



Posterior Tibial Tendon Tendinitis

Exercises:
10 seconds
10 times
1 time per day

DESCRIPTION

Posterior tibial tendon tendinitis is characterized by inflammation and pain at the posterior tibial tendon, at the back of the inner ankle. This is the tendon attachment of the muscles of the leg to the inner foot, and it is important in standing on your toes, in the pushing-off phase of running or jumping, and in turning your foot inward. This is usually a grade 1 or 2 strain of the tendon. A *grade 1 strain* is a mild strain, a slight pull without obvious tearing (the tears are microscopic), no loss of strength, and the tendon is the correct length. A *grade 2 strain* is a moderate strain with tearing of fibers within the substance of the tendon, or where the tendon meets the bone or muscle. The length of the muscle-tendon-bone unit is increased, and strength is usually decreased. A *grade 3 strain* is a complete rupture of the tendon.

COMMON SIGNS AND SYMPTOMS

- Pain, tenderness, swelling, warmth, or redness over the back of the inner ankle at the posterior tibial tendon or the inner part of the midfoot
- Pain with ankle motion, especially when pushing off or pushing down with the front of the foot, or when standing on the ball of the foot
- Crepitation (a crackling sound) when the tendon is moved or touched

CAUSES

- Usually a degenerative process that occurs with aging
- Overuse of the lower leg muscles
- Strain from a sudden increase in the amount or intensity of activity
- A direct injury to the lower leg, foot, or ankle
- A return to activity following a previous injury with incomplete rehabilitation

FACTORS THAT INCREASE RISK

- Sports that require sudden repetitive pushing off of the foot (jumping, quick starts) or kicking and running sports, especially running down hills and running long distances
- Poor physical conditioning (strength, flexibility)
- Flat feet
- Previous injury to the foot, ankle, or leg

PREVENTIVE MEASURES

- Appropriately warm up and stretch before practice and competition.
- Allow time for adequate rest and recovery between practices and competition.

- Maintain appropriate conditioning that includes ankle and leg flexibility and muscle strength and endurance.
- Use proper sports technique for running and jumping.
- Ensure a complete rehabilitation from any foot, ankle, or leg injury.
- Wear arch supports if you have flat feet.

EXPECTED OUTCOME

Posterior tibial tendinitis is usually curable within 6 weeks if treated appropriately with conservative treatment and resting of the affected area. Recovery is usually quicker if the inflammation is due to a direct blow, as compared with overuse or sudden strain.

POSSIBLE COMPLICATIONS

- Prolonged healing time if not appropriately treated or if not given adequate time to heal
- Recurrence of symptoms if activity is resumed too soon, with overuse, or when using poor technique
- Untreated, partial or complete tendon rupture requiring surgery

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medication and ice to relieve pain, stretching and strengthening exercises, and modification of the activity that initially caused the problem. These exercises can be carried out at home, although referral to a physical therapist or athletic trainer for further evaluation and treatment may be helpful. A cast or walking boot may be recommended to immobilize the tendon and allow the inflammation to settle down. For less severe cases, or before returning to activity, people with flat feet are usually prescribed arch supports (orthotics) to reduce stress on the tendon. Others may require more extensive supports or braces. Surgery to remove the inflamed tendon lining or degenerated tendon tissue is occasionally necessary.

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, contact your doctor immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Pain relievers may be prescribed as necessary. Use these only as directed, and take only as much as you need.

- Cortisone injections are rarely if ever indicated, as they may weaken tendons; it is better to give the condition more time to heal than to use them.

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.
- 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 to 4 weeks despite treatment.
- New, unexplained symptoms develop. Drugs used in treatment may produce side effects.

