

ADDUCTOR MUSCLE STRAIN



■ ■ ■ Description

- Adductor muscle strain involves inflammation and pain along the inner thigh muscles (the adductors—longus, medius, and magnus—and the gracilis muscle) and groin. These muscles allow the hip and leg to move across the body. Muscle attaches to bone via tendon. The injury occurs at this junction between the muscle and tendon or at the tendon attachment to the pelvic bone. The strain may be a partial or complete tear of any or all of the adductor muscles. The adductor longus is the most commonly injured of these muscles.
- This is usually a grade 1 or 2 strain. A *grade 1 strain* is a mild strain. There is a slight pull without obvious tearing (that is, the tearing is microscopic). There is no loss of strength, and the muscle and tendon are the correct length. A *grade 2 strain* is a moderate strain. There is tearing of fibers within the substance of the tendon, at the bone-tendon junction, or at the muscle-tendon junction. The length of the tendon or whole muscle-tendon-bone unit is increased, and there is usually decreased strength. A *grade 3 strain* is a complete rupture of the tendon and is uncommon.

■ ■ ■ Common Signs and Symptoms

- Occasionally a sudden pop in the groin or inner thigh at the time of injury
- Pain, tenderness, swelling, warmth, or redness over the inner thigh and groin, often worsened by moving the hip, and weakness of the hip (especially when spreading the legs or hips, pushing the legs against each other, or kicking with the affected leg)
- Bruising in the groin and inner thigh 48 hours following the injury
- Loss of fullness of the muscle with complete rupture (uncommon)
- Muscle spasm in the groin and inner thigh

■ ■ ■ Causes

- Prolonged overuse, sudden increase in amount or intensity of activity, or overuse of the inner thigh muscles with kicking (muscle imbalance or weakness may predispose to strain)
- Single episode of stressful overactivity, such as during kicking
- Single violent blow or force to the inner thigh (less common)

■ ■ ■ Risk Increases With

- Sports that require repeated kicking, such as soccer, martial arts, and football (kickers), as well as sports that require the legs to be brought together, such as gymnastics and horseback riding

- Sports that require rapid acceleration such as ice hockey and track and field
- Poor physical conditioning (strength and flexibility)
- Previous thigh injury

■ ■ ■ Preventive Measures

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
 - Hip and thigh flexibility
 - Muscle strength and endurance
 - Cardiovascular fitness
- Use proper sports technique.
- Complete the entire course of rehabilitation after lower extremity injury before returning to competition or practice.

■ ■ ■ Expected Outcome

This strain is usually curable within 2 to 6 weeks if treated appropriately with conservative treatment and resting of the affected area.

■ ■ ■ Possible Complications

- Healing time will be prolonged if the condition is not appropriately treated or not given adequate time to heal.
- Recurrence of symptoms and re-injury are possible if activity is resumed too soon.
- Untreated, the strain may progress to a complete tear (rare) or other injury caused by limping and favoring the injured leg.
- Prolonged disability is possible.

■ ■ ■ General Treatment Considerations

Initial treatment consists of medication and ice to relieve the pain, stretching and strengthening exercises, and modification of the activity that initially caused the problem. These all can be carried out at home, although referral to a physical therapist or athletic trainer for further evaluation and treatment may be helpful. Occasionally, crutches may be recommended for the first 24 to 72 hours, if the strain is severe and the athlete is limping, until the pain and inflammation settle down. Surgery is rarely necessary to re-attach tendon if it pulls off the pelvic bone. Surgery may be recommended if chronic, persistent pain exists at the groin for more than 3 months despite appropriate conservative treatment for strains, but this is uncommon. Suturing, or sewing, torn muscle is usually not successful.

■ ■ ■ Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take for the first 3 days after injury or within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact

your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.

- Topical ointments or liniments may be beneficial.
- Pain relievers may be prescribed as necessary by your physician. Do not take prescription pain medication for longer than 4 to 7 days. Use only as directed and only as much as you need.
- Injections of corticosteroids may be given to reduce inflammation, though not usually for acute injuries.

