

ANKLE INSTABILITY, CHRONIC



■ ■ ■ Description

The ankle that is chronically unstable may be described as being functionally unstable or mechanically unstable.

- A *functionally unstable* ankle is one that gives way. This may or may not be associated with looseness of the ankle.
- A *mechanically unstable* ankle is one that is loose due to the ligament not healing or healing in a stretched position. Not all loose ankles are unstable or give way.

■ ■ ■ Common Signs and Symptoms

- Recurrent ankle pain and giving way of the ankle
- 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 frequent cause of functional instability is incomplete or no rehabilitation of a previous ankle sprain.
- Stress imposed from either side of the ankle joint can temporarily force or pry 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 someone who is born with joint looseness
- Too-rapid return to activity after previous ankle sprain
- Activities in which the foot may land sideways while running, walking, and jumping (such as 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
 - Balanced training activities
- Use proper technique and have a coach correct improper technique.
- Taping, protective strapping, bracing, or high-top tennis shoes may be used. 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 ability 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 is possible. Appropriately addressing the problem with rehabilitation decreases the frequency of recurrence and optimizes healing time.
- Injury to other structures (bone, cartilage, or tendon) and a chronically unstable or arthritic ankle joint are possible with repeated sprains.
- Complications of surgery including infection, bleeding, injury to nerves, continued giving way, ankle stiffness, and ankle weakness.

■ ■ ■ General Treatment Considerations

Initial treatment consists of medication and ice to relieve the pain and compressive elastic bandage and elevation to help reduce swelling and discomfort. A walking cast, walking boot, or brace may be recommended to provide support to the joint while trying to walk with crutches for varying lengths of time, depending on severity of injury. Strengthening of the muscles around the ankle is introduced as soon as symptoms permit. Retraining of balance skills is usually recommended as a way to reduce recurrent symptoms. You may be referred to a physical therapist or athletic trainer for further evaluation and treatment. 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 months of rehabilitation, surgery may be recommended.

■ ■ ■ 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.

■ ■ ■ Medication

- There are no specific medications to improve the stability of your ankle.

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen, or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Topical ointments may be of benefit.

■ ■ ■ Notify Our Office If

- Pain, swelling, or bruising worsens despite treatment
- You experience locking or catching in the ankle
- You experience pain, numbness, or coldness in the foot
- Giving way persists after 3 to 6 months of rehabilitation

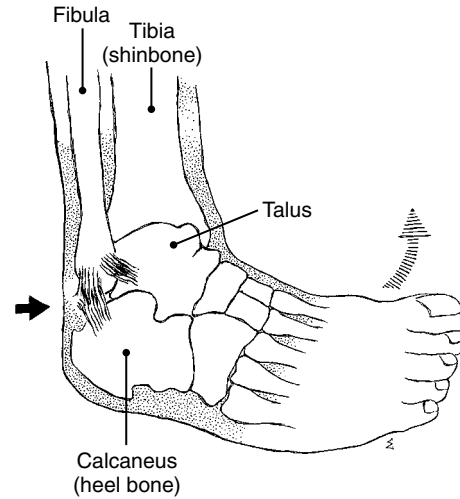


Figure 1

From Economou SG, Economou TS: Instructions for Surgery Patients. Philadelphia, WB Saunders, 1998, p. 41.

EXERCISES

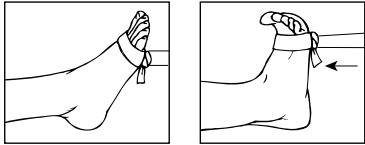
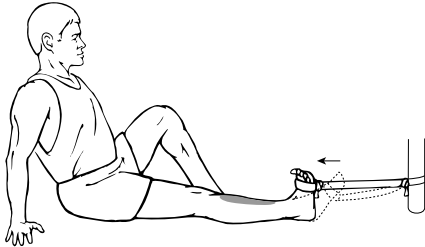
> RANGE OF MOTION AND STRETCHING EXERCISES • Ankle Instability, Chronic, Non-Surgical Intervention

Individuals who suffer from chronic ankle sprains *usually* do not need to work on improving the range of motion and flexibility of their ankles. They need to work much harder on strengthening and balance exercises instead. If the range of motion or flexibility of your ankle is a concern, specific exercises will be prescribed for you by your physician, physical therapist, or athletic trainer.

> **STRENGTHENING EXERCISES** • Ankle Instability, Chronic, Non-Surgical Intervention

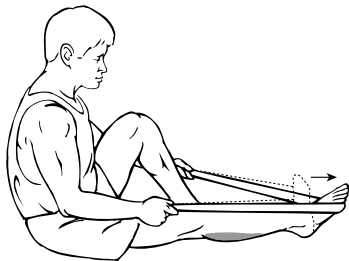
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



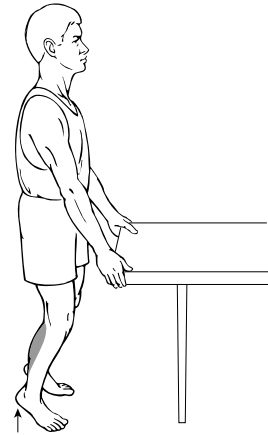
STRENGTH • Dorsiflexors

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.



