

# ANTERIOR ANKLE IMPINGEMENT



## ■ ■ ■ Description

Pinching of bone or soft tissue, including scar tissue, at the front of the ankle is called *anterior ankle impingement*. This could be due to a new or repeated injury, usually caused by direct trauma or after healing from a previous injury, such as an ankle sprain. The inflamed tissue or scar tissue gets caught between the lower part of the tibia and the talus bones. A bony prominence (spur) from the front tip of the lower part of the tibia may also pinch normal tissue against the talus, causing it to become inflamed. This inflamed tissue becomes more likely to get pinched because it tends to be larger (due to tissue swelling).

## ■ ■ ■ Common Signs and Symptoms

- Pain when extending the ankle (bringing the front of the foot up)
- Loss of ability to push off or drive (the ability to run forcefully) or inability to run, cut, or jump at full speed
- Swelling (occasionally) and locking (rarely)

## ■ ■ ■ Causes

- Repeated injury to the foot or ankle, even mild injuries, particularly ankle sprains
- Participation in sports that require pushing off or “springing” with the ankle extended

## ■ ■ ■ Risk Increases With

- Sports that require repeated, forceful extension of the ankle (such as sprinting, jumping)
- Repeated injuries to the foot or ankle
- Poor physical conditioning (strength and flexibility)
- Inadequate warm-up before practice or competition

## ■ ■ ■ Preventive Measures

- Appropriately warm up and stretch before practice and competition.
- Maintain appropriate conditioning, including ankle and leg flexibility, muscle strength, and endurance.
- Use proper technique.
- Wear proper protective taping or bracing to prevent ankle hyperextension or repeated injury.
- Allow complete recovery after an ankle or foot injury before returning to any sport that requires ankle extension.

## ■ ■ ■ Expected Outcome

With proper treatment, usually there is no disability associated with this problem. However, occasionally surgery is required to eliminate the pinching, with excellent results.

## ■ ■ ■ Possible Complications

- Frequent recurrence of symptoms, resulting in chronically inflamed tissue and eventually a chronic problem
- Disability severe enough to diminish an athlete’s competitive ability
- Arthritis of the ankle

## ■ ■ ■ General Treatment Considerations

Initial treatment consists of medications and ice to relieve pain and reduce inflammation, stretching and strengthening exercises, and modification of the activity that produces the symptoms. These may be carried out at home, although occasionally referral to a physical therapist or athletic trainer may be indicated. Occasionally your physician may recommend bracing or casting to help rest the inflamed tissue that is repeatedly getting pinched. Surgery may be required if symptoms persist despite conservative treatment. This may be done with or without the use of arthroscopy to remove the bone spur, the inflamed tissues, or chronic scar tissue.

## ■ ■ ■ Medication

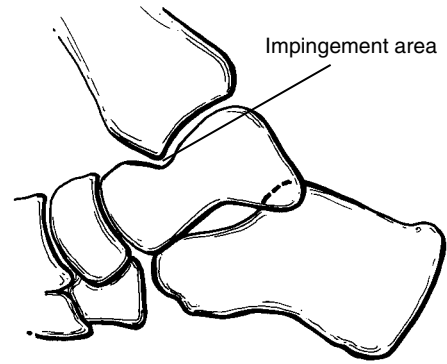
- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Topical ointments may be of benefit.
- Stronger pain relievers may be prescribed as necessary by your physician, usually only after surgery. 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
- Any of the following occur after surgery:
  - You experience pain, numbness, or coldness in the foot and ankle
  - Blue, gray, or dusky color appears in the toenails
  - Increased pain, swelling, redness, drainage, or bleeding in the surgical area
  - Signs of infection (headache, muscle aches, dizziness, or a general ill feeling with fever)
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)



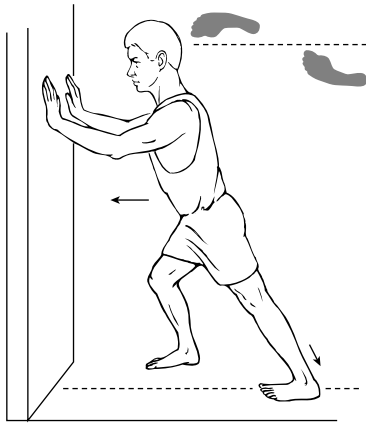
**Figure 1**

From DeLee JC, Drez D Jr.: Orthopaedic Sports Medicine: Principles and Practice. Philadelphia, WB Saunders, 1994, p. 1744.

