Common Foot and Ankle Problems

Orthopaedics for the Primary Care Provider
May 21-22
Scott R. Whitlow, M.D.
Reno Orthopaedic Clinic

Disclosure

• I have no relevant financial relationships to disclose.
• I have received no compensation for this talk.

Goal

• Overview of anatomy and diagnosis
• Identify problems with easy effective treatment options
• Basics to know when to refer and keep you out of trouble

Why Care about foot pain?

• Greater than 30 million Americans seek professional help for foot pain yearly
• You are going to have to treat these folks

Anatomy

BASIC PRINCIPLES

• Proper Diagnosis
  – History
  – Physical Examination
  – Imaging Studies
  – Injections

The art of medicine consists of amusing the patient while Nature cures the disease.

Voltaire

Disorders of the Forefoot

• Bunions
• Bunionettes
• Great Toe Arthritis
• Claw/hammer toe
• Morton’s Neuroma

Hallux Valgus

• Bunion → Hallux Valgus
• Spectrum of Deformities
• Bunion → Hallux Valgus
• Spectrum of Deformities
• Great Toe Deviates Laterally
• Sesamoid Complex Shifts Lateral
• Metatarsal Head is Prominent Medially
• Toe Rotates in Pronation

10 □ Hallux Valgus
• CAUSE
  – Hereditary
  – Shoe wear

11 □ F A S H I O N

  at any cost

12 □ Hallux Valgus - Treatment
• Shoe modifications
  – Wide toe box
  – Ball and Ring Stretcher
  – No seams
  – Flexible material
  – Flats
• Bunion Splints?

13 □ Hallux Valgus - Treatment
• SURGERY
  – When non-surgical treatment fails to alleviate Pain
  – When there is transfer metatarsalgia
  – Symptomatic lesser toe problems related to the bunion
  – >150 surgeries described

14 □ Bunionette (Tailor’s Bunion)
• Lateral Forefoot Bump
• 5th Metatarsal Head
• Wider Toe box Shoe
• Cut-out Shoe
• Reconstruction similar for hallux valgus

15 □ Hallux Rigidus
• Arthritis of Great toe
  – Trauma
  – Wear and tear
• Symptoms
  – Restricted motion
  – Pain with motion
  – Prominent bone
— Pain with motion
— Prominent bone

16 16 Hallux Rigidus

Treatment
• Shoe modifications
  — Carbon fibre plate
  — Rigid sole shoe
  — Reduced pressure
• Anti-inflammatory
• Injections
• Surgery **
  — Cheilectomy
  — Fusion
  — No replacements

17 17 Toe Deformities
• Claw Toe
• Hammer Toe
• Mallet Toe
• Curley Toe
• Is it Fixed or Flexible?

• Etiology
  — Hallux valgus
  — Shoe wear
  — Neurologic

18 18 Hammertoes
• Clawing of toes
  — 2nd toe most commonly involved
  — More common in women
  — Usually symptomatic in shoes
  — May have pain on the ball of the foot

19 19 Toe Deformities

Treatment
• Shoe Modification
  — Wide toe box
• Padding
• Hammer toe splint
• Surgery

20 20 Hammertoes
• Surgery
  — Do for symptoms not cosmetics
  — Usually have to correct 1st ray problems as well
- Do for symptoms not cosmetics
- Usually have to correct 1st ray problems as well
- Sacrifices PIP joint

21 Corns and Callus
- Foot response to pressure
- If you relieve the pressure they will usually go away
- Trimming and softeners can help symptoms

22 Corns and Callus
- Soft corns in the web space can be very painful
  - Toe spacers can help alleviate the condition

23 Morton’s Neuroma
- Presents with burning in forefoot
  - women > men
  - worse in shoes
  - 3rd web > 2nd web
  - better if remove shoes and rub feet

24 Morton’s Neuroma
- Caused by nerve entrapment in the web space
  - not a tumor
  - does not cause toe deformity

25 Morton’s Neuroma
- Treatment
  - wider shoes
  - metatarsal pad
  - injection
  - surgery

26 Metatarsalgia
- Pain in the metatarsal phalangeal joint
- Can be related to hallux deformity or lesser toe deformity
- Pain dorsal and plantar
- Can have joint instability
  - 2>3>4>5
- Do not confuse with Morton’s Neuroma!!

27 Treatment
- Hapad/Orthotics
- Shoe modification (flats)
- Injections**
- Surgery
  - Toe deformity correction
  - Metatarsal osteotomy
• Metatarsal osteotomy

High Arch Flat Arch

Flatfoot
the “pronator”
• All flat foot is not pathologic
  – 18% of Americans have what can be reasonably called flatfoot
  – Puts patient at greater risk for foot pain

Flatfoot
• When do we get concerned about flatfoot?
  – Asymmetry
  – Progressive
    • painful
    • painless
    • swelling

Posterior Tibialis Insufficiency

Flatfoot
• Early treatment
  – comfort shoes
  – off the shelf arch supports
  – NSAID
• For ANY progression
• REFER

referral

High Arch Foot
Pes Cavus
• Neurologic Disease??
  – Charcot-Marie-Tooth
  – Stroke
  – Cerebral Palsy
  – Traumatic nerve injury

