

Arch Pain and Metatarsalgia

Explanation of Diagnosis

Metatarsalgia is **pain and inflammation in the ball of the foot**, typically caused by **increased pressure on the metatarsal bones** (the long bones just behind the toes). It commonly occurs due to **high-impact activities, improper footwear, foot deformities, or excessive weight-bearing**. Symptoms include **sharp, aching, or burning pain in the forefoot**, especially when walking, running, or standing for long periods.

Specific Work Modifications

- **Avoid prolonged standing or walking on hard surfaces.**
- **Use cushioned, supportive footwear with a wide toe box** to relieve pressure.
- **Consider orthotic inserts or metatarsal pads** to distribute weight evenly.
- **Take frequent sitting breaks** to reduce foot strain.
- **If standing is necessary, use anti-fatigue mats** to minimize pressure on the feet.

Specific Activity Modifications

- **Avoid high-impact activities** like running, jumping, or dancing.
- **Modify workouts** by switching to **low-impact exercises** such as cycling, swimming, or elliptical training.
- **Wear proper athletic shoes with forefoot cushioning** if engaging in sports.
- **Limit barefoot walking** on hard surfaces.

Recommended Supplements

- **Collagen peptides (10 g daily)** - Supports foot joint and soft tissue repair.
- **Vitamin D3 (1000-2000 IU daily)** - Aids in bone and joint health.
- **Calcium (1000-1200 mg daily)** - Strengthens bones and prevents stress fractures.
- **Magnesium (300-400 mg daily)** - Helps with muscle relaxation and foot cramping.
- **Omega-3 fatty acids (1000 mg daily)** - Reduces joint inflammation.

Recommended Nutrition and Hydration

Diet Recommendations:

- **Bone-supporting foods:** Dairy products, almonds, leafy greens, and fortified cereals for calcium.
- **Anti-inflammatory foods:** Fatty fish (salmon, sardines), turmeric, berries, and

walnuts.

- **Protein-rich foods:** Chicken, eggs, lentils, and dairy to support foot tissue recovery.
- **Limit processed foods, excess sugar, and alcohol**, which can worsen inflammation.

Hydration Tips:

- **Drink at least 2-3 liters of water daily** to prevent muscle cramping and maintain joint lubrication.
- **Limit caffeine and alcohol**, which can dehydrate tissues and slow recovery.

Home Exercise Prescription

Perform **2-3 times daily** to improve foot flexibility, reduce pain, and strengthen the forefoot:

1. Toe Stretch

- Sit down and gently pull the toes **back toward the shin**.
- Hold **20-30 seconds**, repeat **3 times per foot**.

2. Metatarsal Doming (Foot Arch Strengthening)

- Sit or stand and try to **lift the arch of your foot** without curling the toes.
- **Hold for 5 seconds**, repeat **10 reps per foot**.

3. Toe Towel Scrunches

- Place a towel on the floor and use your toes to **scrunch it toward you**.
- **10 reps, 2 times daily**.

4. Rolling Massage with a Ball

- Use a **tennis ball or frozen water bottle** under the foot and roll it gently back and forth.
- **1-2 minutes per foot, 1-2 times daily**.

5. Calf Stretch (Straight & Bent Knee)

- Stand facing a wall and place one foot back to stretch the calf.
- **Hold for 20-30 seconds**, repeat **3 times per leg**.

Avoid walking barefoot, high-impact activities, and tight-fitting shoes until pain resolves.

Helpful Books

1. *"Fixing Your Feet: Injury Prevention and Treatment for Athletes"* - John Vonhof
2. *"Every Woman's Guide to Foot Pain Relief: The New Science of Healthy Feet"* - Katy Bowman

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