

# Hip Strains

A hip strain occurs when one of the muscles supporting the hip joint is stretched beyond its limit or torn. Strains may be mild, moderate, or severe, depending on the extent of the injury. A severe strain can limit your ability to move your hip.

Anyone can experience a hip strain just doing everyday tasks, but strains most often occur during sports activities.

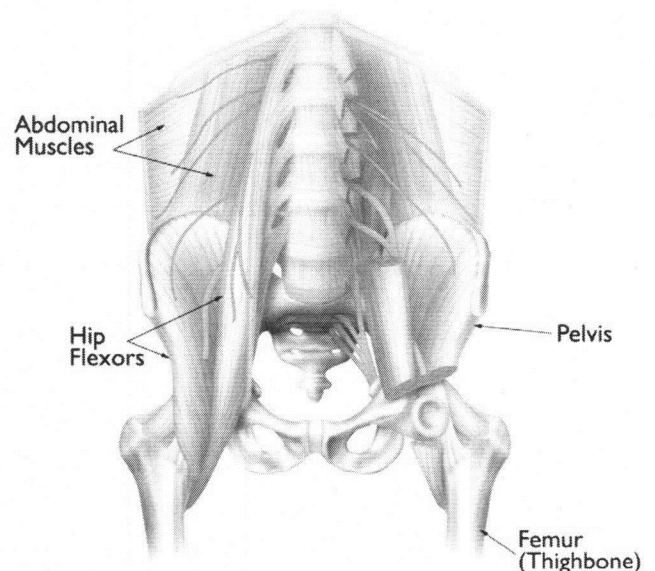
Although many hip strains improve with simple home treatment, severe strains may require physical therapy or other medical treatment.

## Description

The large bones that make up the hip joint—the femur (thighbone) and the pelvis—serve as anchors for several muscles. Some of these muscles move across the abdomen or the buttocks (hip flexors, gluteals). Others move down the thigh to the knee (abductors, adductors, quadriceps, hamstrings).

The lower abdominal muscles and hip flexor muscles are often involved in a hip strain.

*Reproduced from JF Sarwark, ed: Essentials of Musculoskeletal Care, ed 4. Rosemont, IL, American Academy of Orthopaedic Surgeons, 2010.*



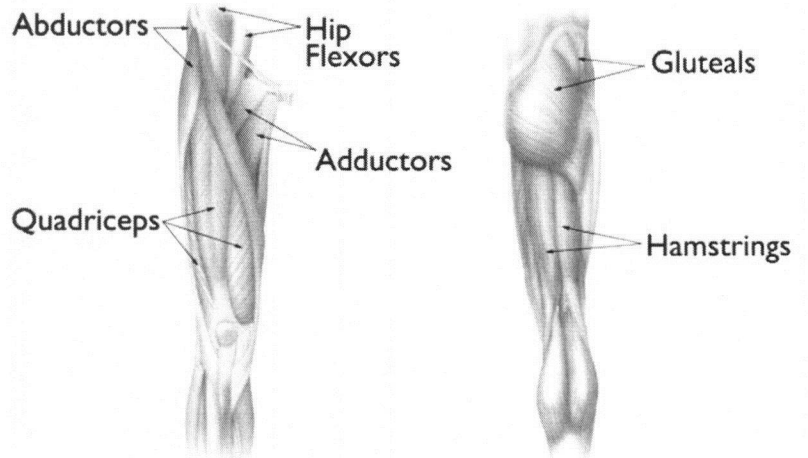
In a hip strain, muscles and tendons may be injured. Tendons are the tough, fibrous tissues that connect muscles to bones. Hip strains frequently occur near the point where the muscle joins the connective tissue of the tendon.

The strain may be a simple stretch in your muscle or tendon, or it may be a partial or complete tear of muscle fibers or of the muscle and tendon combination.

Once the muscle is injured, it becomes vulnerable to reinjury. Repeated strains in muscles about the hip and pelvis may be associated with athletic pubalgia (also called sports hernia). A sports hernia is a strain or tear of any soft tissue (muscle, tendon, ligament) in the lower abdomen or groin area. This condition is discussed in [Sports Hernia \(Athletic Pubalgia\)](#) (/en/diseases--conditions/sports-hernia-athletic-pubalgia/).

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## Cause

A hip strain can be an acute injury—meaning that it occurs suddenly, such as from a fall or a direct blow during contact sports. Hip strains are also caused by overuse—when the muscle or tendon has slowly become weakened over time by repetitive movements.

