

## Clinical Guidelines: Foot / Ankle

### **Plantar Fasciitis/Heel spurs:**

**Initial Evaluation:** History includes usually atraumatic plantar medial heel pain, worst first thing in the morning or after prolonged sitting. Exam includes tenderness with deep palpation of the plantar medial heel. Squeezing the heel bone side to side is NOT tender, but if present could represent a calcaneal stress fracture. X-rays may or may not reveal a heel spur, but the spur is NOT the source of the pain despite podiatry frequently referring to this as “heel spur syndrome.”

**Follow-up:** The plantar fascia is the soft tissue under our foot that runs from the heel to the toes, much like the palm of our hand; it is the sole of our foot. The plantar fascia stretch includes crossing your legs and dorsiflexing the ankle and stretching the toes into extension. This is the most effective stretch. A night splint is imperative for improvement and should be used at night for 6 weeks. Cortisone injections and physical therapy can be helpful. NSAIDS and a frozen water bottle rolled on the plantar foot could be used with the above treatment, but the most effective treatment is a night splint.

**Referral:** 90% of heel pain resolves with non-op treatment, but make a referral to a foot / ankle ortho surgeon with any atypical heel pain or failure of 6-8 weeks of non-operative treatment. Atypical heel pain usually gets an MRI, but classic plantar fasciitis does not.

### **Bunion (hallux valgus):**

**Initial Treatment:** Bunion deformity includes a bump on the medial side of the big toe, the big toe going the wrong way, and a widened forefoot. Genetics and footwear are causes. Shoe modification is a viable option. The bump is not a tumor; it's the medial side of the 1st metatarsal head. We say, “Don't bother your bunions unless they bother you a lot” or “No one has ever died from a bunion.” But if painful, the only corrective treatment is surgery. While no splints, braces, orthotics, or shoes can straighten a bunion, some take pressure off enough to relieve symptoms.

**Follow-up:** Standing X-rays are helpful for measuring the toe angles and classifying the hallux valgus as mild, moderate, or severe. This determines what surgery will be most effective. Nothing short of surgery will straighten a bunion, but not all bunions require surgery.

**Referral:** Make a referral if the patient has significant pain despite footwear modification and is healthy enough to undergo surgery.

## **Hammertoes:**

**Initial Evaluation:** History includes a painful lesser toe flexion deformity with rubbing over the PIP joint of the lesser toe. Early hammertoes (metatarsalgia) present as ball of the foot pain and subtle deviation of the MTP joint into medial deviation. This indicates an injury to the plantar plate ligament, and ultimately may lead to a hammertoe deformity. True hammertoes present with no recollection of trauma, but metatarsalgia frequently starts with some type of overuse history.

**Follow-up:** Once hammertoes form, the only effective treatment is extra depth shoes, toe sleeves, or pads. Only surgery can straighten the toe. Metatarsalgia (ball of the foot joint inflammation) is frequently misdiagnosed as “neuromas” and is reversible. Orthotics with metatarsal pads or wells, buddy taping the toes, a walking boot, or a single cortisone injection into the MTP joint can be effective.

**Referral:** Make a referral with any patient that fails shoe modification for hammertoes, or a patient that fails non-op treatment for metatarsalgia. MRI’s are usually not helpful unless the patient has tenderness proximal to the MTP joint. Despite negative X-rays, the patient in this case may have a metatarsal stress fracture. In this case, an MRI would be helpful.

## **Ankle Sprain:**

**Initial evaluation:** History includes an inversion injury to the ankle. The patient presents with swelling and tenderness over the lateral ankle, especially the area just anterior to the distal fibula (ATFL ligament). X-rays are helpful to rule out fracture.

**Follow-up:** Initial treatment includes RICE, NSAIDS, and an ankle corset. More severe ankle sprains can benefit from a walking boot. Physical therapy has been shown to be beneficial in shortening the recovery time of bad sprains. High ankle sprains include injury to the lower tib/fib joint (anterior tib/fib ligament) and are caused by an external rotation force. In this case, the patient is also more tender around the front of the ankle.

