation and on stretching the muscle through hip internal rotation. Straight leg raising may also be limited showing signs of the nerve being impinged.

Treatment and Rehabilitation

The piriformis is usually found to be shortened so mobility work can help to increase flexibility. Massage therapy eases this condition considerably. At Pro-Am Sports injury Clinic mainly use a soft tissue release technique holding a lock in an external hip rotation position and slowly taking the hip into internal rotation causing a functional stretch of the muscle. The techniques are performed in side lying as this allows better access to the muscle. Strengthening the glutes and core is a must to improve posture and function.

Pro-Am use to prescribe these stretches below but we found it just aggravated the piriformis and so instead of holding the stretch we get clients to go in and out of the positions slowly for mobility and this has had a much better outcome.



New information found that these type of stretches for the piriformis may impinge the joint capsule and cause pain at the front of the hip. Here's a link to the site <http://www.articlesbase.com/yoga-articles/a-better-way-to-stretch-the-piriformis-and-relieve-sciatica-705895.html>

Exercise to do instead

Step 1: Assume a quadrupedal (all fours) position with your right ankle crossed over the back of your left knee. **Step 2:** Place your right hand out to the side. **Step 3:** Shift your hips and shoulders toward the right until you feel the stretch.

Aswell as completing stretching to keep the effect of the treatments self massage is helpful using a massage tool like a foam roller or tennis ball.



Those most at risk

Piriformis Muscle Syndrome is most commonly a Problem of Poor Posture and Movement patterns rather than overuse!

- Sitting still for long periods can irritate the trigger points at the heart of your Piriformis Syndrome
- Occasionally blunt trauma (a fall on the buttock) will trigger Piriformis syndrome. Obviously, this is not primarily due to poor patterns of posture and movement, but you are still likely to get some benefit from improving your patterns of use.
- Sitting on your wallet or other sharp object (fat wallet syndrome).
- Sitting cross legged is also a suggested cause, but this may more likely be associated with the less widely recognised condition "posterior gluteus medius muscle strain". In fact, if you have had a diagnosis of Piriformis Syndrome and cannot identify the movement faults you may have "Posterior Gluteus medius strain" instead of or in addition to your Piriformis diagnosis. Posterior Gluteus medius strain is more common than Piriformis syndrome, but usually is not quite so acute, and most people can live with the pain without seeking a cure. Posterior Gluteus medius strain is not the topic of this article, but note that gentle stretches, trigger point massage and Gluteus maximus activation will help