Factors that put you at greater risk for a hip strain include:

- Prior injury in the same area
- Muscle tightness
- Failure to warm up properly before exercising
- Attempting to do too much, too quickly, when you exercise

## Symptoms

A muscle strain causes pain and tenderness in the injured area. Other symptoms may include:

- Increased pain when you use the muscle
- Swelling
- Limited range of motion
- Muscle weakness

# Home Remedies

Many hip strains will improve with simple home treatment. Mild strains can be treated with the RICE protocol. RICE stands for rest, ice, compression, and elevation.

- **Rest.** Avoid activities that put weight on the hip for the first few days after the injury.
- **Ice.** Apply ice immediately after the injury to keep the swelling down. Use cold packs for 20 minutes at a time, several times a day. Do not apply ice directly on the skin.
- **Compression.** To prevent additional swelling, lightly wrap the area in a soft bandage or wear compression shorts.
- **Elevation.** As often as possible, rest with your leg raised up higher than your heart.

In addition, non-steroidal anti-inflammatory drugs, or NSAIDs, such as ibuprofen and naproxen, can help reduce swelling and relieve pain.

If the pain persists or it becomes more difficult to move your hip and leg, contact your doctor.

# Doctor Examination

## *Physical Examination*

Your doctor will discuss your general health and ask you about what activities you were doing just prior to the injury. He or she will examine your leg and hip for tenderness or swelling. During the physical examination, your doctor will apply pressure to various muscles in the area and move your leg and hip in various directions to assess your range of motion.

Your doctor may also ask you to perform a variety of stretches and movements to help determine which muscle is injured.

## *X-Rays*

X-rays provide images of dense structures such as bone. Your doctor may order an x-ray to rule out the possibility of a stress fracture of the hip, which has similar symptoms. In most cases, no additional imaging tests are needed to confirm the diagnosis.

# Treatment

Medical treatment for muscle strains is designed to relieve pain and restore range of motion and strength. The majority of hip strains are treated nonsurgically.

## ***Nonsurgical Treatment***

In addition to the RICE method and anti-inflammatory medication, your doctor may recommend using crutches for a few days to limit the weight on your hip. Other recommendations may include:

- **Heat therapy.** Ice should be applied immediately after an acute injury to reduce swelling. After 72 hours, however, alternating ice with heat therapy—which may include soaking in a hot bath or using a heat lamp or heating pad—may help relieve pain and improve range of motion.
- **Home exercise program.** Specific exercises can strengthen the muscles that support the hip and help to improve muscle endurance and flexibility.
- **Physical therapy.** If pain persists after a few weeks of home exercise, your doctor may recommend formal physical rehabilitation. A physical therapist can provide an individualized exercise program to improve strength and flexibility.

## ***Surgical Treatment***

Severe injuries in which the muscle fibers are completely torn may require surgery in order to return to normal function and movement. Surgery typically involves stitching the torn pieces back together.

Many severe hip strains are successfully treated without surgery. Your doctor will discuss the treatment options that best meet your individual health needs.

## **Recovery**

In most cases, you should avoid the activity that caused your injury for 10 to 14 days. A severe muscle strain may require a longer period of recovery. If your pain returns when you resume more strenuous activity, however, discontinue what you are doing and go back to easier activities that do not cause pain.

You can take the following precautions to help prevent muscle strains in the future:

- Condition your muscles with a regular program of exercise. Ask your doctor about exercise programs for people of your age and activity level.
- Warm up before any exercise session or sports activity, including practice. A good warm up prepares your body for more intense activity. It gets your blood flowing, raises your muscle temperature, and increases your breathing rate. Warming up gives your body time to adjust to the demands of exercise. It increases your range of motion and reduces stiffness.
- Wear or use appropriate protective gear for your sport.
- Take time to cool down after exercise. Instead of performing a large number of rapid stretches, stretch slowly and gradually, holding each stretch to give your muscle time to respond and lengthen. You can

find examples of stretching exercises in the Related Resources section of this article or ask your doctor or coach for help in developing a routine.

- Take the time needed to let your muscle heal before you return to sports. Wait until your muscle strength and flexibility return to preinjury levels.

