



Medial Head Gastrocnemius Tear (Tennis Leg)

Exercises:
10 seconds
10 times
1 time per day

DESCRIPTION

Medial head gastrocnemius tear is a strain of the inner part (medial head) of the major calf muscle, the gastrocnemius. Muscle attaches to bone via tendon, and this injury occurs at the junction between the muscle and tendon. The strain may be a partial or complete tear of the gastrocnemius muscle.

COMMON SIGNS AND SYMPTOMS

- A sudden pop or crack in the calf at the time of injury, feeling like being kicked or hit sharply in the calf or shot in the calf
- Pain, tenderness, swelling, warmth, or redness over the middle inner calf
- Pain and weakness with ankle motion, especially flexing the ankle against resistance, such as with pushing off, pushing down with the front of the foot, standing on the ball of the foot, and pain with lifting the foot up (extending the ankle)
- Bruising in the calf, heel, and sometimes in the foot 48 hours or more after the injury
- Muscle spasm in the calf

CAUSES

- Strain from a sudden increase in the amount or intensity of activity or overuse of the lower leg muscles
- A direct blow or injury to the calf
- A sudden forceful pushing off with the foot, such as with jumping, landing, serving a tennis ball, or lunging

FACTORS THAT INCREASE RISK

- Sports that require sudden, explosive calf muscle contraction, such as those involving jumping (basketball), hill running, quick starts (running), or lunging (racquetball, tennis)
- Contact sports, such as football, soccer, or hockey
- Poor physical conditioning (strength, flexibility)
- Previous lower extremity injury

PREVENTIVE MEASURES

- Appropriately warm up and stretch before practice and competition.
- Allow time for adequate rest and recovery between practices and competition.
- Maintain appropriate conditioning that includes ankle and leg flexibility, muscle strength and endurance, and cardiovascular fitness training.

- Use proper technique.
- Complete rehabilitation after lower extremity injury before returning to practice or competition.

EXPECTED OUTCOME

Tennis leg is usually curable within 6 weeks if treated appropriately with conservative treatment and resting of the affected area.

POSSIBLE COMPLICATIONS

- Prolonged healing time if not appropriately treated or if not given adequate time to heal
- Recurrence of symptoms and injury if activity is resumed too soon, with overuse, with a direct blow, or with poor technique
- Without treatment, progression to a complete tear (rare) or other injury as a result of limping and favoring of the injured leg
- Persistent limping because of scarring and shortening of the calf muscles as a result of inadequate rehabilitation
- Prolonged disability

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medication and ice to relieve pain, stretching and strengthening exercises, and modification of the activity that initially caused the problem. These all can be carried out at home, although referral to a physical therapist or athletic trainer for further evaluation and treatment may be helpful. A splint, cast, or walking boot may be recommended for 10 to 21 days to immobilize the tendon and allow the inflammation to settle down, and sometimes crutches are necessary for the first 24 to 72 hours. For less severe cases or after immobilization, a heel lift may be prescribed to reduce stress to the muscle. Surgery is rarely necessary, and suturing or sewing torn muscle is usually not successful.

MEDICATION

- Nonsteroidal antiinflammatory medications, such as aspirin and ibuprofen (do not take for 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician, and contact your doctor immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Pain relievers may be prescribed as necessary. Use them only as directed.

HEAT AND COLD

- Cold is used to relieve pain and reduce inflammation. It should be applied for 10 to 15 minutes every 2 to 3 hours as needed 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.

WHEN TO CALL YOUR DOCTOR

- Symptoms get worse or do not improve in 2 weeks despite treatment.
- Numbness or tingling develops.
- New, unexplained symptoms develop. Drugs used in treatment may produce side effects.

