



THE UNIVERSITY OF TOLEDO
MEDICAL CENTER

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THE UNIVERSITY OF TOLEDO MEDICAL CENTER

ORTHOPAEDIC MONTHLY

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Ideal Patient Care

At the UT Orthopaedic Center doctors understand that orthopaedic conditions are usually painful and require immediate attention and treatment. We are striving to reach the pinnacle of excellence in patient care.

We have improved our access to provide the same day service, we even see walk in patients. Our phone room will answer your call in three rings or less over 90% of the time.

Our service is provided by a world-class talented orthopaedic team who are capable of treating all conditions from neck to toe including: fractures, dislocations, spine conditions, arthritis, sports medicine, arthritis, hand conditions and bone tumors. The Orthopaedic Center will also see difficult, complex cases, second opinions and failed procedures. We provide hope to the patients.

It is our hope and commitment to complete the entire consultation, for a routine appointment, within one hour from the time of that appointment. During the patient's visit, we will provide them with same day consultations from other departments, if it is deemed necessary.

The Orthopaedic Center's free valet parking provides an amazing convenience to the patients. The University of Toledo Orthopaedic Center is located inside the hospital and our patients do not have to be shuffled to different offices, it is an all-inclusive service. The Orthopaedic Center also provides expanded service to include Saturday appointments for those patients who cannot make a weekday appointment.

Clearly, it wasn't easy to reach this advanced level of health care



delivery. It was a hard, long road with a lot of challenges, setbacks and successes but we are moving forward. We have learned from our vast experience and made our system better. We give the community our commitment that our phone, 419-383-3761, will be answered in three rings, that the patient can walk in, the entire routine visit will take one hour or less, the patient will be seen Saturday (if desired), and that they will receive some of the consultations with other services within the same day.

The Orthopaedic Center is not just a doctor's office, it is an institution with both talent and resources that are unmatched. All of this is directed towards one goal, to help the patient and make it easier for them.

Orthopaedic Symposia Series

The Orthopaedic Center has started hosting a symposium series. This series is focused on the education of physicians and clinicians interested in learning more about diagnosing and treating orthopaedic conditions of various complexity. For additional information or to register please call us at 419-383-4020 or email us at OrthopedicSurgery@UToledo.edu

Symposium 3: Fractures and Dislocations: March 25, 2017

Symposium 4: Foot and Ankle Conditions: April 22, 2017

Symposium 5: Arthritis and Joint Arthroplasty: May 20, 2017

Symposium 6: Sports: June 17, 2017

Symposium 7: Medical Malpractice: TBD

Piriformis Syndrome or True Sciatica

Sciatica is pain radiating along the course of the sciatic nerve, which runs from the lower back to the buttock, to the back of the thigh and into the lower leg and the foot. Sciatica usually affects one side of the body and it is usually called lumbar radiculopathy. The largest number of cases involving sciatica occur from disc herniations. Sciatica is not a diagnosis! It is a symptom of an underlying condition.

Piriformis syndrome is a condition that may cause sciatica. The piriformis muscle is pushing on the sciatic nerve.

The condition of sciatica due to compression from a herniated disc is called lumbar radiculopathy.

Piriformis syndrome is a condition that has sciatic nerve symptoms due to compression of the sciatic nerve around the buttock and the hip. The condition is usually connected to the piriformis muscle and its relationship to the sciatic nerve. The piriformis muscle runs from the sacrum to the hip and it is within close proximity to the sciatic nerve. The sciatic nerve exits below and anterior to the piriformis muscle.

What causes piriformis syndrome? Normal relationship with the sciatic nerve passing beneath the piriformis muscle.

Piriformis syndrome may be caused by anatomical anomalies such as:

- Split piriformis muscle
- Vascular structures
- Variation of the sciatic nerve path

Piriformis syndrome may also be caused by tightness or spasm of the piriformis muscle that will squeeze the sciatic nerve. This is usually caused due to overuse activities such as bicycling. This pressure being placed on the nerve will cause swelling and inflammation.