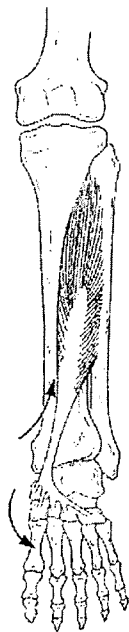


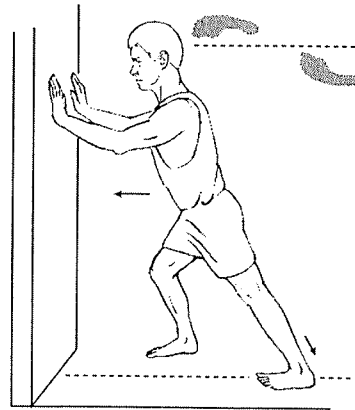
FIGURE 1 From Andrews JR, Harrelson GL, Wilk RE: *Physical rehabilitation of the injured athlete*, ed 2, Philadelphia, 1991, W.B. Saunders, p 293.

RANGE OF MOTION AND STRETCHING EXERCISES

Posterior Tibial Tendinitis

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.



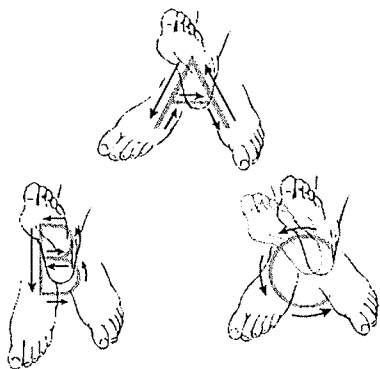
FLEXIBILITY • Gastrocnemius Stretch

1. Stand one arm's length from a wall, and position the calf muscle to be stretched behind you as shown.
2. Turn the *toes in* and *heel out* of the leg to be stretched.
3. Lean toward the wall, leading with your waist and allowing your arms to bend. First do this exercise with your knee straight, then bend it slightly. *Keep your heel on the floor at all times.*
4. Hold this position for ____ seconds.
5. Repeat this exercise ____ times, ____ times per day.

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**RANGE OF MOTION • Active Dorsiflexion/
Plantarflexion**

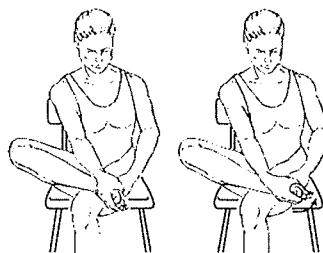
1. Pull your toes toward your body as far as possible, then point your foot away from your body as far as possible.
2. Do this exercise with your knee straight and then with it bent.
3. Hold this position for ____ seconds.
4. Repeat this exercise ____ times, ____ times per day.

**RANGE OF MOTION • Ankle Alphabet**

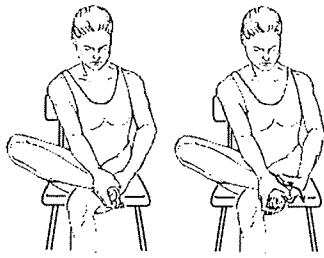
1. "Write" all the capital letters of the alphabet with your foot and ankle. The motion should come from your foot and ankle, not your hip or knee.
2. Move your foot and ankle slowly, writing the letters as large as comfortably possible.
3. Repeat this exercise ____ times, ____ times per day.

**RANGE OF MOTION • Ankle Plantarflexion**

1. Sit in the position shown, and pull your toes and ankle down as shown, until you feel a gentle stretch.
2. Hold this position for ____ seconds.
3. Repeat this exercise ____ times, ____ times per day.

**RANGE OF MOTION • Ankle Inversion**

1. Sit with your injured leg crossed over the other leg.
2. Grasp your foot as shown, and turn the sole upward and in, until you feel a gentle stretch on the outside of your ankle.
3. Hold this position for ____ seconds.
4. Repeat this exercise ____ times, ____ times per day.



