Pes Anserinus Syndrome

DESCRIPTION

The pes anserinus is the tendon insertion of three muscles of the thigh into the upper part of one of the lower leg bones, the tibia, just below the knee, to the inner side of the front of the leg. Where the tendon attaches to bone, there is a bursa, a fluid-filled cushion, between the bone and the tendon. The bursa is like a water balloon, and its function is to reduce friction and wear of the tendon where it rubs against the bone. With pes anserinus syndrome, inflammation and pain occur in the bursa (bursitis), tendon (tendinitis), or both.

COMMON SIGNS AND SYMPTOMS

- Pain, tenderness, swelling, warmth, or redness over the pes anserinus bursa and tendon on the front, inner part of the leg 2 to 3 inches below the knee
- Pain that is usually slight when beginning to exercise that worsens as the activity continues
- Pain with running or bending the knee against resistance
- Crepitation (a crackling sound) when the tendon or bursa is moved or touched

CAUSES

- Strain from a sudden increase in amount or intensity of activity or overuse of the lower extremity, usually in endurance athletes or in new runners
- Direct trauma to the upper leg

FACTORS THAT INCREASE RISK

- Endurance sports (distance runs, triathlons)
- Beginning a training program
- Sports that require pivoting, cutting (sudden changes of direction while running), jumping, and deceleration
- Incorrect training techniques, including excessive hill running, recent and substantial increases in mileage, and inadequate time for rest between workouts
- Poor physical conditioning (strength, flexibility)
- Inadequate warm-up before practice or play
- Knocked knees
- Arthritis of the knee

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 cardiovascular fitness, knee and thigh flexibility (especially the hamstrings), and muscle strength and endurance.
- Use proper training technique, including reducing mileage and shortening stride length.
- Arch supports (orthotics) may be helpful for people with flat feet.

EXPECTED OUTCOME

Pes anserinus syndrome 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
- A chronically inflamed tendon and bursa, causing persistent pain with activity that may progress to constant pain
- Recurrence of symptoms if activity is resumed too soon, with overuse, with a direct blow, or when using poor technique

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medication and ice to relieve pain; stretching and strengthening exercises, particularly for the hamstring muscles; and modification of the activity that initially caused the problem. These exercises can be carried out at home, although referral to a physical therapist or athletic trainer for further evaluation and treatment may be helpful. Arch supports (orthotics) for people with flat feet may be prescribed to reduce stress to the tendon. A knee sleeve or bandage may help keep the tendon and bursa warm during activity and may reduce some of the symptoms. An injection of cortisone into the bursa may be recommended, but surgery to remove the inflamed bursa is usually only considered after at least 6 months of conservative treatment, or when the condition recurs many times, and the bursa is very large.

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 are usually not prescribed for this condition. If your physician does prescribe pain medications, use them only as directed.
- Cortisone injections reduce inflammation; however, these are used only in extreme cases. There is a limit to the number of times cortisone may be given, because it weakens muscle and tendon tissue. Anesthetics given with the injections temporarily relieve pain.

HEAT AND COLD

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. 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.
- New, unexplained symptoms develop. Drugs used in treatment may produce side effects.

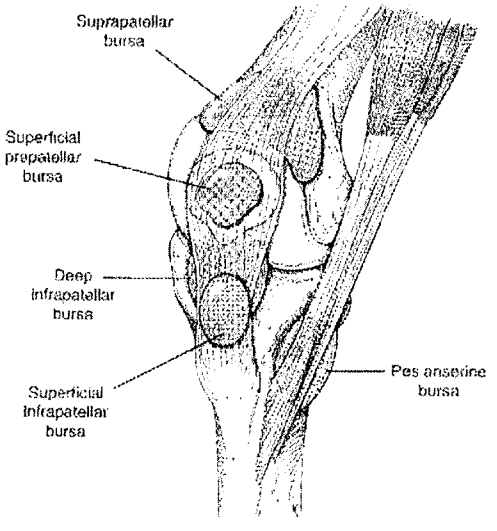
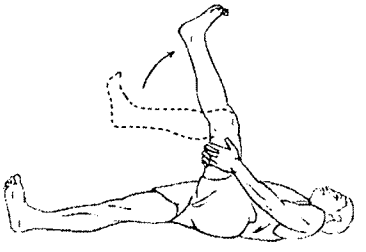


FIGURE 1 From Scuderi GR, McCann PD, Bruno PJ: *Sports medicine: principles of primary care,* St Louis, 1997, Mosby, p 369.

RANGE OF MOTION AND STRETCHING EXERCISES
Pes Anserinus Syndrome

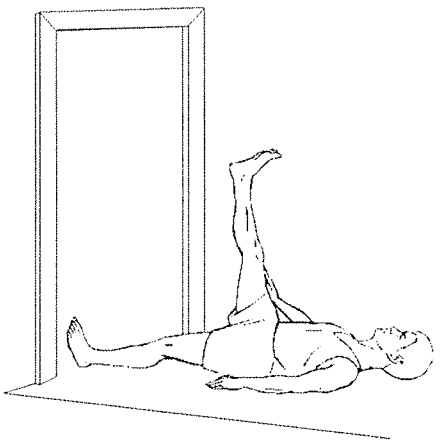
These are some of the *initial* exercises you may use to start your rehabilitation program, until you see your physician, physical therapist, or athletic trainer again, or until your symptoms resolve. Please remember:

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



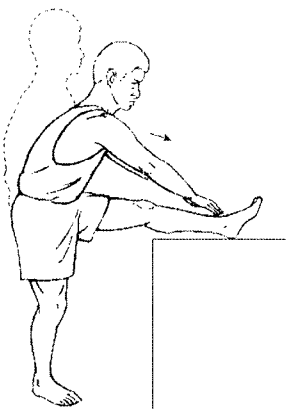
FLEXIBILITY • **Hamstrings Stretch**

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



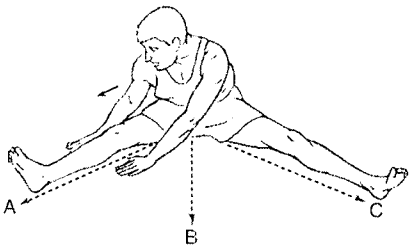
FLEXIBILITY • Hamstrings, Doorway Stretch

1. Lie on your back near the edge of a doorway as shown.
2. Place the leg you are stretching up on the wall, keeping your knee straight. Your buttocks should be as close to the wall as possible, and the other leg should be kept flat on the floor.
3. You should feel a stretch in the back of your thigh. Hold this position for ____ seconds.
4. Repeat this exercise ____ times, ____ times per day.



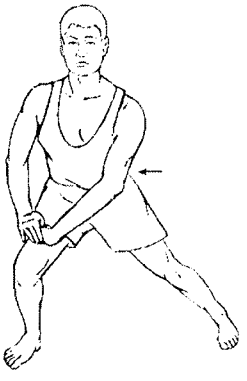
FLEXIBILITY • Hamstrings, Ballet

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. Make sure that your hips are also facing that leg.
3. Slide your hands down the outside of your leg. Lead with your chest, and keep your chest upright and your back straight. Do not hunch over at the shoulders, and keep your toes pointing up.
4. You should feel a stretch in the back of your thigh. Hold this position for ____ seconds.
5. Repeat this exercise ____ times, ____ times per day.



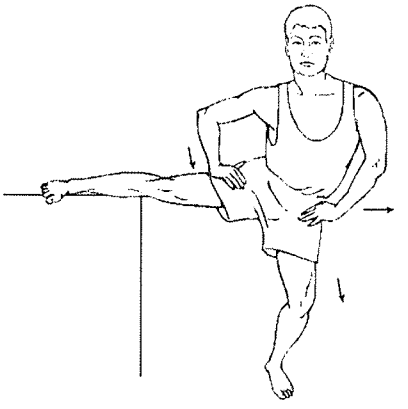
FLEXIBILITY • Hamstrings/Adductors, V-Sit

1. Sit on the floor with your legs spread as widely as possible in front of you. Your knees should be straight.
2. Lean over one leg with both hands. Keep your chest upright and reach for your toes (position A).
3. Hold this position for ____ seconds. Relax and return to the starting position.
4. Reach forward between your legs (position B).
5. Repeat for position C.
6. Repeat this exercise ____ times, ____ times per day.



FLEXIBILITY • Adductors, Lunge

1. Spread your legs widely while standing, and assume a partial squatting position.
2. Lean away from the side you want to stretch, shifting your weight toward the bent leg.
3. Hold this position for ____ seconds.
4. Repeat this exercise ____ times, ____ times per day.



FLEXIBILITY • Adductors, Ballet

1. Stand and place the leg you want to stretch on a counter, chair, or other sturdy object.
2. Gradually bend your other knee, and gently lunge away from the leg you are stretching.
3. Hold this position for ____ seconds.
4. Repeat this exercise ____ times, ____ times per day.

STRENGTHENING EXERCISES
Pes Anserinus Syndrome

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:

- 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 under their guidance, gradually increasing the number of repetitions and weight used.

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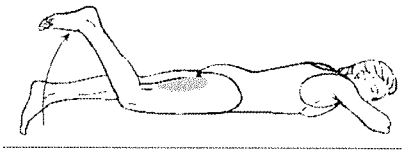
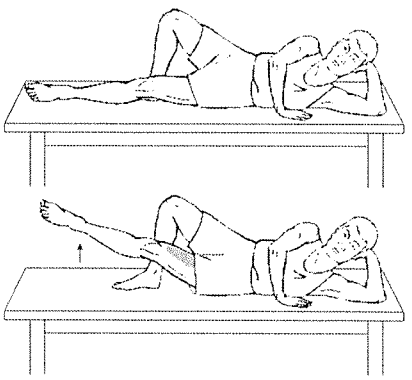


STRENGTH • Hamstrings, Curls

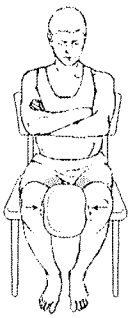
1. Lie on your stomach with your legs out straight.
2. Bend your knee to 90 degrees, and hold this position for ____ seconds.
3. *Slowly* lower your leg back to the starting position.
4. Repeat this exercise ____ times, ____ times per day.

If allowed by your physician, physical therapist, or athletic trainer, a ____ pound weight may be placed around your ankle for additional resistance.



STRENGTH • Hip Adduction

1. Lie on your side as shown, with your injured leg on the bottom.
2. Place the foot of your top leg flat on the floor for balance. It may be in front of or behind the bottom leg.
3. Lift the bottom leg as shown, and hold this position for ____ seconds.
4. *Slowly* lower your leg to the starting position.
5. Repeat this exercise ____ times, ____ times per day.



STRENGTH • Hip Adduction

1. Sit on a chair and place a large ball (volleyball or basketball size) between your legs as shown.
2. Squeeze your thighs together, and hold this position for ____ seconds.
3. Repeat this exercise ____ times, _____ times per day.