■ ■ ■ Heat and Cold

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

■ ■ ■ Notify Our Office If

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

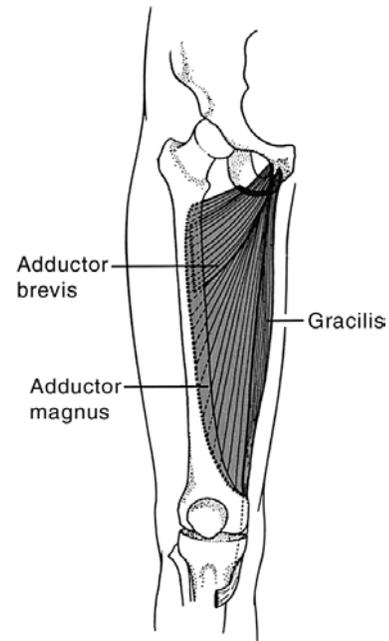


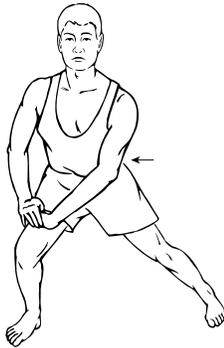
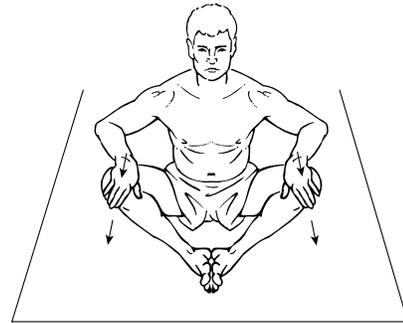
Figure 1

From Hislop HJ, Montgomery J: Daniels and Worthingham's Muscle Testing—Techniques of Manual Examination, 6th ed. Philadelphia, WB Saunders, 1995.

> RANGE OF MOTION AND STRETCHING EXERCISES • Adductor Muscle Strain

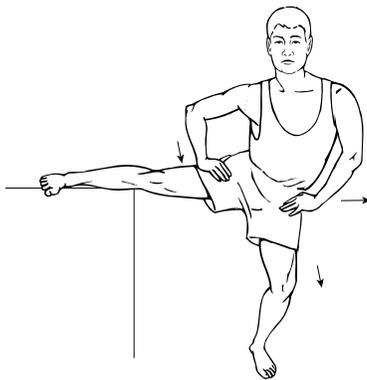
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Flexible tissue is more tolerant of the stresses placed on it during activities.
- Each stretch should be held for 20 to 30 seconds.
- A *gentle* stretching sensation should be felt.



FLEXIBILITY • Adductors, Lunge

1. Spread your legs wide while standing. Then assume a partial “squat” position.
2. “Lunge/Lean” away from the side you want to stretch, shifting your weight toward the bent leg.
3. Hold this position for _____ seconds.
4. Repeat exercise _____ times, _____ times per day.

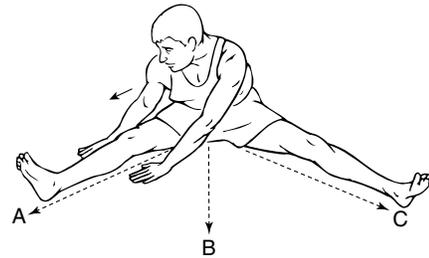


FLEXIBILITY • Adductors, Ballet

1. Stand and place the leg you want to stretch on a counter, chair, or other sturdy object.
2. Gradually bend the opposite knee and gently lunge away from the leg you are stretching.
3. Hold this position for _____ seconds.
4. Repeat exercise _____ times, _____ times per day.

FLEXIBILITY • Hip Adductors

1. Sit on the floor with the soles of your feet together as shown. Keep your heels as close to your body as is comfortable.
2. Place your hand on top of your knees and push your legs/knees down toward the floor.
3. You will feel a stretch in your groin.
4. Hold this position for _____ seconds.
5. Repeat exercise _____ times, _____ times per day.



FLEXIBILITY • Hamstrings/Adductors, V-Sit

1. Sit on the floor with your legs spread as wide as possible in front of you. Your knees must be straight.
2. Lean over one leg with both hands. Keep your chest upright and reach for your toes. (Position A)
3. Hold this position for _____ seconds. Relax and return to your starting position.
4. Now reach forward between your legs. (Position B)
5. Repeat for Position C.
6. Repeat exercise _____ times, _____ times per day.

> **STRENGTHENING EXERCISES** • Adductor Muscle Strain

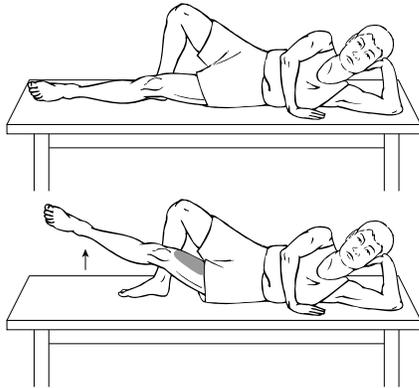
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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, gradually increasing the number of repetitions and weight used under their guidance.



STRENGTH • Hip Adduction

1. Sit on a chair and place a large ball (volleyball or basketball size) between your legs as shown.
2. Squeeze your thighs together.
3. Hold this position for _____ seconds.
4. Repeat exercise _____ times, _____ times per day.



STRENGTH • Hip Adduction

1. Lie on your side as shown with the injured/weak leg on the bottom.
2. Place the foot of your top leg flat on the floor for balance. It may be in front or behind the bottom leg.
3. Lift the bottom leg as shown. Hold this position for _____ seconds.
4. Slowly lower your leg to the starting position.
5. Repeat exercise _____ times, _____ times per day.

Notes:

(Up to 4400 characters only)

Notes and suggestions