### **Last Reviewed**

December 2014

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## Hip Conditioning Program STRETCHING EXERCISES

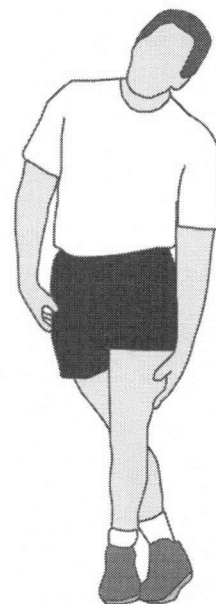
### 1. Standing Iliotibial Band Stretch

<b>Repetitions</b>	Main muscles worked: Tensor fascia You should feel this stretch at the outside of your hip
2 sets of 4	
<b>Days per week</b>	Equipment needed: None
Daily	

#### Step-by-step directions

- Stand next to a wall for support
- Cross the leg that is closest to the wall behind your other leg.
- Lean your hip toward the wall until you feel a stretch at the outside of your hip. Hold the stretch for 30 seconds.
- Repeat on the opposite side, then repeat the entire sequence 4 times.

**Tip** Do not lean forward or twist at the waist.



### 2. Seated Rotation Stretch

<b>Repetitions</b>	Main muscles worked: Piriformis You should feel this stretch in your buttocks, as well as at your sides
2 sets of 4	
<b>Days per week</b>	Equipment needed: None
Daily	

#### Step-by-step directions

- Sit on the floor with both legs straight in front of you. Cross one leg over the other.
- Slowly twist toward your bent leg, putting your hand behind you for support.
- Place your opposite arm on your bent thigh and use it to help you twist further.
- Look over your shoulder and hold the stretch for 30 seconds. Slowly come back to center.
- Reverse leg positions and repeat the stretch on the other side. Repeat the entire sequence 4 times.

**Tip** Keep your sit bones pressed into the floor throughout the stretch.





## Hip Conditioning Program STRETCHING EXERCISES

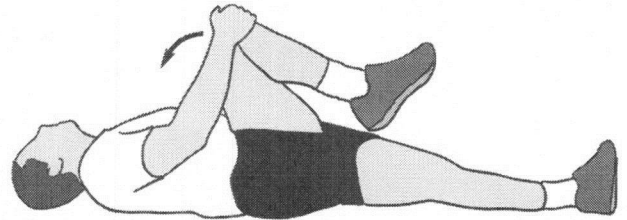
### 3. Knee to Chest

<b>Repetitions</b>	<b>Main muscles worked:</b> Gluteus maximus, gluteus medius You should feel this stretch in your buttocks
2 sets of 4	
<b>Days per week</b>	<b>Equipment needed:</b> None
Daily	

#### Step-by-step directions

- Lie on your back on the floor with your legs extended straight out.
- Bend one knee and grasp your shinbone with your hands.
- Gently pull your knee toward your chest as far as it will go.
- Hold the stretch for 30 seconds and then relax for 30 seconds.
- Repeat on the other side, then pull both legs in together. Repeat the entire sequence 4 times.

**Tip** Keep your lower back pressed into the floor.



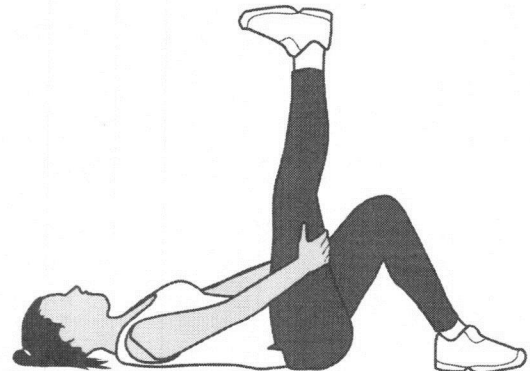
### 4. Supine Hamstring Stretch

<b>Repetitions</b>	<b>Main muscles worked:</b> Hamstrings You should feel this stretch at the back of your thigh and behind your knee
2 sets of 4	
<b>Days per week</b>	<b>Equipment needed:</b> None
Daily	

#### Step-by-step directions

- Lie on the floor with both knees bent.
- Lift one leg off of the floor and bring the knee toward your chest. Clasp your hands behind your thigh below your knee.
- Straighten your leg and then pull it gently toward your head until you feel a stretch. (If you have difficulty clasping your hands behind your leg, loop a towel around your thigh. Grasp the ends of the towel and pull your leg toward you.)
- Hold for 30 to 60 seconds and then relax for 30 seconds.
- Repeat on the other side, then repeat the entire sequence 4 times.

