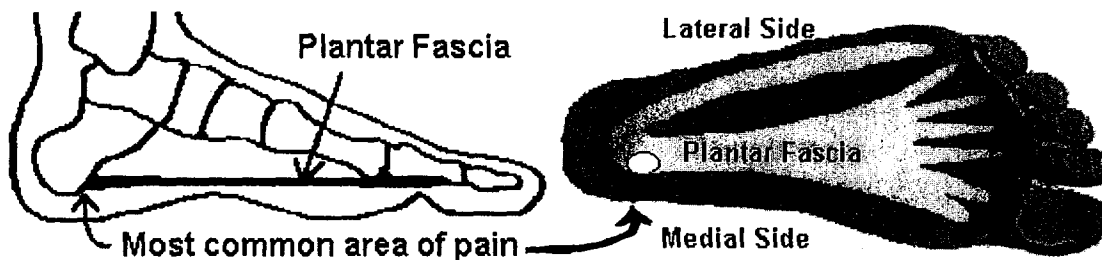


## Plantar Fasciitis

**Description:** Plantar fasciitis is the inflammation of the thick fibrous band of tissue (the plantar fascia) that runs along the bottom of the foot. This tissue connects the heel to the base of the toes. Under normal circumstances, the plantar fascia acts as a shock-absorbing “bowstring” within the arch of the foot. If tension on this “bowstring” becomes too great, irritation or inflammation can occur, causing pain. Chronic inflammation may eventually cause a heel spur that is visible on X-ray.

### Possible Causes:

- **Faulty foot mechanics:** Poor biomechanics at the foot, knee and/or hip [e.g. pronated (flat) feet, supinated (high arched) feet or inward pointing knees] causes an abnormal walking pattern and adversely affects the weight distribution on the foot.
- **Improper shoes:** Shoes that are too worn, thin-soled, loose, lack arch support, or lack shock absorption provide inadequate protection for the foot (e.g. flip-flop sandals). Frequent use of high heeled shoes shortens the Achilles tendon which stresses the plantar fascia.
- **Physical activity overload:** Advancing too quickly in your sport or activity can put too much stress on the foot.
- **Weight:** Excessive weight, especially sudden weight increase puts more stress on the foot.
- **Other factors:** Age, family tendency and diseases such as arthritis and diabetes.



### Treatment:

- **Rest:** Continued weight-bearing activities can tear and re-injure the fascia. Alternative activities such as swimming or cycling can help maintain conditioning as you heal. Activities must be pain-free, as continued irritation of the fascia delays healing.
- **Stretching & Strengthening:** Stretching the Achilles tendon/calf muscle and plantar fascia and strengthening the intrinsic muscles of the foot can improve foot mechanics and reduce stress on the foot (see reverse for exercises).
- **Inflammation and pain management:** Use an ice cube or ice cup to massage the painful area 2-3 times per day for 5 minutes. Rolling the foot over a frozen water bottle will produce similar effects. Anti-inflammatory medications can be helpful. Please consult your medical clinician about the kind of medication that may be appropriate for you.
- **Over-the-counter Arch Supports:** Arch supports help to correct poor biomechanics and absorb shock as you walk or run, thus easing the stress on the plantar fascia. Temporary use of heels cups or pads can provide additional relief.
- **Use of well fitting, appropriate shoes:** Consult your physical therapist, podiatrist or athletic shoe specialist for proper shoe fit.
- **Orthotics:** Your medical clinician or physical therapist may recommend custom fit orthotics if your problem is primarily biomechanical.
- **Night Splints:** If the Achilles tendon or calf muscle is especially tight, your clinician may recommend a night splint to gradually improve ankle flexibility.

