SUBTALAR INSTABILITY

Description

Subtalar instability is the giving way or looseness of the foot just below the ankle. This usually occurs together with ankle instability, although less commonly it may occur by itself.

Common Signs and Symptoms

- Recurrent foot and ankle pain and giving way
- Difficulty running on uneven surfaces, jumping, or cutting (changing directions while running)
- Pain, tenderness, swelling, and bruising at the site of injury
- Weakness or looseness in the ankle joint
- Occasionally, impaired ability to walk soon after injury

Causes

The most common cause of functional instability is incomplete or no rehabilitation of a previous ankle sprain. It may also be caused by stress imposed from either side of the ankle joint that temporarily forces or pries the ankle bone (talus) out of its normal socket. The ligaments that normally hold the joint in place are stretched and torn.

Risk Increases With

- Loose ankle due to previous severe ankle sprain or congenital (you are born with it) joint looseness
- Resumption of activity too soon after previous ankle sprain
- Activities in which the foot may land sideways while running, walking, and jumping (basketball, volleyball, and soccer) or walking or running on uneven or rough surfaces
- Inadequate ankle support with strapping, taping, bracing, or shoes before participation in contact sports
- Poor physical conditioning (strength and flexibility)
- Poor balance skills

Preventive Measures

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
  - Ankle and leg flexibility
  - Muscle strength and endurance
  - Balance training activities
- Use proper technique and have a coach correct improper technique.
- Taping, protective strapping, bracing, or high-top tennis shoes may be worn. Initially, tape is best; however, it loses most of its support function within 10 to 15 minutes.
- Wear proper protective shoes (high-top shoes with taping or bracing is more effective than either alone).
- Provide the ankle with support during sports and practice activities for 12 months following injury.
- Complete rehabilitation after initial injury.

Expected Outcome

Most athletes regain full functional stability and are able to return to full activity with a rehabilitation program, although occasionally surgery is necessary to restore mechanical stability (reduce the looseness) to the ankle.

Possible Complications

- Frequent recurrence of symptoms; appropriately addressing the problem with rehabilitation decreases frequency of recurrence and optimizes healing time
- Injury to other structures, such as bone, cartilage, or tendon
- Chronically unstable or arthritic ankle joint with repeated sprains
- Complications of surgery, including infection, bleeding, injury to nerves, continued giving way, ankle stiffness, and ankle weakness

General Treatment Conditions

Initial treatment consists of medication and ice to relieve the pain and compressive elastic bandaging and elevation to help reduce swelling and discomfort. A walking cast, walking boot, or brace may be recommended to provide support to the joint in addition to using crutches for varying times, depending on severity of injury. Chronic instability of the subtalar joint usually can be treated by strengthening the muscles of the foot and ankle and bracing. Referral to a physical therapist

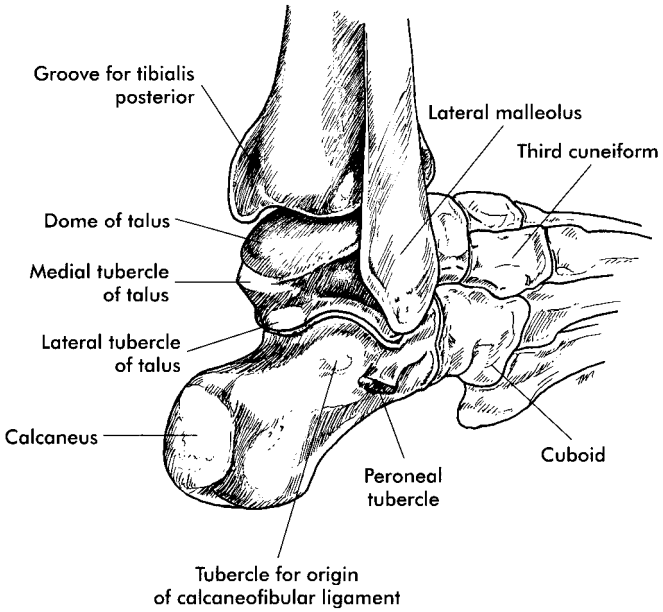


Figure 1
From Baxter DE: The Foot and Ankle in Sport. St. Louis, Mosby Year Book, 1995, p. 175.

or athletic trainer for further evaluation and treatment may be recommended. A heel wedge to put in your shoe or taping or bracing of the ankle along with wearing high-top shoes may also be recommended. If symptoms persist after 3 to 6 months of rehabilitation, surgery may be recommended.

Medication

- There are no specific medications to improve the stability of the ankle or subtalar joint.
- 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.

