

Orthopedic Roundtable – Foot and Ankle Disorders

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1. Overview - Review of foot and ankle examination with examples of common foot and ankle problems, with focus on diagnosis and non-surgical management.

2. Foot and ankle examination - Standing alignment, walking, gait, range of motion, palpation, focused special tests

Standing - Hindfoot alignment- varus, valgus from behind, Comparison to opposite side, Single stance heel raise

3. Hindfoot Deformities - Best evaluated observing standing from behind,

Pes planus – fallen arch, flatfoot

Pes cavus – high arch

Wide spectrum of severities, clinically relevant problem if combined with pain

3a.. Pes planus – peritalar subluxation, pes planovalgus, symptomatic flatfoot, tibialis posterior tendinitis

-hindfoot valgus, forefoot abduction

-treatment

Medical – NSAIDs, analgesics, weight loss, activity modification

Orthotics – UCBL heel cup for severe deformity

Bracing – semi-rigid articulating AFO

Surgical – last resort, type of surgery depends on whether deformity is flexible or rigid

-fixed deformity – triple arthrodesis (subtalar, calcaneocuboid, talonavicular)

-flexible deformity- combination of tendon transfer and osteotomy

3b. Pes Cavus – can be associated with recurrent ankle instability, peroneal tendinitis, stress fracture of 5th metatarsal, fixed vs flexible – coleman block test

Treatment – as pes planus, medial, orthotics, bracing and surgery

4. Ankle problems

Look for swelling, site of pain, site of tenderness

anterior – tendons, OA, OCL

posterior – tendons, os trigonum, medial -tendons, OA, OCL

lateral-ligaments, OA, peroneal tendinitis, OCL

Ankle sprains - Common MSK injury – treatment WBAT, physio important (peroneal strengthening), Anterior talofibular, calcaneofibular, and posterior talofibular ligaments

Ankle Sprain that doesn't get better ?

DDx- osteochondral lesion of the talus, peroneal tendon subluxation , recurrent instability, lateral process of talus fracture, ankle arthritis, subtalar joint pathology

5. Hindfoot Examination

subtalar arthritis, site of pain inframalleolar, stiff inversion/eversion

Plantar fasciitis – AM pain, usually self limiting

Achilles tendinitis – common usually self limiting

Retrocalcaneal bursitis – “pump bump”

6. Midfoot pain – dorsal bossing TMT joint, OA TMT joint

7. Masses – ganglion vs sarcoma

-common mass in plantar fascia is plantar fibroma and treat nonoperatively

8. Forefoot pain

Bunion- Hallux valgus (malalignment) vs hallux rigidus (OA)

Claw toes- Flexible vs fixed

Metatarsalgia

Interdigital neuroma

Treatment of forefoot pain - Overall first line of treatment, shoeware modifications (wide toebox, rigid shank, soft “leather” upper), “consider” orthotics

Hallux valgus surgery – must be painful, multiple procedures (ie no perfect procedure) must be customized to patient need, deformity

Bumpectomy – high recurrence Proximal osteotomy – powerful correction

Distal osteotomy – commonly used Soft tissue release – allows correction

Must tailor procedure to individual patient depending on age, severity of deformity, Xrays

Hallux rigidus - OA of 1st metatarsal-phalangeal joint, clinical features dorsal osteophytes and stiffness, common cause of pain at the 1st MTP joint

Treatment – Non-surgical - accommodative shoes, rigid shank, rocker bottom, wide toe box

Surgical – depends on “stage”, Cheilectomy, debridement, Arthrodesis

Others – proximal phalangeal resection (Keller)

Claw toe deformities - Generally flexion at PIP joint and hyperextension at MTP joint, tendon “imbalance”, can get ulceration at PIP joint dorsally or tip of toe, pain can occur at MTPJ plantar (metatarsalgia), PIP dorsal, or tip of toe

Metatarsalgia – if due to dislocated MTP joint can be more difficult to treat non-surgically, full length orthosis with metatarsal bar or pad can be helpful

Diabetic foot problems – deformities, altered sensation, leads to pressure ulcers, can be portal of entry of microbes and lead to soft tissue or bone infection (osteomyelitis)

- Look for altered sensation (monofilament testing) and patient education is important to prevent above sequence of events

9. Ankle Arthritis

Usually post-traumatic, also RA, idiopathic

Present with activity related stiffness, pain and swelling

Treatment options, NSAIDs, bracing, arthroscopic debridement, arthrodesis vs total ankle arthroplasty