FOOT and ANKLE BASICS

ABC’s of Comprehensive Musculoskeletal Care
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CHRONIC FOOT PROBLEMS

• Chronic problems typically occur gradually over time although they may suddenly become symptomatic
• The most common etiology is the characteristic way that force is absorbed by the foot during standing and walking leading to degeneration and failure of ligaments and/or tendons

CHRONIC FOOT PROBLEMS

• Chronic foot problems often have a familial predisposition
• The foot absorbs 3-5x body weight during walking due to lever forces

CHRONIC FOOT PROBLEMS

• Obese patients have more chronic foot problems than patients of normal weight
• Recovery from any type of foot surgery takes a LONG time.
CHRONIC FOOT PROBLEMS

OUTLINE
- Metatarsalgia (Morton’s Neuroma)
- Bunion (Hallux Valgus)
- Hallux Rigidus
- Plantar Fasciitis
- Symptomatic Adult Flatfoot Deformity (Posterior tibial tendon insufficiency)
- Recurrent Ankle Instability
- Achilles Tendonitis

Metatarsalgia (Morton’s Neuroma??)

History
- Chronic forefoot pain

Physical Exam
- Tender 2nd or 3rd MT heads
- Mild Clawed toes

TREATMENT
- Metatarsal pad
- Calf stretching
- Wide comfortable shoes

Comfort shoes
- Rocker bottom sole
- Stiff shank
- Accomodative
- Wide toebox

Metatarsalgia

• Overload problems

History
- Chronic forefoot pain

Physical Exam
- Tender 2nd or 3rd MT heads
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TREATMENT
- Metatarsal pad
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Comfort shoes
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BUNION (Hallux Valgus)

History
- Gradual onset
- +Family History

Physical Examination
- Medial bunion
- Pinch callus
- 2nd MT head callus
- Loss of arch
- Medial column hypermobility

BUNIONS (Hallux Valgus)

TREATMENT
- Non-operative
  - Comfort shoes

SURGERY
- NOT for COSMESIS!!
  - Many procedures described
  - Prolonged recovery
  - Risks

HALLUX RIGIDUS

HISTORY
- Painful great toe

PHYSICAL EXAM
- Stiff great toe

INVESTIGATION
- X-Rays

HALLUX RIGIDUS

TREATMENT
- Stiff soled shoe
- NSAIDs

SURGERY
- Cheilectomy
- Fusion
PLANTAR FASCIITIS

- Heel Pain –common!
- Plantar Fasciitis is the most common cause
- Believed to be a repetitive traction injury to plantar fascia
- Associated with:
  - Increased activity
  - Change of shoes
  - Running surfaces
  - Extra weight

PLANTAR FASCIITIS

HISTORY

- Plantar medial heel pain
- Morning pain!

PHYSICAL EXAMINATION

- Local tenderness
- Equinus contracture

PLANTAR FASCIITIS

INVESTIGATION: X-Rays

HEEL SPUR

- A sign only!
- Not the cause of the problems!
PLANTAR FACIITIS

Treatment
• Relative Rest
• Activity Modification
• NSAIDs
• Calf Stretching
• Night Splints
• Cortisone Injections?
• Pulsed shockwave therapy
• Surgery

ADULT FLATFOOT DEFORMITY

HISTORY
• Longstanding Flatfeet
• Gradually become symptomatic
• +Family history
• Posteromedial pain

ADULT FLATFOOT DEFORMITY

PHYSICAL EXAMINATION
• Forefoot abduction
• Hindfoot valgus
• Tender Posterior tibial tendon insertion
• “Too many toes” sign
• Unable to toe rise
• Equinus

ADULT FLATFOOT DEFORMITY

Tissue Overload
• Tight Calf
• Extra weight
• Tendon / ligament degeneration
ADULT FLATFOOT DEFORMITY

TREATMENT

Non-Operative
• Shoes
• Ankle lacer → OTC Orthotics
• High repetition, low resistance
  Physical therapy

Operative
• Reconstruction

RECURRENT ANKLE INSTABILITY

HISTORY
• Multiple ankle sprain
• Pain? Instability? Or Both

PHYSICAL EXAMINATION
• Pain?
• Hindfoot varus
• Inversion laxity
• **Compare to contralateral side

RECURRENT ANKLE INSTABILITY

TREATMENT

• Eversion strengthening
• Proprioception training
• Prophylactic bracing
• Minimize at risk activities

• Surgery

ANKLE SPRAIN

HISTORY
• Acute inversion plantar flexion injury
• Previous ankle sprains?

Physical Examination
• Tender anterolateral ankle
  (anterior tibiofibular ligament)
ANKLE SPRAIN

DIAGNOSIS
- Ottawa Ankle rules
- Grade
  - Good
  - Bad
  - Ugly

TREATMENT
ACUTE Phase
- R.I.C.E.
- Crutches PRN
SUBACUTE Phase
- PT (ROM, Strengthening, Proprioception)
- Prohylactic bracing?

OTHER SOURCES of ACUTE ANKLE PAIN
- High ankle sprain
- Osteochondral injury
- Sinus tarsi injury
- Subluxing peroneal tendons
- Ankle fracture

ANKLE FRACTURE

HISTORY
- Twisting injury
- Immediate pain –lateral and/or medial
- Difficulty weight-bearing

PHYSICAL EXAMINATION
- Malleolar pain (posterior & anterior)
- Neurovascular
ANKLE FRACTURE

- INVESTIGATION
- X-Ray (Ankle series –AP, Mortise, lateral)

- DIAGNOSIS
  - Stable / Undisplaced
  - Unstable / Reduced
  - Unstable / Displaced

- TREATMENT
  - Splint – controlled ROM
  - Cast x 6 wks
  - ORIF vs Closed reduction + Cast

ACHILLES TENDON RUPTURE

- HISTORY
  - Acute injury
  - Eccentric load
  - “struck on the leg”

- PHYSICAL EXAM
  - Swelling
  - Palpable gap
  - +Thompson Test

- DIAGNOSIS
  - Make the diagnosis early (<48 hours)
  - OPERATIVE
  - MUST TREAT!!!!
  - Operative vs non-operative
  - Operative Rx if diagnosis initially missed

- INVESTIGATIONS
  - None required
QUESTIONS??