Heat and Cold

- Cold is used to relieve pain and reduce inflammation. 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

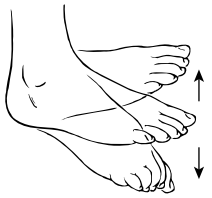
- Symptoms get worse or do not improve in 6 weeks despite treatment
- Any of the following occur after surgery:
  - You experience pain, numbness, or coldness in the foot and ankle
  - Blue, gray, or dusky color appears in the toenails
  - Signs of infection develop, including fever, increased pain, swelling, redness, drainage, or bleeding in the surgical area
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

EXERCISES

➢ **RANGE OF MOTION AND STRETCHING EXERCISES** · Subtalar Instability

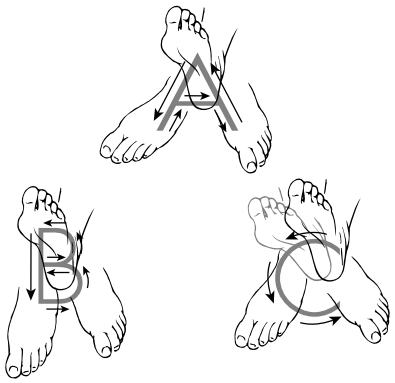
These are some of the ***initial*** exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



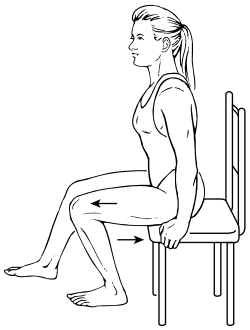
RANGE OF MOTION · Active Dorsi/Plantar Flexion

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.

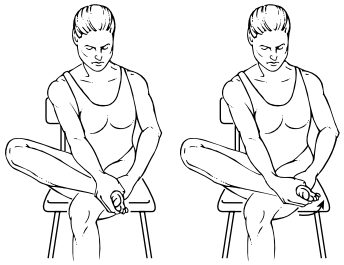


RANGE OF MOTION · Ankle Dorsiflexion

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.

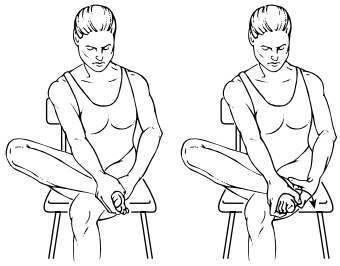
RANGE OF MOTION · Ankle Plantar Flexion

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.



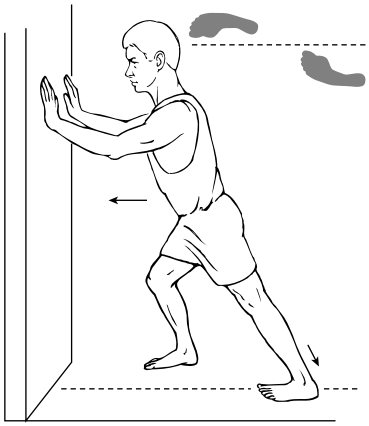
RANGE OF MOTION · Ankle Inversion

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.



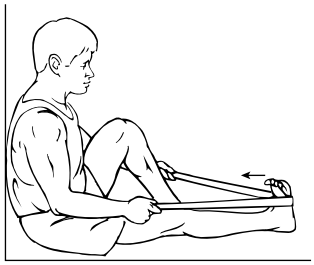
RANGE OF MOTION · Ankle Eversion

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.



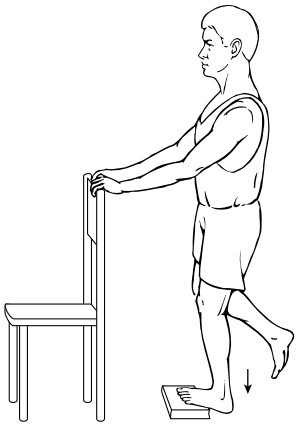
STRETCH · Gastrocsoleus

1. 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.



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.



STRETCH · Gastrocsoleus

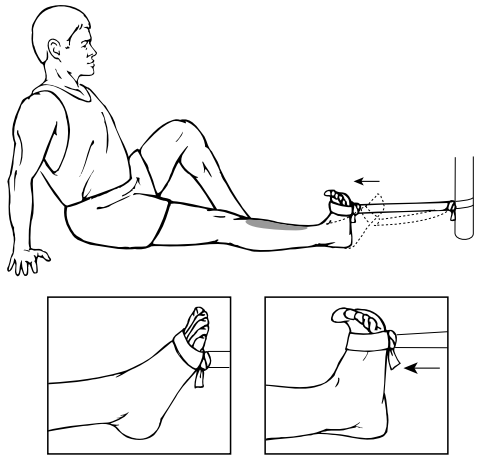
Note: **This exercise can place a lot of stress on your foot and ankle and should only be done after specifically checking with your physician, physical therapist, or athletic trainer.**

1. Place your toes and the ball of your foot on a book(s) or the edge of a stair. Your heel should be off the ground.
2. Hold on to a chair or stair rail for balance.
3. Allow your body weight to stretch your calf.
4. First do this exercise with the knee straight, then bend the knee slightly.
5. Hold this position for _____ seconds.
6. Repeat exercise _____ times, _____ times per day.