➤ **RANGE OF MOTION AND STRETCHING EXERCISES** • Anterior Ankle Impingement

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.



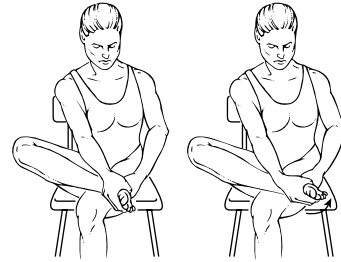
**STRETCH** • Gastrocnemius

1. Stand *one* arm length from the wall as shown. Place 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 wall leading with your waist, allowing your arms to bend. **Keep your heel on the floor.**
4. First do this exercise with the knee straight, then bend the knee slightly. Keep your heel on the floor at all times.
5. Hold this position for \_\_\_\_\_ seconds.
6. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



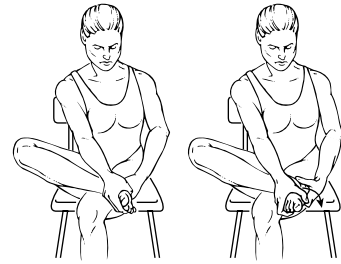
**RANGE OF MOTION** • Ankle Plantar Flexion

1. Sit in the position shown.
2. Using your hand, pull your toes and ankle down as shown so that you feel a gentle stretch.
3. Hold this position for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



**RANGE OF MOTION** • Ankle Inversion

1. Sit with your \_\_\_\_\_ leg crossed over the other.
2. Grip the foot with your hands as shown and turn the sole of your foot upward and in so that you feel a stretch on the outside of the ankle.
3. Hold this position for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



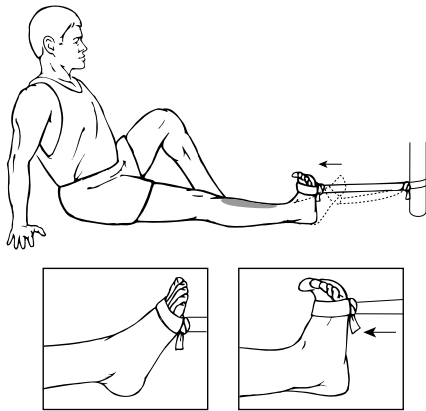
**RANGE OF MOTION** • Ankle Eversion

1. Sit with your \_\_\_\_\_ leg crossed over the other.
2. Grip the foot with your hands as shown and turn the sole of your foot upward and out so that you feel a stretch on the inside of the ankle.
3. Hold this position for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.

**> STRENGTHENING EXERCISES • Anterior Ankle Impingement**

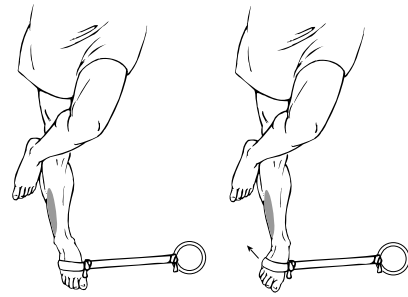
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



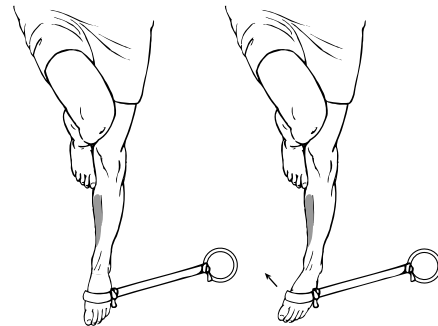
**STRENGTH • Dorsiflexors**

1. Attach one end of elastic band to fixed object or leg of table/desk. Loop the opposite end around your foot as shown.
2. Slowly pull the foot toward you. Hold this position for \_\_\_\_\_ seconds. Slowly return to starting position.
3. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



