

# Broken Ankle

## **What is a broken ankle?**

A broken ankle is a break in one or both of the bones that make up the ankle joint. These bones are the tibia and the fibula.

## **How does it occur?**

Ankle breaks, or fractures, can occur in many ways: for example, by falls, contact sports and exercise injuries, and force from a blow.

There are many types of fractures, which determine the severity of the injury and its treatment:

- nondisplaced fracture: the broken pieces of bone remain properly aligned
- displaced fracture: the broken pieces of bone are not properly aligned
- comminuted fracture: there are more than two pieces of bone at the fracture.
- compound (open) fracture: one end of the broken bone has broken through the skin.
- closed fracture: neither end of the broken bone has pierced the skin.
- impacted fracture: the ends of the broken bone are driven into each other.
- avulsion fracture: the muscle or ligament has pulled a portion of the bone away from where it was originally attached.

- pathological fracture: the bone has been weakened or destroyed by disease (such as osteoporosis) so that the bone breaks easily.

## **What are the symptoms?**

Symptoms of an ankle fracture include:

- a snapping or popping sound at the time of the injury
- loss of function (hurts to move the ankle)
- pain
- tenderness
- swelling
- deformity (sometimes)
- discolored skin, or bruising, which appears hours to days after the injury.

Rarely, you may have an open wound with an ankle fracture.

## **How is it diagnosed?**

To diagnose an ankle fracture, the doctor will review your symptoms, ask about how the injury occurred, and examine you. The doctor will also order x-rays. Several different views of the bone may be taken to pinpoint the fracture.

## **How is it treated?**

The immediate emergency treatment for a fractured ankle is immobilization (keeping it from moving), elevation,

compression (wrapping it with an elastic or Ace bandage), and the application of ice packs.

The doctor may need to set your ankle bone back into its proper place and put you in a cast for 6 to 8 weeks. If the fracture is not too severe, you may be able to walk in the cast after a short period.

If the ankle bone cannot be aligned perfectly before it is ready for a cast, surgery will be necessary.

In the first 2 to 3 weeks after the injury, be sure to keep your ankle elevated on pillows and place ice packs on top of the cast for 20 to 30 minutes every 3 to 4 hours to help reduce swelling.

You should also:

- Make sure the cast does not get wet. Cover the cast with plastic when you bathe.
- Use crutches or a cane, as directed by your doctor. Your doctor will tell you how much weight you can put on your leg, if any.
- Not scratch the skin around the cast or poke things down the cast.

## **How can I take care of myself?**

To help take care of yourself, follow the full course of treatment your doctor prescribes. Also, follow these guidelines:

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- Eat a variety of nutritious foods.
- Get plenty of rest.
- Elevate the leg when possible to reduce any swelling.

Call the doctor immediately if:

- You have swelling above or below the fracture.
- Your toenails or feet turn grey or blue and stay grey or blue even when your leg is elevated.
- You have numbness or complete loss of feeling in the skin below the fracture.
- You have lingering pain at the site of the fracture under the cast, or increasing pain not helped by elevation or pain medication.
- You have burning pain under the cast.

### ***When can I return to my sport or activity?***

The goal of rehabilitation is to return you to your sport or activity as soon as is safely possible. If you return too soon you may worsen your injury, which could lead to permanent

damage. Everyone recovers from injury at a different rate. Return to your sport or activity will be determined by how soon your ankle recovers, not by how many days or weeks it has been since your injury occurred. Some people return within a few days after the cast is removed, some in several weeks. Your ankle will be healing while you are doing your rehabilitation exercises. These exercises will help improve your ankle strength and range of motion.

You may safely return to your sport or activity when, starting from the top of the list and progressing to the end, each of the following is true:

- You have full range of motion in the injured leg compared to the uninjured leg.
- You have full strength of the injured leg compared to the uninjured leg.
- You can jog straight ahead without pain or limping.
- You can sprint straight ahead without pain or limping.

- You can do 45-degree cuts, first at half-speed, then at full-speed.
- You can do 20-yard figures-of-eight, first at half-speed, then at full-speed.
- You can do 90-degree cuts, first at half-speed, then at full-speed.
- You can do 10-yard figures-of-eight, first at half-speed, then at full-speed.
- You can jump on both legs without pain and you can jump on the injured leg without pain.

### ***How can I help prevent an ankle fracture?***

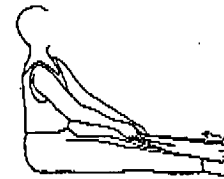
To help prevent an ankle fracture, follow these guidelines:

- Wear proper shoes that fit correctly when you exercise.
- Gently stretch before and after physical activities such as aerobics, running, and sports.
- Avoid playing recreational sports when you are fatigued.
- Think about safety.

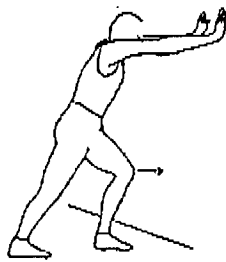
## Broken Ankle Rehabilitation Exercises

As soon as you can tolerate pressure on the ball of your foot, begin stretching your ankle using the towel stretch. When this stretch is too easy, try the standing calf stretch and soleus stretch. You can do exercises 4 and 5 when your ankle swelling has stopped increasing. You may do exercises 6 through 9 when you can stand on your injured ankle without pain.