*If your symptoms do not resolve within 2-4 weeks please contact your clinician*  
Prepared by the Physical Therapy Department Staff, University Health Services

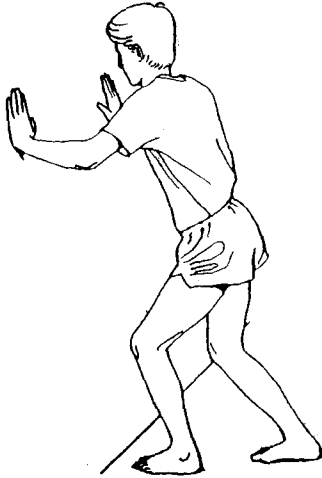


Below are some stretches and strengthening exercises to do for the next few weeks. If your pain does not go away or if you have questions, check back with your provider. Discontinue any exercises that increase your pain. However, it is normal to feel some fatigue in the tissues around your ankle and foot.

### STRETCHES



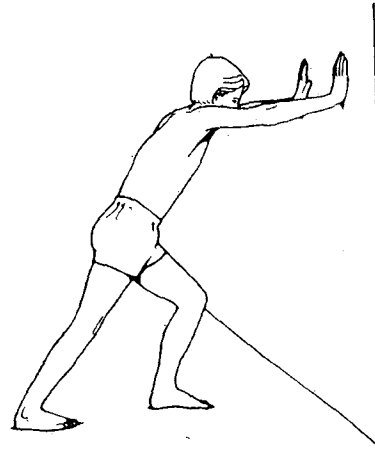
**Soleus Stretch**



Standing with both knees bent, toes forward, and involved foot back, gently lean into wall until stretch is felt in lower calf. Hold for 30 seconds. Repeat 3 times, 3 times per day.



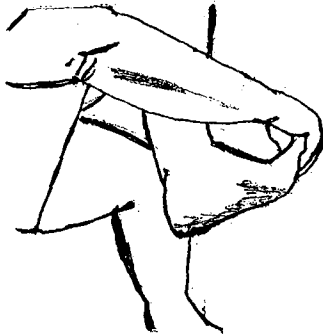
**Gastroc Stretch**



Keeping back leg straight, toes forward, and heel on floor, lean into wall until a stretch is felt in calf. Hold for 30 seconds. Repeat 3 times, 3 times per day.



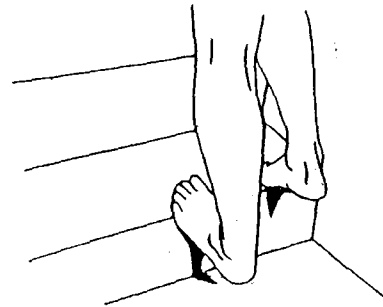
**Intrinsic Muscle Stretch**



Sitting with legs crossed and ankle up, pull toes up until a stretch is felt. Hold for 30 seconds. Repeat 3 times, 3 times per day.



**Plantar Fascia Stretch**

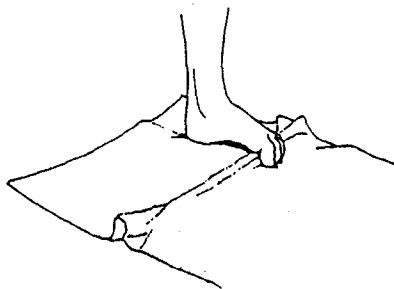


Standing with ball of foot on stair, reach for bottom step with heel until a stretch is felt through the arch of the foot. Hold for 30 seconds. Repeat 3 times, 3 times per day.

### STRENGTHENING:



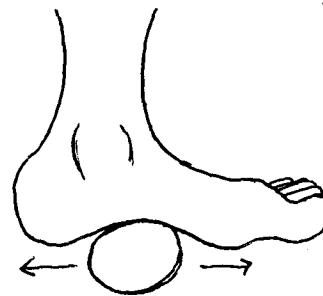
**Single Leg Toe Curling**



With foot resting on towel, slowly bunch towel up as you curl toes. Repeat 3-5 times, 2 times per day.



**Tennis Ball Massage**



While sitting in a chair, roll tennis ball under your foot to massage the painful area. Perform for 1 minute, 3 times per day.