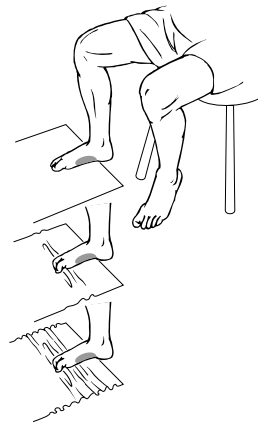
STRENGTH • Plantarflexors

1. 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.



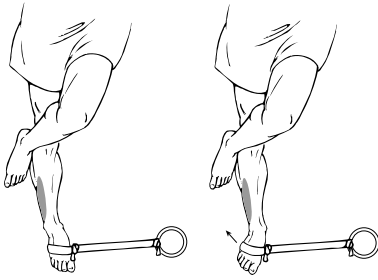
STRENGTH • Plantarflexors

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.



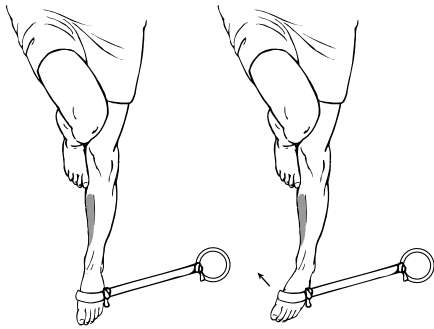
STRENGTH • Towel Curls

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.



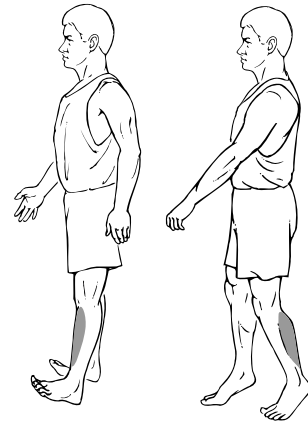
STRENGTH • Ankle Eversion

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.



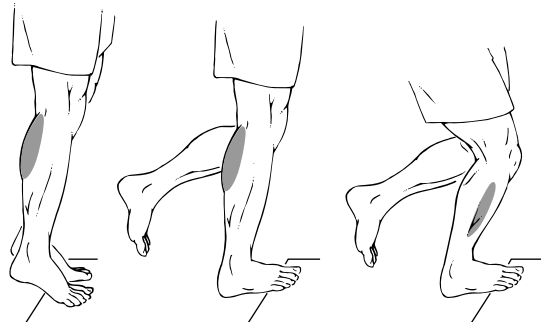
STRENGTH • Ankle Inversion

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

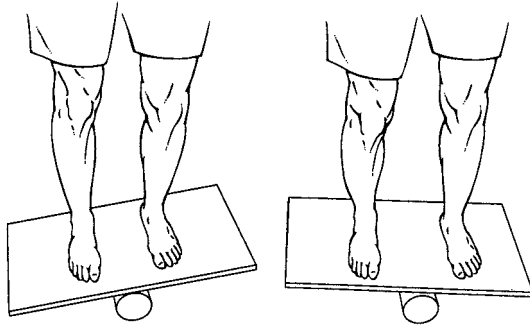
1. Walk on your heels and/or toes as shown.
2. When on your toes, walk slowly and concentrate on staying as high on your toes as possible.
3. When on your heels, concentrate on keeping the toes as far off the floor as possible.
4. Repeat exercise ____ times, ____ times per day.



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.

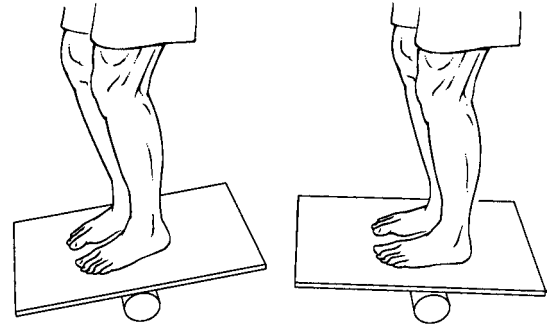
1. Stand on the edge of a step as shown with your body weight on the front of both feet. Use both legs to rise up on your toes.
2. From the toe, raise your position with your knee straight. *Using your injured leg*, lower the heel of the injured side **below** the level of the step. *Use the uninjured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

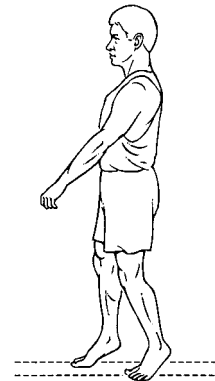
These are advanced level exercises!



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!



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