

Shin Splints

Explanation of Diagnosis

Shin splints occur when the **muscles, tendons, and bone tissue in the shin (tibia) become inflamed** due to **overuse, repetitive stress, or improper biomechanics**. They are common in **runners, dancers, and athletes who engage in high-impact activities**. Symptoms include **aching or sharp pain along the inner shin, tenderness, and swelling**, especially during or after activity. If untreated, shin splints can lead to **stress fractures**.

Specific Work Modifications

- **Avoid prolonged standing or walking on hard surfaces.**
- **Wear cushioned, supportive shoes** with shock-absorbing insoles.
- **Use anti-fatigue mats** if standing for long periods.
- **Take sitting breaks** and elevate legs to reduce swelling.
- **Apply ice after work** if pain or swelling increases.

Specific Activity Modifications

- **Avoid high-impact activities** (e.g., running, jumping, dancing) until pain resolves.
- **Modify workouts** by switching to **low-impact exercises** like swimming, cycling, or elliptical training.
- **Wear proper footwear with arch support** during activities.
- **Stretch and strengthen lower leg muscles** before and after exercise.

Recommended Supplements

- **Collagen peptides (10 g daily)** - Supports tendon and bone healing.
- **Vitamin D3 (1000-2000 IU daily)** - Enhances bone strength.
- **Calcium (1000-1200 mg daily)** - Supports bone health.
- **Magnesium (300-400 mg daily)** - Helps with muscle relaxation and cramping.
- **Omega-3 fatty acids (1000 mg daily)** - Reduces inflammation and pain.

Recommended Nutrition and Hydration

Diet Recommendations:

- **Bone-supporting foods:** Dairy, leafy greens, almonds, salmon, and fortified cereals.
- **Anti-inflammatory foods:** Fatty fish, turmeric, berries, and walnuts.
- **Protein-rich foods:** Chicken, eggs, lentils, and dairy to support tissue repair.
- **Limit processed foods, excess sugar, and soda**, which can worsen inflammation.

Hydration Tips:

- **Drink at least 2-3 liters of water daily** to support muscle and bone health.
- **Limit caffeine and alcohol**, which can dehydrate tissues and slow recovery.

Home Exercise Prescription

Perform **2-3 times daily** to relieve pain and strengthen the lower leg:

Phase 1: Pain Reduction & Mobility (Days 1-7)

1. Ice Massage

- Use a **frozen water bottle** or ice cup to massage the shin for **10-15 minutes** after activity.

2. Calf Stretch (Straight & Bent Knee)

- Stand facing a wall, place one foot back, and keep the heel on the ground.
- **Hold for 20-30 seconds, repeat 3 times per leg.**

3. Ankle Alphabet Exercise

- Use your toes to "write" the alphabet in the air.
- **1-2 times daily.**

Phase 2: Strength & Prevention (After Pain Improves, 1-2 Weeks In)

4. Toe Raises (Tibialis Strengthening)

- Stand with feet flat and lift toes off the ground.
- **10 reps, 2 times daily.**

5. Heel Raises (Calf Strengthening)

- Stand and slowly raise onto your toes, then lower.
- **10 reps, 2 times daily.**

6. Resistance Band Dorsiflexion

- Secure a **resistance band** around your foot and pull toes upward against resistance.
- **10 reps per foot, 2-3 times daily.**

Phase 3: Return to Activity (Once Pain is Minimal, 3+ Weeks In)

7. Single-Leg Balance Exercise

- Stand on one foot for **15-30 seconds**, increasing time as tolerated.
- **Repeat 2-3 times per leg.**

8. Forefoot Running Drills (Gradual Return to Running)

- Perform **short, controlled running drills on soft surfaces** before full return to sport.

⚠ **Avoid running on hard surfaces, jumping, or sprinting until fully healed (typically 4-6 weeks).**

Helpful Books

1. *"Rehab Science: How to Overcome Pain and Heal from Injury"* - Tom Walters, DPT
2. *"The Healthy Runner's Handbook: Injury Prevention & Recovery"* - Jason Karp, PhD

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Contact a Key West orthopedic clinic or reach out to Dr. Jason Pirozzolo.