**Referral:** Refer ankle sprains that fail 4-6 weeks of conservative treatment. At that time, an MRI is indicated.

## **Suspected (or subtle) Fracture:**

**Initial Evaluation:** History may include more severe trauma (MVA, fall from height, significant violent sport, etc.), or history of osteoporosis / osteopenia. Exam will look worse than you think it should: can’t weight bear at all, more swelling, significant bruising (looks ugly), maybe deformity. I call this “ankle sprain plus.” Many times there is no fracture, just a bad sprain with tendonitis and bone bruising. But if in doubt, get an MRI. Frequently missed ankle fractures include avulsion fractures (not a big deal, much like sprains), talus fractures (can be a big deal), and posterior malleolar fractures of the tibia (can be a big deal).

**Follow-up:** If concerned, an MRI is warranted. No one will fault you for crutches, a walking boot, and keeping the patient non-weight bearing until seen by ortho.

**Referral:** Beware of the swollen mid-foot! The trauma can be subtle (i.e. stepping in a hole, sliding into second base, etc.) and X-rays may not show much (small avulsion from base of metatarsal). But these are potentially severe injuries called Lisfranc injuries requiring surgery by an experienced ortho surgeon. Again, the tenderness is going to be across the instep, midfoot, a.k.a. the tarso-metatarsal joints. X-rays, CT scan, and referral are imperative.

## **Achilles Tendon:**

**Initial Evaluation:** Most Achilles problems are either insertional or non-insertional tendonitis. Mild trauma, over-use, or rubbing are typical causes. Inflammatory arthropathies and some meds (Cipro, cholesterol meds) can also cause it. The patient is tender either at the Achilles insertion on the calcaneus or in the mid-substance of the Achilles, sometimes with a bulbous nodule on the tendon. The insertional type will sometimes have a calcium build-up at the insertion called a pump bump or Haglunds deformity. If there has been an acute trauma (usually sports) with a “pop” and significant difficulty walking, an Achilles rupture may have occurred. In this case, a palpable defect in the tendon will be felt, and squeezing the calf will NOT result in plantarflexion of the foot (positive Thompson sign).

**Follow-up:** If an acute rupture is suspected, put the patient on crutches and refer immediately. An MRI is usually not necessary to diagnose and treat this. If the patient has any type of Achilles tendonitis, place them in a walking boot and order physical therapy. Ice and NSAIDS can also be helpful. Have them sleep in the boot as well until better.

**Referral:** Refer any acute Achilles rupture. Don't bother with an MRI. Refer any very severe mid substance Achilles tendonitis with a large nodule. This could be a partial rupture. Otherwise, refer a patient to ortho after 2 months of conservative treatment failure. DON'T inject cortisone near or in the Achilles tendon! This will cause an atraumatic rupture that's hard to fix. A traumatic “pop” with decrease ambulation and tenderness in the CALF muscle and NOT the Achilles tendon is a gastrocnemius muscle strain. This is treated with ice then heat after a week, and a walking boot until better (usually 3-4 weeks). These patients do not need a referral, and usually end up getting an unnecessary duplex to rule out DVT.

## **Arthritis:**

**Initial Evaluation:** Post-traumatic arthritis is the most common ankle arthritis. Idiopathic and inflammatory arthritis also occur. Longstanding pain with ambulation and stiffness of the ankle are the most common complaints. Frequently, the x-rays of ankle arthritis look worse than the patient feels. Treat the patient not the x-rays. Mild symptoms can benefit from NSAIDS, an OTC ankle corset, and physical therapy. Moderate symptoms can benefit from a cortisone injection, rocker sole shoes from a good shoe store (write “rocker sole shoes” on a script), orthotist, or even a custom made ankle arthritis brace.

**Follow-up:** Severe arthritis, especially with tilting of the talus into varus or valgus on the x-rays, along with any patients that fail the above treatments can benefit from referral to a foot / ankle ortho surgeon.

**Referral:** It never hurts to try conservative treatments for ankle arthritis. There is no proven benefit to Synvisc (hyaluronic acid), PRP (platelet rich plasma), or stem cell injections for ankle arthritis. Surgery includes ankle fusion (gold standard), ankle replacement (in very select cases), and realignment osteotomies in select cases. Some minor ankle arthritis responds to ankle arthroscopy or open debridement. Beware of the patient with arch collapse +/- stiffness side to side with pain on the medial side of the hindfoot. This usually represents a hindfoot (not ankle) problem called posterior tibial dysfunction (a.k.a. adult acquired flatfoot). This patient would benefit from an expedited referral to ortho surgery.