**Tip** Do not pull at your knee joint.

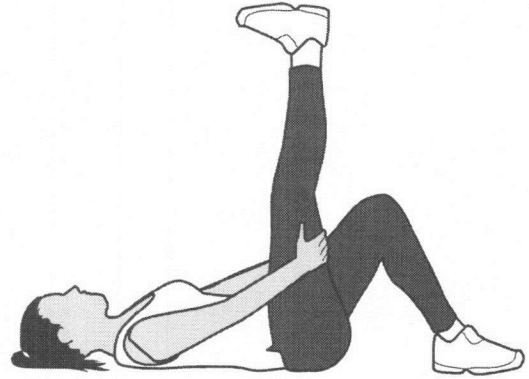




## Hip Conditioning Program

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- Lift one leg off of the floor and bring the knee toward your chest. Clasp your hands behind your thigh below your knee.
- Straighten your leg and then pull it gently toward your head until you feel a stretch. (If you have difficulty clasping your hands behind your leg, loop a towel around your thigh. Grasp the ends of the towel and pull your leg toward you.)
- Hold for 30 to 60 seconds and then relax for 30 seconds.
- Repeat on the other side, then repeat the entire sequence 4 times.

**Tip** Do not pull at your knee joint.







## Hip Conditioning Program **STRENGTHENING EXERCISES**

### 5. *Hip Abduction*

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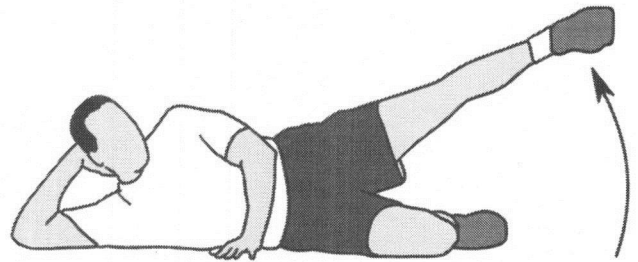
<b>Repetitions</b>
8
<b>Days per week</b>
2 to 3

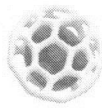
**Main muscles worked:** Gluteus medius, abductors  
You should feel this exercise at your outer thigh and buttocks

**Equipment needed:** Begin with a weight that allows 8 repetitions and progress to 12 repetitions. As the exercise becomes easier, add weight in 1-pound increments. Each time you increase the weight, start again at 8 repetitions, working back up to 12.

#### Step-by-step directions

- Lie on your side with your injured leg on top and the bottom leg bent to provide support.
- Straighten your top leg and slowly raise it to 45°. Keep your knee straight, but not locked.
- Hold this position for 5 seconds.
- Slowly lower your leg and relax it for 2 seconds.





## Hip Conditioning Program **STRENGTHENING** **EXERCISES**

- Repeat, then complete exercise on the other side.

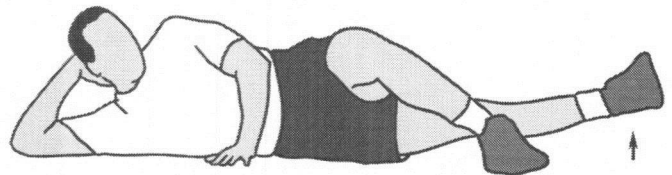
**Tip** Do not turn your leg in an effort to raise it higher. The outside of your thigh should be lifted toward the ceiling.

### 6. Hip Adduction

<b>Repetitions</b>	<b>Main muscles worked:</b> Adductors You should feel this exercise at your inner thigh
8	
<b>Days per week</b>	<b>Equipment needed:</b> Begin with a weight that allows 8 repetitions and progress to 12 repetitions. As the exercise becomes easier, add weight in 1-pound increments. Each time you increase the weight, start again at 8 repetitions, working back up to 12.
2 to 3	

#### Step-by-step directions

- Lie on the side of your injured leg with both legs straight.
- Bend your top leg and cross it over your injured leg.
- Raise your injured leg 6" to 8" off of the floor.
- Hold this position for 5 seconds.
- Slowly lower your leg and rest for 2 seconds.
- Repeat, then complete exercise on the other side.

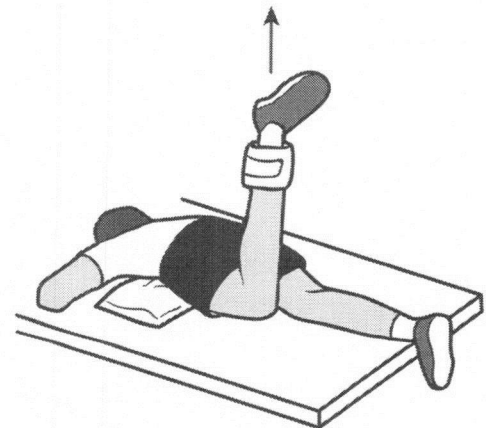


### 7. Hip Extension (Prone)

<b>Repetitions</b>	<b>Main muscles worked:</b> Gluteus maximus You should feel this exercise in your buttocks
8	
<b>Days per week</b>	<b>Equipment needed:</b> Begin with a weight that allows 8 repetitions and progress to 12 repetitions. As the exercise becomes easier, add weight in 1-pound increments. Each time you increase the weight, start again at 8 repetitions, working back up to 12.
2 to 3	

#### Step-by-step directions

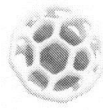
- Lie on your stomach on a firm, flat surface with a pillow under your hips.
- Bend one knee 90°.
- Lift your leg straight up as shown.
- Slowly lower your leg down to the floor, counting to 5.