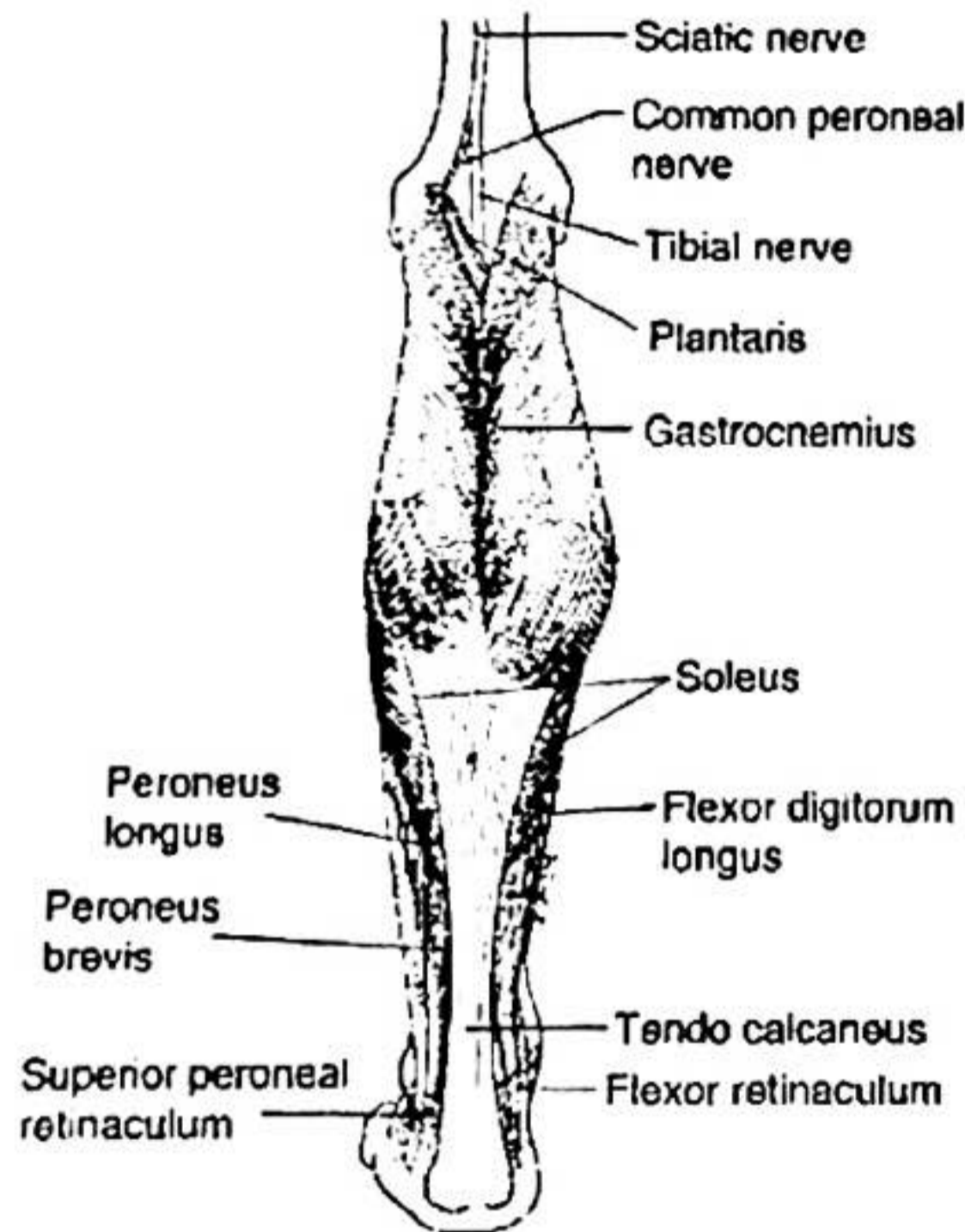
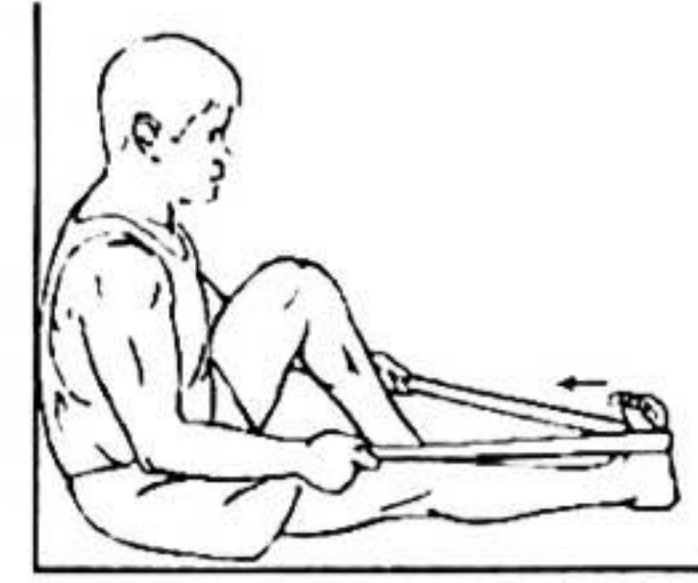


FIGURE 1 From Jenkins DB: *Hollinshead's functional anatomy of the limbs and back*, ed 6, Philadelphia, 1991, W.B. Saunders, p 289.

