

MEDIAL PLANTAR NERVE ENTRAPMENT (Jogger's Foot)



■ ■ ■ Description

Medial plantar nerve entrapment is a nerve disorder in the foot that causes pain and occasionally loss of feeling in the foot involving the first (big) and second toes. It involves compression of the medial plantar nerve in the mid-foot near the bottom of the arch by ligament-like tissues.

■ ■ ■ Common Signs and Symptoms

- Tingling, numbness, or burning from the arch of the foot and traveling to the first (big) and often second toes
- Pain and tenderness along the arch of the foot, worsened by standing on the tiptoes of the affected foot or after running
- A feeling of the ankle giving way
- Symptoms that are worse (and sometime only present) during and after running on level ground

■ ■ ■ Causes

- Pressure on the medial plantar nerve at the arch of the foot ankle caused by ligament-like tissue that covers and pinches the nerve

■ ■ ■ Risk Increases With

- Recurrent ankle sprains
- Sports that involve a lot of running, particularly distance running
- Direct pressure on the nerve, such as with tight-fitting shoes, shoes with minimal padding, and loss of shock absorption or use of new arch supports (orthotics)
- Looseness of the joints of the foot, flat feet, or stiffness of the big toe (hallux rigidus)
- New arch supports that have high arches
- Medical disorders, including diabetes mellitus and thyroid disorders

■ ■ ■ Preventive Measures

- Maintain appropriate conditioning:
 - Foot and ankle flexibility
 - Muscle strength and endurance
 - Cardiovascular fitness
- Use proper equipment, such as shoes and orthotics, and ensure correct fit.
- Taping, protective strapping, bracing, or high-top tennis shoes may help prevent ankle sprains and nerve stretching injury.

■ ■ ■ Expected Outcome

This condition is usually curable with appropriate treatment, and sometimes it heals spontaneously. Occasionally, surgery is necessary.

■ ■ ■ Possible Complications

- Permanent numbness in the foot and toes
- Persistent pain in the foot or ankle
- Inability to compete due to pain

■ ■ ■ General Treatment Considerations

Initial treatment consists of rest from the offending activity and medications and ice to help reduce inflammation and pain. Removal of new arch supports or smaller, soft arch supports may be recommended if this is felt to be the cause of this problem. Cross-training or reducing the amount of running is usually of benefit. Stretching and strengthening exercises of the muscles of the foot and ankle may be useful. If this treatment is not successful, surgery may be necessary to free the pinched nerve. This provides almost complete relief, with full return to sporting activities in most patients. Training, while wearing orthotics, usually begins 6 weeks after the surgery.

■ ■ ■ 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, 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.



Entrapment of medial plantar nerve at master knot of Henry

Figure 1

From Baxter DE: *The Foot and Ankle in Sport*. St. Louis, Mosby Year Book, 1995, p. 15.

- 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.

■ ■ ■ **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.

■ ■ ■ **Notify Our Office If**

- Symptoms get worse or 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** • Medial Plantar Nerve Entrapment (Jogger's Foot)

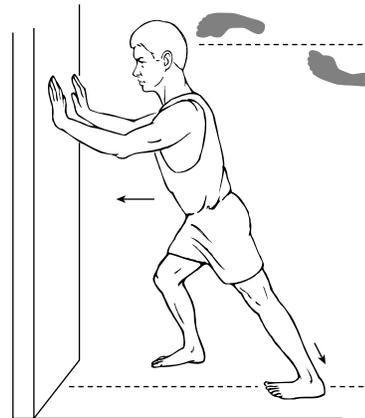
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



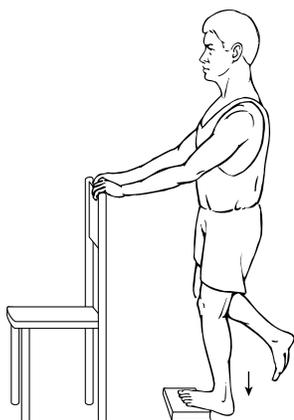
RANGE OF MOTION • Toe Extension

1. Grip your toe(s) as shown in the drawing.
2. Pull the toe(s) up toward your body as shown. Repeat this exercise by pulling the toe down.
3. Hold this position for _____ seconds.
4. Repeat exercise _____ times, _____ times per day.



STRETCH • Gastrocnemius

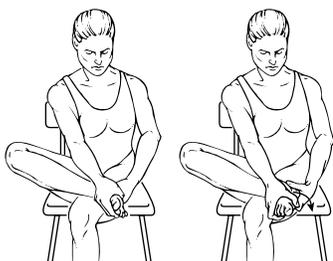
1. Stand *one* arm length from the wall as shown. Place calf muscle to be stretched behind you as shown.
2. Turn the *toes in* and *heel out* of the leg to be stretched.
3. Lean toward wall leading with your waist, allowing your arms to bend. **Keep your heel on the floor.**
4. First do this exercise 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 • Gastrocnemius

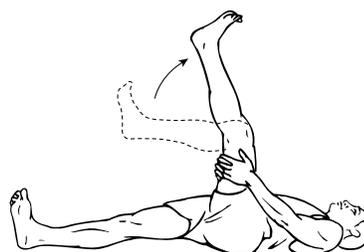
Note: This exercise can place a lot of stress on your foot and ankle and should only be done after specifically checking with your physician, physical therapist, or athletic trainer.

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.



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.



FLEXIBILITY • Hamstrings

1. Lie on your back with your leg bent and both hands holding on to it behind the thigh as shown.
2. Your hip should be bent to **90 degrees** and the thigh pointing straight at the ceiling.
3. Straighten out your knee as far as you can. Keep your thigh pointing straight toward the ceiling.
4. Keep the other leg flat on the floor.
5. Hold this position for _____ seconds.
6. Repeat exercise _____ times, _____ times per day.



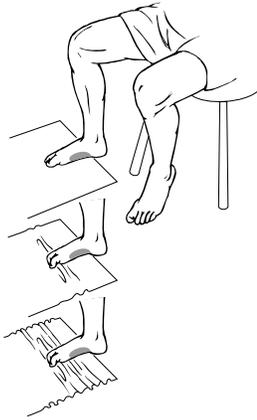
FLEXIBILITY • Hamstrings, Ballet

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 • Medial Plantar Nerve Entrapment (Jogger's Foot)

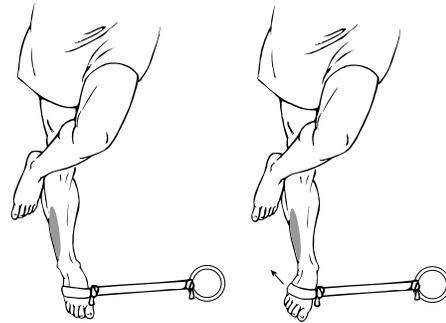
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



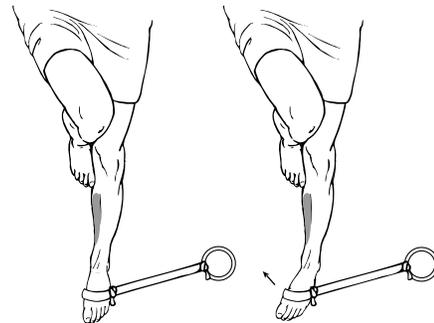
STRENGTH • Towel Curls

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.

Notes:

(Up to 4400 characters only)

Notes and suggestions