



FIBULAR FRACTURE

■ ■ ■ Description

Fibular fracture is a complete or incomplete break in the smaller of the two leg bones (fibula), between the knee and ankle. Fractures of the fibula are not uncommon. Displacement (misalignment) is seldom severe. Fractures of the fibula sometimes accompany severe ankle sprains. It can occur anywhere within the fibula, although this discussion is only about fractures that do not include the ankle joint. This injury is not as severe as some other fractures of weight-bearing bones, because only 17% of body weight is transmitted through the fibula.

■ ■ ■ Common Signs and Symptoms

- Moderate to severe pain in the leg
- Tenderness and swelling in the leg or calf
- Bleeding and bruising in the leg
- Inability to bear weight on the injured extremity
- Visible deformity if the fracture is complete and the bone fragments separate enough to distort normal leg contours
- Numbness and coldness in the leg and foot beyond the fracture site if the blood supply is impaired

■ ■ ■ Causes

- Injury causing a force greater than the bone can withstand, usually due to a direct blow
- Weakening of the bone from repeated stress, resulting in a stress fracture that progresses to a complete fracture
- Indirect stress caused by twisting, turning quickly, or violent muscle contraction

■ ■ ■ Risk Increases With

- Contact sports, such as football, soccer, or hockey
- Sports in which a twisting injury to the ankle is possible, such as skiing and basketball
- Bony abnormalities (including osteoporosis), tumors of bone
- Metabolic disorders, hormone problems, and nutritional deficiencies and disorders (anorexia, bulimia)
- Poor physical conditioning (strength and flexibility)

■ ■ ■ Preventive Measures

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
 - Strength, flexibility, and endurance
 - Cardiovascular fitness
- Wear proper protective equipment, such as shin guards for soccer.

■ ■ ■ Expected Outcome

This condition is usually curable with appropriate treatment. The fracture usually takes 4 to 6 weeks to heal.

■ ■ ■ Possible Complications

- Failure to heal (nonunion)
- Healing in a poor position (malunion)
- Compartment syndrome due to excessive pressure within the leg, causing injury to the blood supply to the leg and foot and injuring the nerves and muscles to the leg and foot
- Shortening of the injured bones
- Arrest of normal bone growth in children
- Risks of surgery, including infection, bleeding, injury to nerves (numbness, weakness, paralysis), need for further surgery
- Prolonged healing time if activity is resumed too soon

■ ■ ■ General Treatment Considerations

Initial treatment consists of medications, elevation of the leg, and ice to relieve pain and reduce swelling. Treatment includes walking with crutches. A plastic stirrup-type brace, cast, or walking boot is often recommended. Surgery to place a rod, plate, or screws to fix the fracture is occasionally recommended. After immobilization (with or without surgery), stretching and strengthening of the injured and weakened joint and

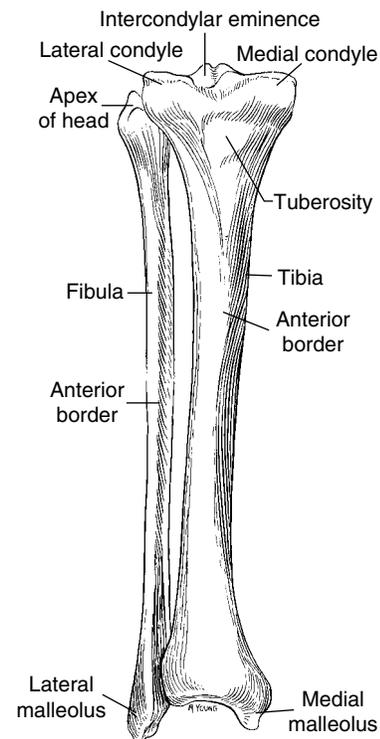


Figure 1

From Jenkins DB: Hollinshead's Functional Anatomy of the Limbs and Back, 6th ed. Philadelphia, WB Saunders, 1991, p. 285.

surrounding muscles (due to the injury and the immobilization) are necessary. These may be done with or without the assistance of a physical therapist or athletic trainer.

