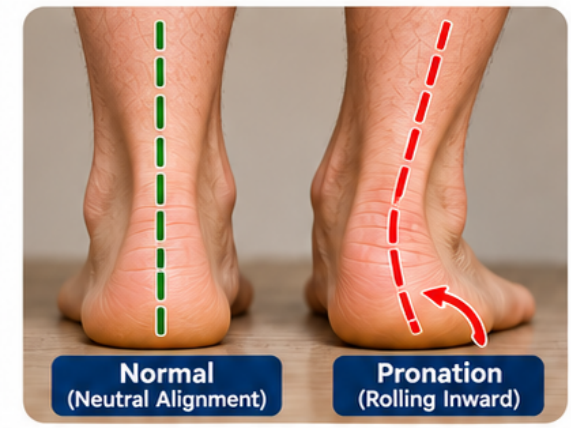
Orthotics4U.com | Dr. Milton J. Stern, DPM
Patient Education

PRONATION

What It Is, Problems It Can Cause, and How Orthotics Help



What Is Pronation?

Pronation is the natural inward rolling of the foot and ankle as you walk or run. It helps absorb shock and adapt to the walking surface. In moderate or excessive amounts, however, pronation can alter foot alignment, increase stress on joints and soft tissues, and lead to pain and injury.

The Pronation Spectrum

Underpronation (Supination)
Not enough inward roll

Normal Pronation
Healthy, balanced motion

Overpronation (Excessive)
Too much inward roll (flattening of arch)

Signs of Excessive Pronation

- ✓ Foot appears to roll inward when standing or walking.
- ✓ Flattening or collapse of the arch.
- ✓ Rapid or uneven shoe wear (especially on the inner edge).
- ✓ Fatigue, aching, or pain in the feet, ankles, legs, or knees.
- ✓ Increased risk of overuse injuries (e.g., plantar fasciitis, shin splints).

Problems Pronation Can Cause



- ✓ Plantar fasciitis (heel pain)
- ✓ Posterior tibial tendon dysfunction (PTTD)
- ✓ Metatarsalgia (ball-of-foot pain)
- ✓ Bunions and other forefoot problems
- ✓ Knee, hip, and lower back pain due to altered alignment

Common Causes

- ✓ **Inherited foot structure** (e.g., low arches or flat feet).
- ✓ **Ligament laxity** (looser supportive tissues).
- ✓ **Muscle imbalance or weakness** (especially the posterior tibial muscle).
- ✓ **Overuse or high-impact activities** (e.g., running, sports).
- ✓ **Improper or unsupportive footwear.**

How Orthotics Help



- ✓ Support and maintain a more neutral foot position.
- ✓ Reduce excessive inward rolling (overpronation).
- ✓ Redistribute pressure and decrease strain on the arch, heel, and forefoot.
- ✓ Improve lower-extremity alignment and overall biomechanics.
- ✓ Help prevent and manage related problems such as plantar fasciitis, PTTD, and metatarsalgia.

Key Takeaway

Pronation is normal and necessary, but excessive pronation can lead to pain and foot problems.

A proper evaluation and custom orthotics can control pronation, reduce symptoms, and help keep you active and pain free.