1. **Towel stretch:** Sit on a hard surface with your injured leg stretched out in front of you. Loop a towel around the ball of your foot and pull the towel toward your body, keeping your knee straight. Hold this position for 30 seconds. Repeat 3 times.

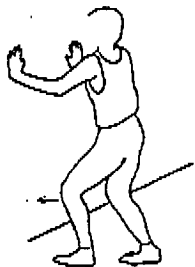


Towel stretch



Standing calf stretch

2. **Standing calf stretch:** Facing a wall, put your hands against the wall at about eye level. Keep the injured leg back, the uninjured leg forward, and the heel of your injured leg on the floor. Turn your injured foot slightly inward (as if you were pigeon-toed). Slowly lean into the wall until you feel a stretch in the back of your calf. Hold for 30 seconds. Do this several times a day.



Standing soleus stretch

3. **Standing soleus stretch:** Stand facing a wall with your hands at about chest level. With both knees slightly bent and the injured foot back, gently lean into the wall until you feel a stretch in your lower calf. Once again, angle the toes of your injured foot slightly inward and keep your heel down on the floor. Hold this for 30 seconds. Return to the starting position. Repeat 3 times.

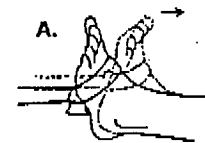


Ankle range of motion

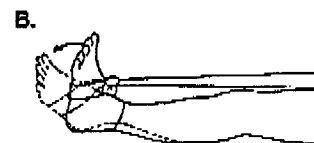
4. **Ankle range of motion:** You can do this exercise sitting or lying down. Pretend you are writing each of the letters of the alphabet with your foot. This will move your ankle in all directions. Do this twice.

### 5. Thera-Band exercises

- A. **Resisted dorsiflexion:** Sitting with your leg out straight and your foot near a door, wrap the tubing around the ball of your foot. Anchor the other end of the tubing to the door by tying a knot in the tubing, slipping it between the door and the frame, and closing the door. Pull your toes toward your face. Return slowly to the starting position. Repeat 10 times. Do 3 sets of 10.



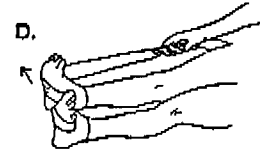
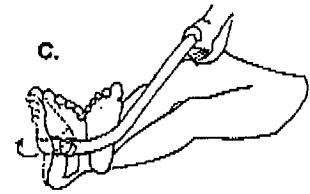
- B. **Resisted plantar flexion:** Sitting with your leg outstretched, loop the middle section of the tubing around the ball of your foot. Hold the ends of the tubing in both hands. Gently press the ball of your foot down and point your toes, stretching the Thera-Band. Return to the starting position. Repeat 10 times. Do 3 sets of 10.



Theraband exercises

## Broken Ankle Rehabilitation Exercises

- C. Resisted inversion: Sit with your legs out straight and cross your uninjured leg over your injured ankle. Wrap the tubing around the ball of your injured foot and then loop it around your uninjured foot so that the Thera-Band is anchored at one end. Hold the other end of the Thera-Band in your hand. Turn your injured foot inward and upward. This will stretch the tubing. Return to the starting position. Repeat 10 times. Do 3 sets of 10.
- D. Resisted eversion: Sitting with both legs outstretched and the tubing looped around both feet, slowly turn your injured foot upward and outward. Hold this position for 5 seconds. Repeat 10 times. Do 3 sets of 10.



Theraband exercises



Heel raises

6. Heel raises: Standing, balance yourself on both feet behind a chair. Rise up on your toes, hold for 5 seconds and then lower yourself down. Repeat 10 times. Do 3 sets of 10.

7. Toe raises: Stand in a normal weight-bearing position. Rock back on your heels so that your toes come off the ground. Hold this position for 5 seconds. Repeat 10 times. Do 3 sets of 10.



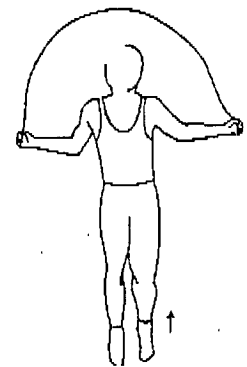
Toe raises



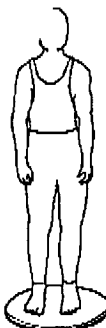
Single leg balance

8. Single leg balance: Stand without any support and attempt to balance on your injured leg. Begin with your eyes open and then try to perform the exercise with your eyes closed. Hold the single-leg position for 30 seconds. Repeat 3 times.

9. Jump rope: Jump rope landing on both legs for 5 minutes, then only on the injured leg for 5 minutes.



Jump rope



Wobble board

10. Wobble board: This exercise is important to restore balance and coordination to your ankle. Make a wobble board by cutting a circle of plywood two feet across. Place it on top of a 5 or 10 pound weight from a barbell set. Stand on the wobble board. Balance first on both legs, then on the injured leg. Do this for 2 to 5 minutes 3 times a day. You may need to hold onto a chair or table for balance.