■ ■ ■ Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), are used to reduce inflammation. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur. Other minor pain relievers, such as acetaminophen, may also be used.
- Narcotic pain relievers may be prescribed by your physician for severe pain. Use only as directed and only as much as you need.

■ ■ ■ Notify Our Office If

- Symptoms get worse or do not improve in 2 weeks despite treatment
- The following occur after immobilization or surgery (report any of these signs immediately):
 - Swelling above or below the fracture site
 - Severe, persistent pain
 - Blue or gray skin below the fracture site, especially under the nails, or numbness or loss of feeling below the fracture site
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

EXERCISES

> RANGE OF MOTION AND STRETCHING EXERCISES • Fibular Fracture

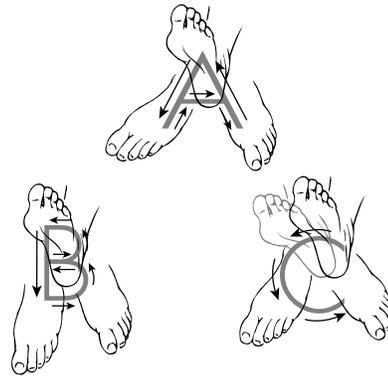
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



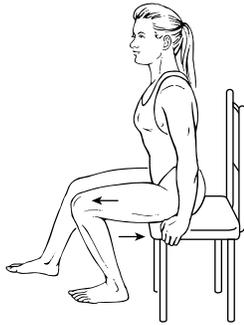
RANGE OF MOTION • Active Dorsi/Plantar Flexion

1. Pull your toes and foot toward your body as far as possible, then point the foot and toes away from body as far as possible.
2. Perform this exercise with the knee straight and then with the knee bent.
3. Hold this position for _____ seconds.
4. Repeat 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 the foot and ankle slowly, writing the letters as large as possible/comfortable for you.
3. Repeat exercise _____ times, _____ times per day.



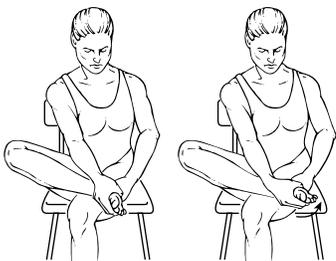
RANGE OF MOTION • Ankle Dorsiflexion

1. Sit on the edge of a chair as shown.
2. Place your _____ foot closest to the chair.
3. Keep your foot flat on the floor and move your knee forward over the foot.
4. Hold this position for _____ seconds.
5. Repeat exercise _____ times, _____ times per day.



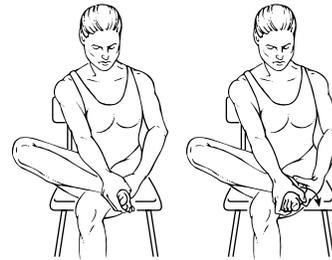
RANGE OF MOTION • Ankle Plantar Flexion

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.



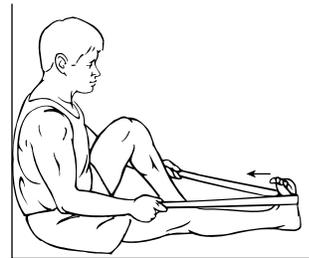
RANGE OF MOTION • Ankle Inversion

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.