CLINICAL DIAGNOSIS OF PIRIFORMIS SYNDROME

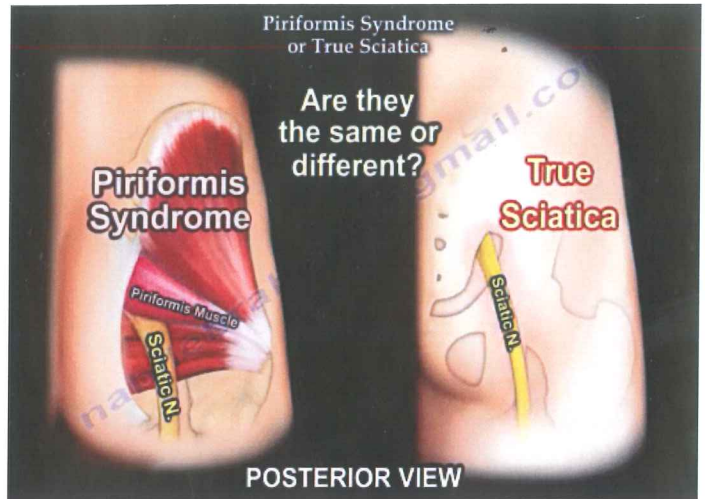
Pain in the posterior gluteal region and buttock that is shooting down the leg in the area of the sciatic nerve that causes symptom-like sciatica. There will be symptoms of burning, tingling and shooting pain.

PROVOCATIVE TESTS

Fair Test – flexion, adduction and internal rotation of the hip will reproduce the symptoms due to the tension of the piriformis muscle.

Lasegue's Test – the straight leg raising pain is aggravated by forced ankle dorsiflexion.

Piriformis syndrome needs to be differentiated from sciatica. Both could have the same symptoms, however both have different causes.



The diagnosis should be done by exclusion of possible spine problems that could be compressing the spinal nerve root and causing sciatica.

The main cause of a true sciatica is a lumbar disc herniation. When the patient complains of sciatica related pain, the doctor needs to ask themselves a question: is this sciatica due to compression on the sciatic nerve itself? Or: is this sciatica due to compression on the nerve roots of the sciatic nerve? Get an MRI to rule out the spine as a cause of compression on the nerve roots of the sciatic nerve. If the patient does not have a herniated disc, then the patient will probably have piriformis syndrome.

TREATMENT

Conservative treatment:

- Anti-inflammatory medication.
- Physical therapy and stretching of the piriformis muscle
- Injection (ultrasound guided or under fluoroscopy)

Make sure that the patient has someone present to drive them home, because the sciatic nerve may become numb leaving the patient unable to drive.

Surgery (last resort):

- Release of the piriformis muscle
- Sciatic nerve neurolysis. Surgery is done as a last resort and after you exclude any possible spine conditions and after you have a positive test from injection of the piriformis muscle (the patient must acknowledge that they feel better from the injection). Piriformis syndrome is a diagnosis of exclusion.

Ankle Examination

The integrity of the anterior talofibular ligament is tested by performing the anterior drawer test. The anterior talofibular ligament is the weakest and most commonly injured ligament in ankle sprains (lateral collateral ligament injury).

The integrity of the calcaneofibular ligament is tested by performing the talar tilt test. This test is probably testing both the anterior talofibular ligament and the calcaneofibular ligament.

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A squeeze test of the heel is used to check for stress fractures of the calcaneus.

Morton's neuroma is a painful condition that affects the ball of your foot, most commonly that area between the third and fourth toes. Squeeze the metatarsal heads, this test will check for the presence of Morton's neuroma.

In addition to the squeeze test, you can use the external rotator test or the gravity test to check for syndesmotic injury.

The Thompson test is used to check normal ankle movement for an intact Achilles tendon. No movement of the ankle when squeezing the gastrocnemius muscle will signal a possible Achilles tendon rupture.

The best test of all is the ability to bear weight. If the patient cannot bear weight, then there is probably an ankle fracture!

Hip Pain: A strain of the Rectus Femoris Muscle

One of the causes of hip pain that is often forgotten is due to strain of the rectus femoris muscle and tendon. It causes groin pain or anterior hip pain in some athletes.

What types of athletes usually have problems from strain of the rectus femoris muscle? •Runners •Baseball players •Hockey players •Soccer players

The injury may be sudden such as with kicking the ball in soccer or sprinting from a standing position. It is an overuse problem with repeated tears, repeated stress and stretching of the rectus femoris tendon. There will be some scarring, adhesions or tightness. Strain of the rectus femoris is similar to a tennis elbow type of problem or Achilles tendonitis.