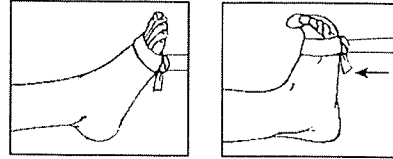
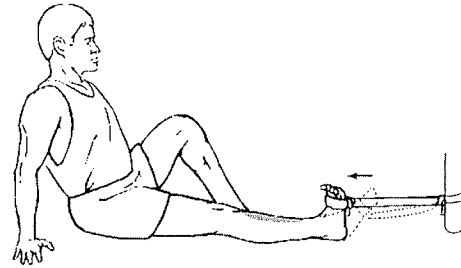
RANGE OF MOTION • Ankle Eversion

1. Sit with your injured leg crossed over the other leg.
2. Grasp your foot as shown, and turn the sole upward and out, until you feel a gentle stretch on the inside of your ankle.
3. Hold this position for ____ seconds.
4. Repeat this exercise ____ times, ____ times per day.

STRENGTHENING EXERCISES Posterior Tibial Tendinitis

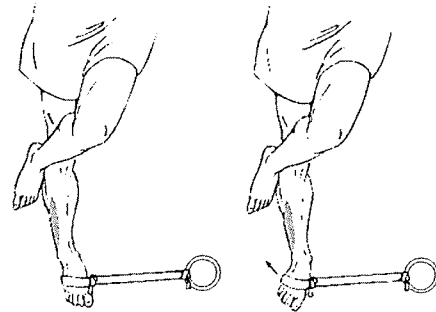
These are some of the *initial* exercises you may use to start your rehabilitation program, until you see your physician, physical therapist, or athletic trainer again, or until your symptoms resolve. Please remember:

- 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 • Dorsiflexion

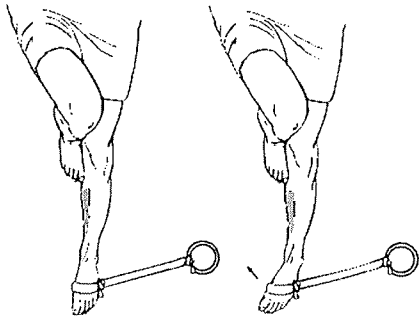
1. Attach one end of an elastic band to a fixed object, such as the leg of a table or desk. Loop the other end around your foot as shown.
2. *Slowly* pull your foot toward you, and hold this position for ____ seconds.
3. *Slowly* return to the starting position.
4. Repeat this exercise ____ times, ____ times per day.



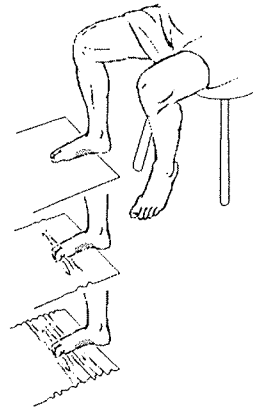
STRENGTH • Ankle Eversion

1. Attach one end of an elastic band to a fixed object, such as the leg of a table or desk. Loop the other end around your foot.
2. Turn your foot outward as far as possible, attempting to pull your little toe up and out. Hold this position for ____ seconds.
3. *Slowly* return to the starting position.
4. Repeat this exercise ____ times, ____ times per day.

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**STRENGTH • Ankle Inversion**

1. Attach one end of an elastic band to a fixed object, such as the leg of a table or desk. Loop the other end around your foot.
2. Turn your foot inward as far as possible, attempting to push your little toe down and in. Hold this position for ____ seconds.
3. *Slowly* return to the starting position.
4. Repeat this exercise ____ times, ____ times per day.

**STRENGTH • Towel Curls**

1. Sit in a chair on a noncarpeted floor. Place a towel on the floor in front of you, and place your foot on the towel as shown. You may also stand to do this exercise.
2. Pull the towel toward you with your toes, keeping your heel on the floor. Move the towel with your toes only. Do not move your knee or ankle.
3. If this is too easy, place a light weight—a book, hand weight, or canned foot—at the far end of the towel.
4. Repeat this exercise ____ times, ____ times per day.