**Tip** Keep your head, neck, and upper body relaxed during this exercise.

**Tip** Place your hand on the floor in front of your abdomen to prevent you from leaning backward.

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## Hip Conditioning Program **STRENGTHENING EXERCISES**

- Repeat, then complete exercise on the other side.

### 8. *Internal Hip Rotation*

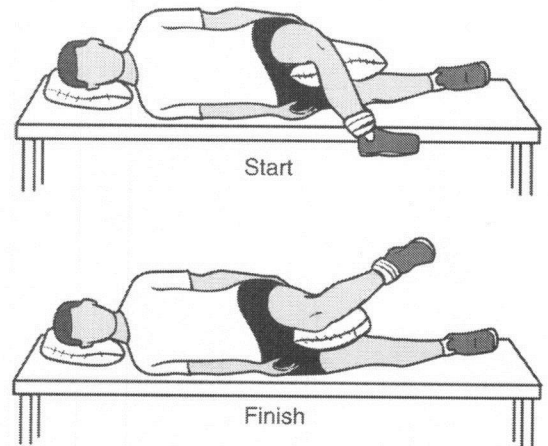
<b>Repetitions</b>
8
<b>Days per week</b>
2 to 3

**Main muscles worked:** Medial hamstrings  
You should feel this exercise at the back of your thigh

**Equipment needed:** Begin with a weight that allows 8 repetitions and progress to 12 repetitions. As the exercise becomes easier, add weight in 1-pound increments. Each time you increase the weight, start again at 8 repetitions, working back up to 12.

#### Step-by-step directions

- Lie on your side on a table or physical therapy bench with a pillow between your thighs. Place your lower arm in front of your body and use a pillow under your head for comfort, if needed.
- Bring your top leg forward and lower your foot so that it is below the tabletop, as shown in the “start” position. Your bottom leg can be slightly bent for balance.
- Rotate your hip and lift your foot as high as possible, as shown in the “finish” position.
- Slowly lower your leg back to the “start” position, counting to 5.
- Repeat, then complete exercise on the other side.



### 9. *External Hip Rotation*

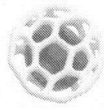
<b>Repetitions</b>
8
<b>Days per week</b>
2 to 3

**Main muscles worked:** Piriformis  
You should feel this exercise in your buttocks

**Equipment needed:** Begin with a weight that allows 8 repetitions and progress to 12 repetitions. As the exercise becomes easier, add weight in 1-pound increments. Each time you increase the weight, start again at 8 repetitions, working back up to 12.

**Tip** Stay centered on your side and do not lean your body forward or backward.

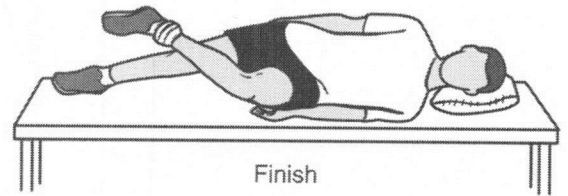
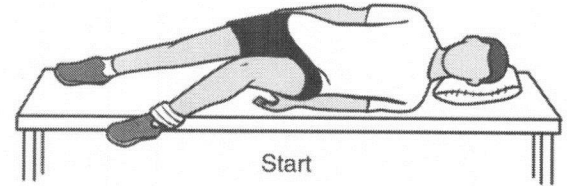
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## Hip Conditioning Program **STRENGTHENING EXERCISES**

### Step-by-step directions

- Lie on your side on a table or physical therapy bench. Place your lower arm in front of your body and use a pillow under your head for comfort, if needed.
- Bring your bottom leg forward and lower your foot so that it is below the tabletop, as shown in the “start” position. Your top leg is mostly straight to help you balance.
- Rotate your hip and lift your foot as high as possible, as shown in the “finish” position.
- Slowly lower your leg back to the “start” position, counting to 5.
- Repeat on the other side.



**Tip** Stay centered on your side and do not lean your body forward or backward.