Subtle High Arches
• Underlying cause for
  – Recurrent ankle sprains
  – Metatarsal fractures
  – Tendon tears
  – Ankle arthritis
Ankle arthritis

**Pes Cavus - Treatment**
- First line of Treatment
  
  Cavus Foot Orthotic

**Plantar heel pain**
- Plantar fasciitis
  - Most common foot complaint to seek medical help
  - Ubiquitous condition
  - No distinct patient profile
  - These folks can be miserable

**Plantar Fasciitis**
- Subcalcaneal Heel Pain
  - Proximal plantar fasciitis
  - Distal tarsal tunnel syndrome
  - Central heel pain syndrome
  - Plantar fascial rupture (partial or complete)

**Plantar Fasciitis**
- History and Physical Examination
  - Worse in AM
  - Worse after rest or sitting
  - Pain - dull, aching, sharp, “stone-bruise”
  - Improved by supportive shoes
  - Max tenderness @ plantar medial heel
  - No pain with lateral calcaneal compression
  - ? Tight heel cord
  - Pes Cavus or pes planus (excessive pronation)

**Plantar Fasciitis**
- Pathophysiology
  - Repetitive tensile load to soft tissue attachment
  - Enthesopathy
  - Spur formation is rarely clinically significant
  - Can be nerve pain

**Plantar Fasciitis**
- Treatment Modalities- initial phase
  - Plantar fascial/achilles stretching
  - *5 minutes twice daily
  - Orthotics (gel cups)
  - Dorsiflexion night splint
  - NSAID’s
  - Massage
– NSAID’s
– Massage

42 Plantar Fasciitis
  • Treatment Modalities- secondary phase
    – Physical therapy modalities
    – Casting
    – Corticosteroid injection
      • May worsen problem
      • Improvement usually temporary
      • Risk of rupture- 25-40%

43 Plantar Fasciitis
  Non operative treatment is 95% effective

44 Posterior heel pain
  • Achilles tendon insertional pain
    – Associated with pain in the posterior heel
    – Can rub on shoe
    – Start up can be worse
    – Hills and uneven ground problem

45 Achilles Disorders
  • Insertional Tendinitis
    – Tight Achilles
    – Diabetes, Obesity

46 Posterior heel pain
  • Treatment
    – Eccentric strengthening
    – Heel lift
    – Heel pad
    – NSAID
    – Casting
    – Surgery

47 Achilles Tendonosis
  • Overuse
  • Tight Achilles
  • Palpable Thickening
  • Acute on Chronic Injury
  • MRI
  • Partial tear

48 Treatment
  • Conservative 90% effective
  • Eccentric strengthening
  • Stretching often worsens condition
• Eccentric strengthening  
• Stretching often worsens condition  
• Surgery if ineffective  
• Achilles debridement +/- FHL transfer

49  □  ARTHRITIS  
• Can Affect any of the 33 joints in the foot

50  □  Ankle Arthritis  
• Post traumatic or recurrent instability more common than primary arthritis  
• Damage to cartilage at the time of injury  
• Inaccurate reduction / poor fixation or recurrent injury from instability

51  □  ANKLE ARTHRITIS  
• Wear and Tear Problem  
• Narrow Joint Space  
• Bone Spurs  
• Joint deformity

52  □  Midfoot Arthritis  
• Can have collapse of arch  
• Don’t confuse with posterior tibialis insufficiency

53  □  Conservative Treatment  
• Skip Lacing  
• Achilles stretching  
• Stiff shoes  
• Full length semi-rigid orthotics with a carbon fiber plate  
• Fluoroscopic guided differential injections

54  □  ARTHRITIS - TREATMENT  
• Bracing  
  – Arizona/AFO  
• Shoe modifications  
  – Rocker bottom sole  
• Anti-Inflammatory Rx  
• Injections  
  – Cortisone  
  – Synvisc? (FDA trials)

55  □  ARTHRITIS  
• Debridement  
  – Remove bone spurs  
  – Remove loose bodies  
  – Arthroscopic
— Arthroscopic

56 □ ARTHRITIS SURGERY

57 □ Ankle Replacement
• New and improved designs
• Not everyone with ankle arthritis qualifies

58 □ Diabetic Foot
• Small Vessel Disease
• Neuropathy
• Pressure Problems
• Poor Healing
• “At Risk” Foot

59 □ Diabetes Ulcer
• Full Thickness Ulcer
  – No Weightbearing
  – Keep Clean
  – Surgical Decompression
• Infected Ulcer
  – Debridement
  – Amputation

60 □ Charcot Arthropathy
• Active Phase
  – Warmth
  – Protect Foot
  – Extended Time - Months
• Chronic Phase
  – Shoe Modifications
  – Brace
  – Excise Prominences

61 □ Prevention is the best medicine
• Smoking cessation
• Tight control of blood sugars
• Proper nutrition
• Diabetic Shoes
• Neuropathic inserts

62 □ Thank You