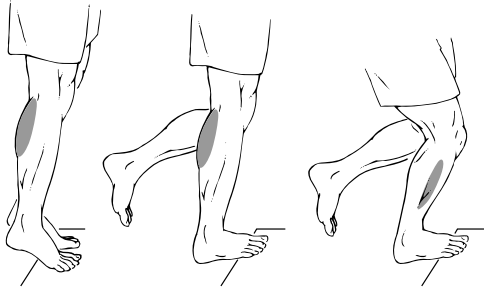
**STRENGTH • Ankle Eversion**

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



**STRENGTH • Ankle Inversion**

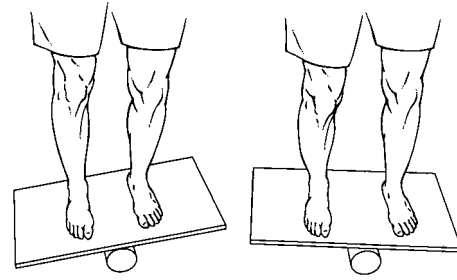
1. Attach one end of elastic band to fixed object or leg of table/desk. Loop the opposite end around your foot.
2. Turn your toes/foot inward as far as possible, attempting to push your little toe down and in. Hold this position for \_\_\_\_\_ seconds.
3. Slowly return to starting position.
4. Repeat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



### PLANTAR FLEXION STRENGTH

**Note:** This exercise can place a lot of stress on your foot and ankle and should only be done after specifically checking with your physician, physical therapist, or athletic trainer.

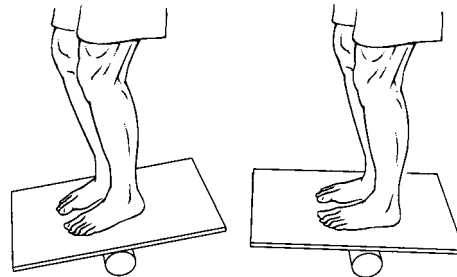
1. Stand on the edge of a step as shown with your body weight on the front of both feet. Use both legs to rise up on your toes.
2. From the toe, raise your position with your knee straight. **Using your injured leg**, lower the heel of the injured side **below** the level of the step. **Use the uninjured leg** to rise back to the starting position (the first figure). Work up to 3 sets of 15 repetitions.
3. Repeat by lowering the heel of the injured side below the level of the step with the knee slightly bent. Work up to 3 sets of 15 repetitions.
4. When you can perform the above exercises with minimal discomfort, increase the workload by adding a back pack with weights. You may increase the weight in the backpack in increments as tolerated.



### BALANCE • Inversion/Eversion

1. Place a board approximately 18 inches long and 15 inches wide on top of a 1.5 inch round piece of wood or metal as shown. (A dowel or cut off broom handle works well.)
2. Stand with your feet an equal distance apart on the board near a stable object such as a counter.
3. Keep your feet flat on the board and try the following exercises. Make sure that the motions you use to keep your balance come from the ankles and not your hips or knees:
  - a) Rock the board slowly from side to side
  - b) Keep the edges of the board off the floor and equal distance.
4. Repeat this exercise using just one foot/ankle positioned directly over the center of the board.
5. Be very careful and always be within an arm distance of a stable object to grasp to assist with balance.

**These are advanced level exercises!**



### BALANCE • Plantar/Dorsi Flexion

1. Place a board approximately 18 inches long and 15 inches wide on top of a 1.5 inch round piece of wood or metal as shown. (A dowel or cut off broom handle works well.)
2. Stand with your feet an equal distance apart on the board near a stable object such as a counter.
3. Keep your feet flat on the board and try the following exercises. Make sure that the motions you use to keep your balance come from the ankles and not your hips or knees:
  - a) Rock the board slowly from front to back.
  - b) Keep the edges of the board off the floor and equal distance.
4. Repeat this exercise using just one foot/ankle positioned directly over the center of the board.
5. Be very careful and always be within an arm distance of a stable object to grasp to assist with balance.

**These are advanced level exercises!**

Notes:

(Up to 4400 characters only)

Notes and suggestions