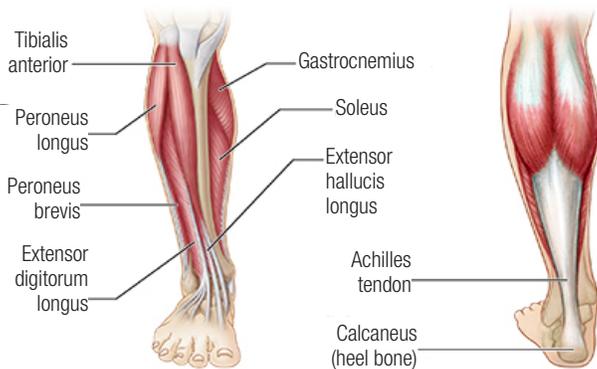


INFORMATION GUIDE

Shin Splints



WHAT YOU MAY EXPERIENCE

- Aching along front of shin; at beginning of or after activity.
- Pain along inside (medial) part of lower leg.
- Generally develops gradually over weeks or months.
- May have swelling in lower leg (in area of pain).

POSSIBLE SOURCES

- **STRESS FRACUTRE - POSTERIOR:** Most often occurring on the tibia (shin bone) and along the bottom third of the lower leg. It is often undetectable on X-ray until 10-14 days after pain starts.
- **COMPARTMENT SYNDROME - ANTERIOR OR POSTERIOR:** There are 4 compartments of muscles in the lower leg. During exercise, muscle volume increases, increasing pressure within each compartment. Such pressure can affect blood vessels and nerves in the lower leg, potentially causing pain and damage to tissue and nerves.
- **TIBIAL PERIOSTITIS - POSTERIOR:** Inflammation of or trauma to the covering of the shin bone (periosteum). Over-exertion causes small tears of the muscle from the covering of the bone. Pain is most pronounced in the lower 3rd of the posterior tibia.
- **MEDIAL TIBIAL STRESS SYNDROME - POSTERIOR:** Stress to the muscles along the front/inside of the shin. Generally occurring along the bottom 3rd and inside of the tibia (shin).

CONTRIBUTING FACTORS

- Muscular imbalances of lower leg muscles.
- Worn out or inappropriate shoes.
- Sudden increase in exercise or running.
- Incorrect individual training plan.
- Poor biomechanics/improper foot positioning while running or flat pronated feet.

EXCESSIVE PRONATION

- Pronation is a normal movement of the foot that allows the arch to flatten to a degree, which helps the body to absorb shock and adapt to different ground surfaces.
- If the foot is weak or tired and/or the footwear is not supportive, then the arch can flatten more than normal, which is excessive pronation.
- Flattening of the arch (excessive pronation) increase stresses on the foot, which can further contribute to ankle, knee, hip and low back problems (a chain reaction).

QUICK FIX

The **3 S's - Stretching, Strengthening, and Supporting**, along with ICE and REST have been found to be the simplest and most effective for these injuries:

1. **Stretching** of the calf (both gastroc and soleus) muscles and Achilles tendon can help eliminate or prevent many problems with the Achilles tendon (*see reverse side*).
2. **Strengthening** of the anterior leg muscles (that pull the foot and toes up) (*see reverse side*).
3. **Supporting** the foot with proper shoes and insoles can prevent or help to eliminate the vast majority of lower extremity problems due to faulty biomechanics. You may consult with your Sports Medicine Physician or Sports Medicine Physical Therapist for guidelines about this. They can guide you to an appropriate local running store.

continued on the back

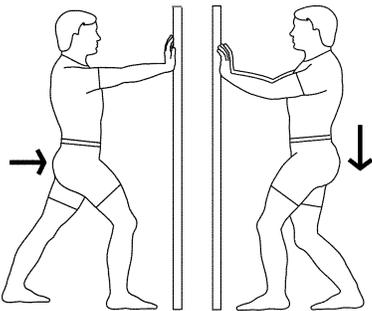
FOLLOW-UP

If these quick fixes do not help resolve your problem:

1. Consult with your medical practitioner: Primary Care or Sports Medicine Physician.
2. Referral to Physical Therapist where a combination of manual therapy & specific exercises may help resolve your problem.
3. If damage is significant, you may be referred to an Orthopedic Surgeon.

Shin Splint Exercises

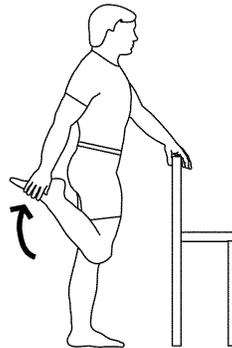
1. GASTROCNEMIUS & SOLEUS STRETCH



1. Stand with involved foot back, and leg straight. Keeping heel on floor and turned slightly outward, gently lean into wall until stretch is felt in calf.
2. Then bend both knees until a stretch is felt in lower calf.

Hold for 30 seconds x 3-5 repetitions on both sides

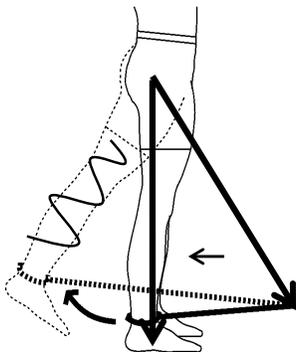
2. QUADRICEPS STRETCH



Pull heel toward buttock until a stretch is felt in front of thigh. Move bent knee behind hip to maximize stretch. **DO NOT JACK-KNIFE FORWARD.** Hold 30 seconds.

Repeat 3 times.
Stretch after warm up and after cool down.

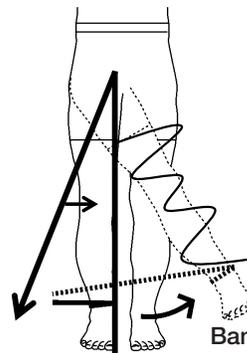
3. HIP EXTENSION



With tubing around right/left ankle and other end secured in doorjamb, face door and pull leg straight back. Do not lean forward.

Repeat 10 times per set.
Do 3 sets per session.
Do 1-2 sessions per day.

4. HIP ADDUCTION

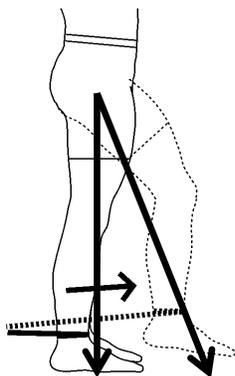


With tubing around right/left ankle and other end secured in doorjamb, bring leg across body, and slowly return to starting position. Do not lean. Keep body upright.

Repeat 10 times per set.
Do 3 sets per session.
Do 1-2 sessions per day

Band on RIGHT ankle stabilizes LEFT, and band on LEFT ankle stabilizes RIGHT.

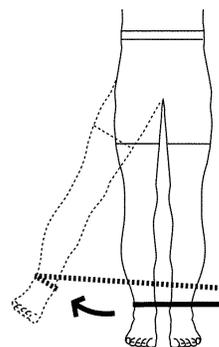
5. HIP FLEXION



With tubing around right/left ankle and other end secure in doorjamb, bring leg forward, keeping knee straight.

Repeat 10 times per set.
Do 3 sets per session.
Do 1-2 sessions per day.

6. HIP ABDUCTION



With tubing around right/left leg and other end secured in doorjamb, stand sideways with right/left hip facing door and extend leg out to the side.

Repeat 10 times per set.
Do 3 sets per session.
Do 1-2 sessions per day.

Sports Medicine is available for questions. Please call 616.252.7778 to speak with a member of our care team or to schedule an appointment.