RANGE OF MOTION AND STRETCHING EXERCISE
 Medial Head Gastrocnemius Tear

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

- Flexible tissue is more tolerant of the stresses placed on it.
- A *gentle* stretching sensation should be felt.



FLEXIBILITY • Gastrocnemius Stretch

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, and hold this position for _____ seconds.
4. Repeat this exercise _____ times, _____ times per day.



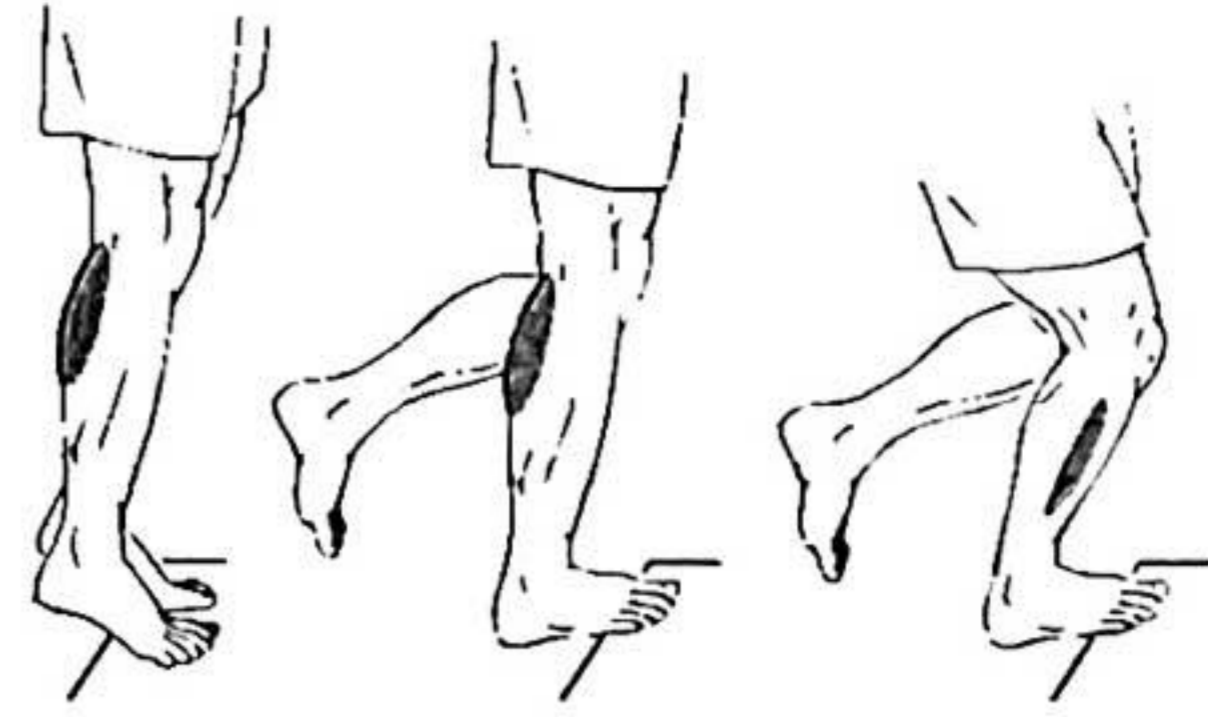
FLEXIBILITY • Gastrocnemius Stretch

1. Stand *one* arm's length from the wall as shown. Position the calf muscle to be stretched behind you as shown.
2. Turn the *toes in* and the *heel out* of the leg to be stretched.
3. Lean toward the wall, leading with your waist and allowing your arms to bend. *Keep your heel on the floor.*
4. First do this exercise with your knee straight, then bend it slightly. Keep your heel on the floor at all times.
5. Hold this position for _____ seconds.
6. Repeat this exercise _____ times, _____ times per day.



STRENGTH • Plantarflexion

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



STRENGTH • Plantarflexion

Note: This exercise can place considerable 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 yourself with your knees 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, 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 these 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.