

### GASTROCNEMIUS (CALF) STRETCH

Stand an arm's-length from the wall/post. Lean into wall/post, bracing yourself with your arms. Place one leg forward with knee bent - this leg will have no weight put on it. Keep other leg back with knee straight and heel down. Keeping back straight, move hips toward wall until you feel a stretch. Hold 30 seconds. Relax. Repeat with other leg

### SOLEUS (CALF) STRETCH

Stand with one leg in front of the other close to a wall. Place your hands on the wall and lean forwards. Bend both knees, trying to touch the front knee on the wall. Keep the heel down. Hold for 30 seconds.



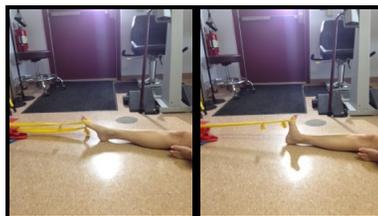
### CALF RAISES

To do calf raises, simply stand up straight with your feet a few inches apart. Slowly push up on your toes so that your heels are lifted off the ground. Allow the foot and ankle to return slowly to the starting position. A good pace is 1 second to contract and 2 seconds to relax or return to the starting position. Repeat until the muscles have difficulty lifting the heel. During this exercise, you may need to hold on to a wall or a table for balance.



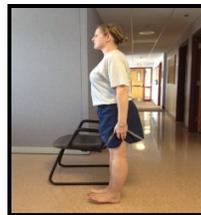
### RESISTED ANKLE DORSIFLEXION

Sit with a moderately stretched theraband around the ball of the foot with the foot pointing down and straight forward. Keeping the heel on the floor move the foot and ankle backwards while keeping the thigh and lower leg from moving. Allow the foot and ankle to return slowly to the starting position. A good pace is 1 second to contract and 2 seconds to relax or return to the starting position. Repeat 6-12 times per set. The first set should be light resistance and easy to perform. Subsequent sets can be performed with higher resistance. Resistance may be increased by tightening the band, using a heavier band, or combining bands.



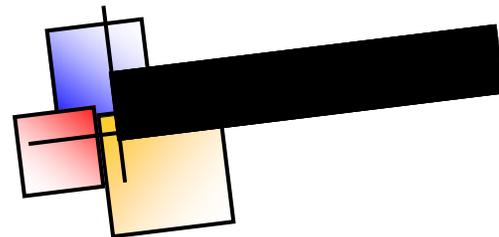
### STANDING FEET LIFT

Hold onto a chair back or solid object if needed. Stand with feet about shoulder width apart. Raise the feet off the floor and hold for 2 breaths then lower slowly. Try to use the leg muscles to lift the feet rather than leaning backwards. Repeat until the muscles have difficulty lifting the feet.



IF YOU HAVE ANY FURTHER QUESTIONS,  
PLEASE CONTACT THE PHYSICAL THERAPY  
CLINIC FOR AN APPOINTMENT AT

**362-5555 / 701-747-5555**



# SHIN SPLINTS



## WHAT ARE SHIN SPLINTS??

The term "shin splints" refers to pain along or just behind the shinbone (tibia) — the large bone in the front of your lower leg. Medically known as medial tibial stress syndrome, shin splints occur during physical activity and result from too much force being placed on your shinbone and connective tissues that attach your muscles to the bone. Shin splints are common in runners and in those who participate in activities with sudden stops and starts, such as basketball, soccer or tennis.

### SIGNS AND SYMPTOMS

Shin splints cause pain in the front of the outer leg below the knee. The pain of shin splints is characteristically located on the outer edge of the mid region of the leg next to the shin bone (tibia). An area of discomfort measuring 4-6 inches (10-15 cm) in length is frequently present. Pain is often noted at the early portion of the workout, then lessens only to reappear near the end of the training session. Shin splint discomfort is often described as dull at first. However, with continuing trauma, the pain can become so extreme as to cause the athlete to stop workouts altogether.

### WHAT IS THE CAUSE?

A primary culprit causing shin splints is a sudden increase in distance or intensity of a workout schedule. This increase in muscle work can be associated with inflammation of the lower leg muscles, those muscles used in lifting the foot (the motion during which the foot pivots toward the tibia). Such a situation can be aggravated by a tendency to pronate the foot (roll it excessively inward onto the arch). Similarly, a tight Achilles tendon or weak ankle muscles are also often implicated in the development of shin splints.

## SELF CARE INSTRUCTIONS

*Here are some basic instructions on rest, icing, medications, appropriate footwear, and exercises to help with relief from and prevention of shin splints.*

### REST

Avoid activities that cause pain, swelling or discomfort — but don't give up all physical activity. While you're healing, try low-impact exercises, such as swimming, bicycling or water running. If your shin pain causes you to limp, consider using crutches until you can walk normally without pain.

### ICING

Perform an 'ice massage'. Apply ice directly to the affected. Move the ice frequently, not allowing it to sit in one spot. Watch to clock! Ice for 15-20 minutes, never longer. You can do more damage to the tissues, including frostbite, by icing for too long. Allow at least 45 minutes or an hour time between treatments to allow the area to warm before beginning the icing routine again.

### MEDICATION

Try ibuprofen (Advil, Motrin, others), naproxen sodium (Aleve, others) or acetaminophen (Tylenol, others) to reduce pain. Do not exceed recommended dosages.

### WHAT SHOES SHOULD I WEAR?

If you experiment, you're not alone. Picking the right shoes for running is more of an art than a science. Many runners experiment with different brands and models until they find just the right fit, feel and functionality. Running shoes are designed to handle the shock of 2.5 times your body weight that is created by the impact each time your foot strikes the ground. When you're running, you want to have excellent cushioning in both the heel and forefoot to handle this impact. If you plan on running three times a week or more, move up to a real running shoe. To make it somewhat more simplistic to determine what kind of support you would need for your running shoes, we have to consider your arch.

## THE IMPORTANCE OF ARCHES

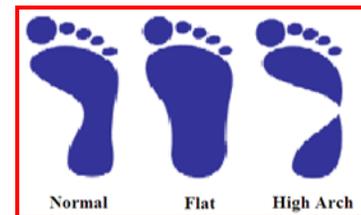
Even before you step inside a store, you need to know what type of foot you have. Feet can easily be divided into three categories; low, high and neutral arches. Stand up and put weight evenly on both feet.

Look at your arches. Does your arch almost touch the floor? Does your foot or ankle roll in? People with low arches tend to have stability issues like over pronation.

Is your arch really high? Can you almost fit a golf ball under your instep? The high-arched foot usually has the opposite problem. That means your foot rolls to the outside or "supinates".

The neutral foot is the easiest to fit and assuming you have no other structural issues you can run efficiently and comfortably with a lot of shoe designs.

Evaluating the type of arch you have is very important in evaluating what type of shoe to buy. When trying to differentiate between what type of running shoe you may need to buy, consider the support that is necessary for your feet.



Normal = Stability Shoe  
Flat Feet = Motion Control shoe  
High Arch = Cushioned Shoe