

# COMMON PERONEAL NERVE ENTRAPMENT



## ■ ■ ■ Description

Peroneal nerve entrapment is a disorder of the peroneal nerve at the knee, resulting in dysfunction of all or part of the nerve. It involves compression of the peroneal nerve at the outer part of the knee as it passes around a bone (the fibular head). The peroneal nerve and its branches provide the sensation to the outer half of the lower leg and the top of the foot and ankle, as well as the input for the muscles of the front and outer side of the leg, to help lift (extend) the toes, foot, and ankle and turn the foot outward and inward.

## ■ ■ ■ Common Signs and Symptoms

- Pain, tingling, numbness, or burning on the top of the foot, ankle, or outer part of the lower leg
- Pain that worsens with sports activities (walking, running, squatting)
- Weakness on lifting the foot, including foot drop, or turning the foot outward with walking
- Problems walking (having to lift the foot high) or running, including tripping over the foot
- Swelling, bruising, and tenderness at the outer part of the knee (or just below the knee)

## ■ ■ ■ Causes

- Pressure on the peroneal nerve as it passes around a bone on the outer part of the knee; may occur from a direct injury (such as with tackling), local inflammation, a cyst in the knee, or a healing fracture around the knee.
- Rarely, the nerve may be injured by a stretch injury, such as occurs with severe knee sprains, or with swelling within the leg (compartment syndrome).

## ■ ■ ■ Risk Increases With

- Recurrent foot, ankle, or knee sprains
- Playing sports on uneven terrain, which may result in knee or ankle sprains
- Direct trauma to the knee, such as with tackling in football

## ■ ■ ■ Preventive Measures

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
  - Leg, foot, and ankle flexibility
  - Muscle strength and endurance
  - Cardiovascular fitness
- Wear proper protective equipment and ensure correct fit.

## ■ ■ ■ Expected Outcome

Often this condition is curable with appropriate treatment; sometimes it heals spontaneously. Occasionally, surgery is necessary to relieve pressure from the nerve.

## ■ ■ ■ Possible Complications

- Permanent pain, tingling, numbness, or weakness of the affected foot, ankle, and leg
- Inability to compete due to pain or weakness
- Injury to other parts of the body as a result of repeated tripping and falling over the foot

## ■ ■ ■ General Treatment Considerations

Initial treatment consists of rest from the offending activity and the use of medications and ice to help reduce pain and inflammation. Care is taken to not put the ice directly on the skin over the area. A towel between the ice and skin will help prevent further injury. If there is weakness of the muscles causing foot drop, bracing of the ankle and foot may be necessary. Stretching and strengthening exercises of the muscles of the knee, foot, and ankle may be useful. If there is an obvious cause of nerve pressure (cyst or mass) or there is progressively increasing or persistent pain, weakness, or numbness, surgery is often recommended to free the pinched nerve. Surgery removes the source of compression. Occasionally, wearing a heel wedge in the shoe is recommended after surgery. If compression is associated with chronic exertional compartment syndrome, fascial release is recommended. Surgery performed early often offers the best chance for complete recovery.

## ■ ■ ■ 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,

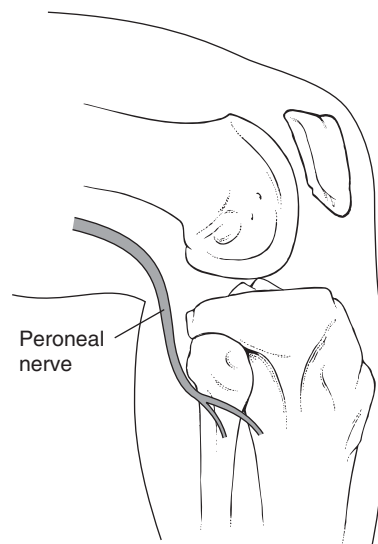


Figure 1

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.

- 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.

### ■ ■ ■ Cold Therapy

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. Use ice packs or an ice massage.