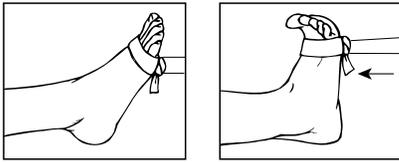
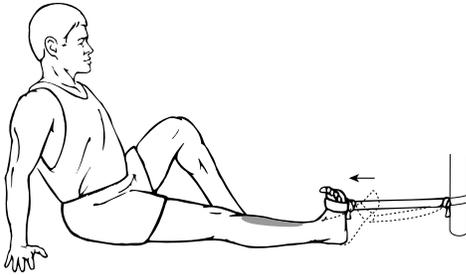
STRETCH • Gastrocsoleus

1. Sit with your leg straight out in front of you and loop a towel around the ball of your foot as shown in the diagram.
2. Pull your foot and ankle toward you using the towel.
3. Keep your knee straight while doing this. Do not let your knee bend.
4. Hold this position for _____ seconds.
5. Repeat exercise _____ times, _____ times per day.

> **STRENGTHENING EXERCISES • Fibular Fracture**

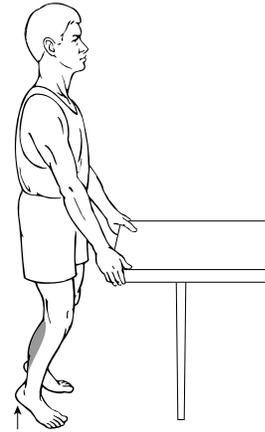
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



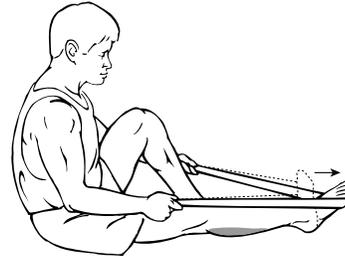
STRENGTH • Dorsiflexors

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.



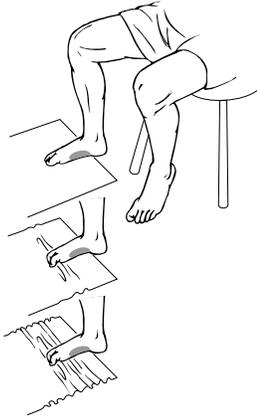
STRENGTH • Plantarflexors

1. Stand with feet shoulder-width apart. Hold on to counter or chair if necessary for balance.
2. Rise up on your toes as far as you can. Hold this position for _____ seconds.
3. Complete this exercise using only one leg if it is too easy using both legs.
4. Repeat exercise _____ times, _____ times per day.



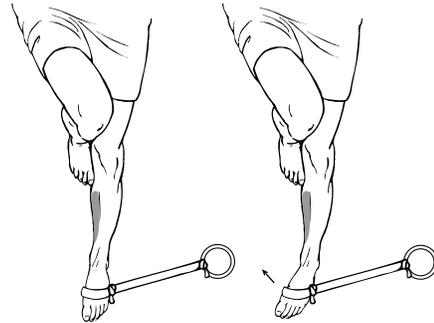
STRENGTH • Plantarflexors

1. Loop elastic band around foot as shown. Pull the band toward you with your hands.
2. Push your toes away from you slowly. Hold this position for _____ seconds. Slowly return to starting position.
3. Repeat exercise _____ times, _____ times per day.



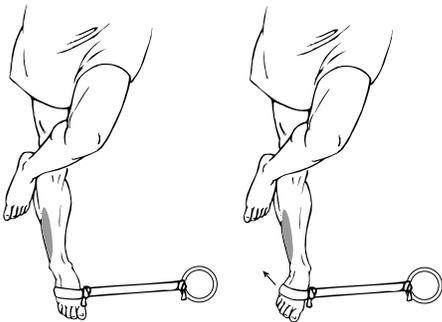
STRENGTH • Towel Curls

1. Sit in a chair and place a towel on a noncarpeted floor. Place your foot/toes on towel as shown. (You may also stand to do this exercise rather than sit.)
2. Curl/pull towel toward you with your toes while keeping your heel on the floor. Move towel with toes only. Do not move your knee or ankle.
3. If this is too easy, place a light weight (book, hand weight, etc.) at the far end of the towel.
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.



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.

Notes:

(Up to 4400 characters only)

Notes and suggestions