➢ **STRENGTHENING EXERCISES** · Subtalar Instability

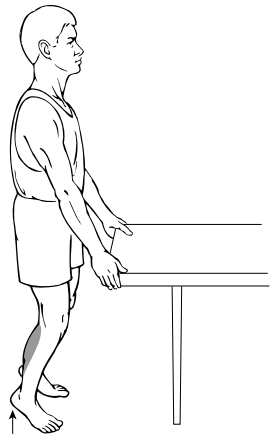
These are some of the ***initial*** exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



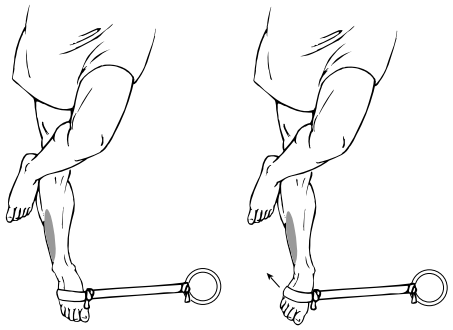
STRENGTH · Dorsiflexors

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.



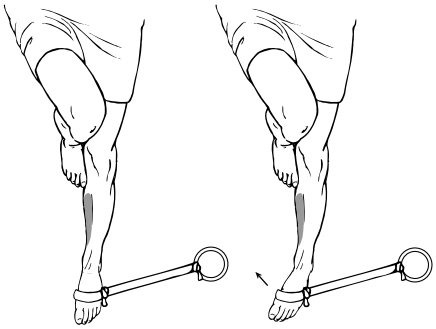
STRENGTH · Plantarflexors

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.



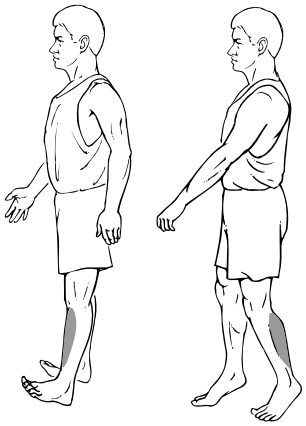
STRENGTH · Ankle Eversion

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.



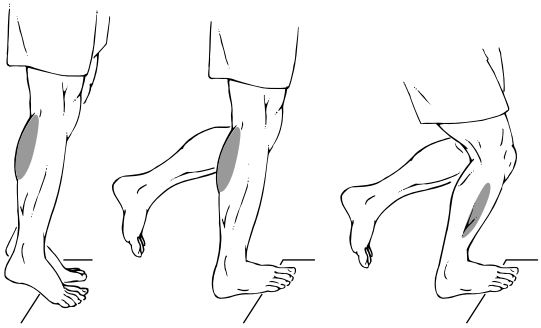
STRENGTH · Ankle Inversion

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.



DORSI/PLANTAR FLEXION STRENGTH

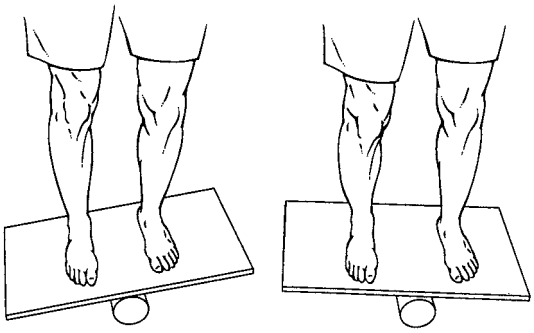
1. Walk on your heels and/or toes as shown.
2. When on your toes, walk slowly and concentrate on staying as high on your toes as possible.
3. When on your heels, concentrate on keeping the toes as far off the floor as possible.
4. Repeat exercise _____ times, _____ times per day.



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.**

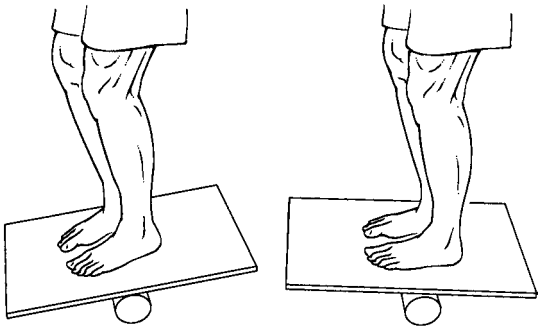
1. Stand on the edge of a step as shown with your body weight on the front of both feet. Use both legs to rise up on your toes.
2. From the toe, raise your position with your knee straight. ***Using your injured leg,*** lower the heel of the injured side ***below*** the level of the step. ***Use the uninjured leg*** to rise back to the starting position in Figure 1. 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 backpack 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.

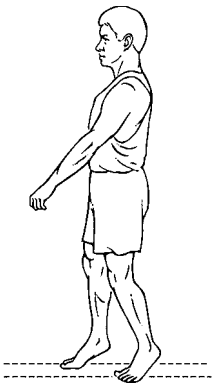
These are advanced level exercises!



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!



HEEL/TOE WALKING

1. Stand with your uninjured foot on a line as shown.
2. ***Slowly*** rise up onto your toes and back down onto your heel. Keep your balance at all times.
3. Place the injured foot/ankle in front of the uninjured leg, heel to toe.
4. Repeat as above. ***Slowly*** rise up on your toes, as far as you can without pain, keeping your balance.
5. Return to your starting position.
6. Remember, do this slowly and maintain your balance.

Notes: (Up to 4400 characters only)

Notes and suggestions