It is important to know that there are a lot of causes of hip pain.

Within the hip joint:

- Loose body
- Labral tear
- Avascular necrosis of the femoral head
- Arthritis

Outside the hip joint:

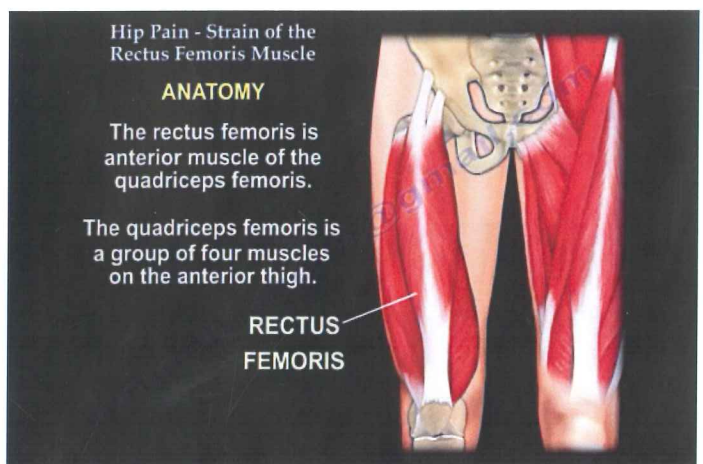
- Iliopsoas bursitis

When you do the patient work up for hip pain, make sure to include the rectus femoris strain, which occurs from tearing of the muscle fibers due to stretching of the muscle.

ANATOMY: The rectus femoris is the anterior muscle of the quadriceps femoris. The quadriceps femoris is a group of four muscles on the anterior thigh. The rectus femoris has two heads originating from the pelvis. The straight head arises from the anterior inferior iliac spine. Reflected head arises from the groove superior to the acetabulum. The rectus femoris muscle is inserted into the superior border of the patella through the common quadriceps tendon.

FUNCTION: This muscle flexes the thigh at the hip and it extends the knee.

INNERVATION: Femoral nerve (L2, L3, L4).



The muscle crosses the hip joint anteriorly, so it flexes the hip joint. Tears or strains of the rectus femoris muscle can be an acute process from forcible eccentric contraction of the muscle. These injuries are usually more distal on the thigh or near the knee. The patient with a strain will have pain in the groin area or anterior part of the hip, but most commonly you will find that the pain is more distal.

The chronic overuse injury will give you anterior hip pain, usually near the anterior inferior iliac spine.

In adolescent patients there may be an avulsion fracture of the anterior inferior iliac spine because it is weak. Also in adolescents, if you see a piece of bone near the hip joint, this is a sign of a pulled rectus femoris muscle. Treatment is usually rest with crutches, no surgery is required!

INSPECTION AND PALPATION: Palpate the site of the pain. Go around the hip region and palpate the anterior superior iliac spine. The ASIS is where the Sartorius is attached. Immediately distal is the area of the anterior inferior iliac spine. Try to palpate this site carefully because this may be the area of rectus femoris pain. Also palpate the tensor fasciae latae muscle and the iliotibial band. Try to palpate the rectus femoris muscle through its entire length because you may find pain in the mid-thigh or distally (common).

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Rectus Femoris Muscle continued

PROVOCATIVE TESTS: Resisted hip flexion will produce pain. This situation is different from a pulled groin. A pulled groin involves a strain of one of the adductor muscles. For a compression adduction test the patient will have pain and decreased strength with resisted leg adduction. An assessment of the adductor muscle can be done when the patient is in a sitting position. The examiner has the patient squeeze the thighs with resistance placed at the inside of the knees.

After finishing the examination for the rectus femoris muscle strain, an x-ray may not be needed. However, in adolescent patients, x-rays may be needed to make sure that there is not an avulsion of the anterior inferior iliac spine. If you get an x-ray it will probably be normal. Get an MRI in tough cases that are not getting better with treatment.

TREATMENT:

- Ice
- Rest
- NSAIDs
- Physical therapy including stretching, strengthening and active release technique
- Injection
- Surgery is rarely done!

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Dr. Ebraheim, Amanda Critton, Julie Anderson and Ellen Finch do not have any relationships with industry to disclose.

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