### ■ ■ ■ Notify Our Office If

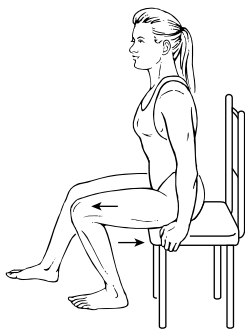
- Symptoms get worse
- Symptoms do not improve in 2 weeks despite treatment
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

## EXERCISES

### > RANGE OF MOTION AND STRETCHING EXERCISES • Common Peroneal Nerve Entrapment

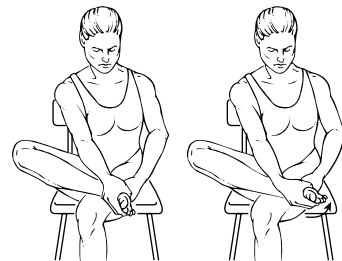
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



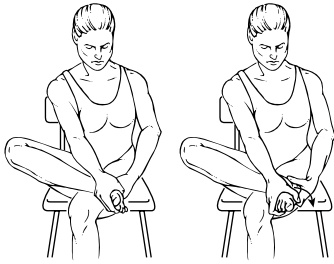
### RANGE OF MOTION • Ankle Dorsiflexion

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.

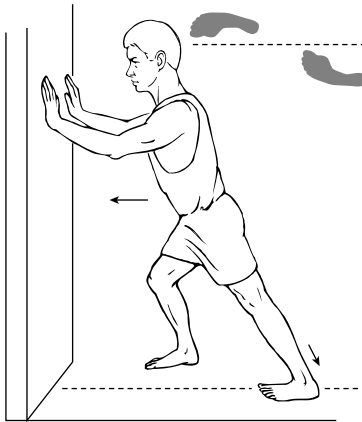


### RANGE OF MOTION • Ankle Inversion

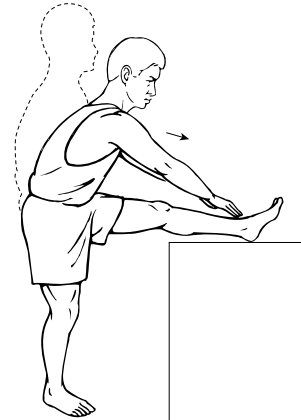
1. Sit with your \_\_\_\_\_ leg crossed over the other.
2. Grip the foot with your hands as shown and turn the sole of your foot upward and in so that you feel a stretch on the outside of the ankle.
3. Hold this position for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per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

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.

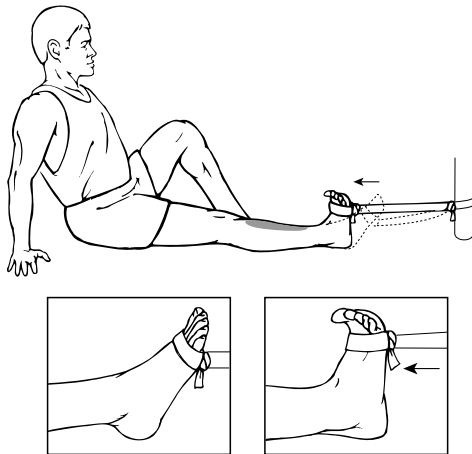
**FLEXIBILITY • Hamstrings, Ballet**

1. Stand and prop the leg you are stretching on a chair, table, or other stable object.
2. Place both hands on the outside of the leg you are stretching.
3. Make sure that your hips/pelvis are also facing the leg you are stretching.
4. Slide your hands down the outside of your leg.
5. Lead with your chest/breast bone. Keep your chest upright and back straight. Do not hunch over at the shoulders. Keep your toes pointing up.
6. You should feel a stretch in the back of your thigh.
7. Hold this position for \_\_\_\_\_ seconds.
8. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.

> **STRENGTHENING EXERCISES** • Common Peroneal Nerve Entrapment

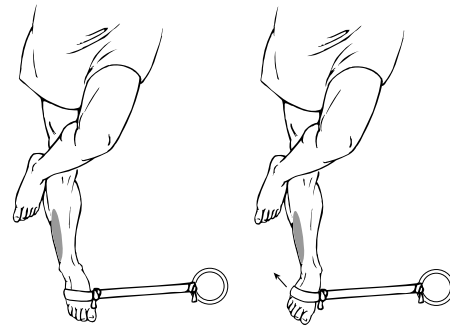
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



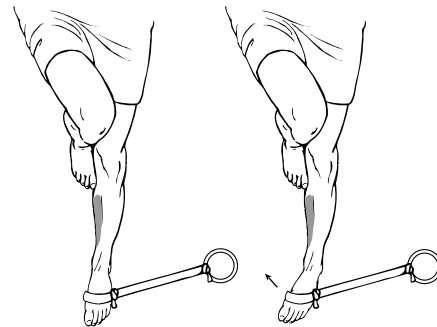
**STRENGTH** • Dorsiflexors

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.

Notes:

(Up to 4400 characters only)

Notes and suggestions