

Common Foot and Ankle Conditions

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Objectives

- Common Podiatric Pathology
 - Heel pain
 - Neuroma
 - Digit deformities
 - Verruca
- Basic evaluation and overview
- Basic treatment

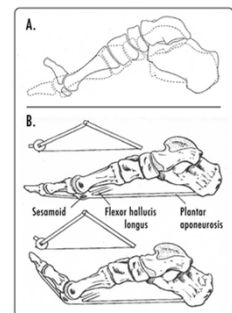
Heel Pain

- Plantar fasciitis
- Heel spur syndrome
 - Misnomer
- Post static dyskinesia
- Plantar heel pain
 - Medial calcaneal tubercle



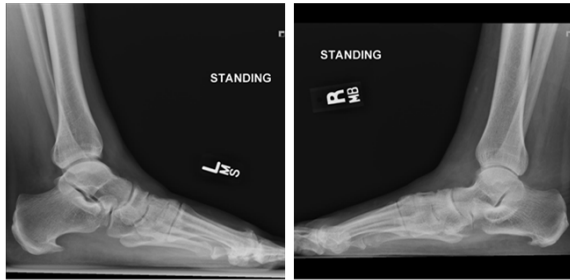
Etiology

- Flat foot
- Hyperpronation
- Weight gain
- Exercise regimen
- Poor shoe gear
- Barefoot walking



Author: Kosi Gramatikoff

Spur Comparison



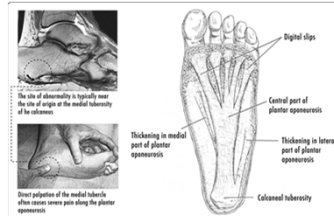
Physical Exam

- Pronated foot
- Obese
- Edema to plantar/medial heel
- Pain with palpation
 - Lateral compression



Treatment

- Stretching
- Home cryotherapy
- Avoid barefoot walking
 - In home
- NSAIDs
- Activity modifications
- Support
 - Orthotics



Author: Kosi Gramatikoff

Secondary Treatment

- Injections
 - Steroid
- Night splint
 - Windlass
- Immobilization
- Custom orthotics
- Formal physical therapy

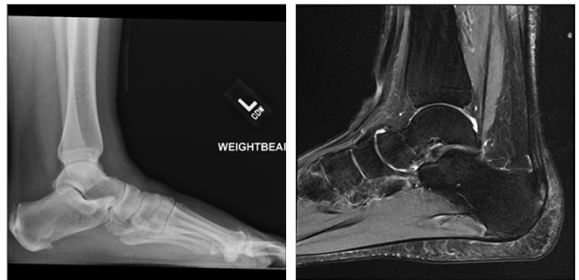


Surgical Treatment

- Surgery
 - Failed conservative treatment >6 mos
 - Plantar fasciotomy
 - ESWT (extracorporeal shockwave therapy)
 - Coblation



Not Plantar Fasciitis

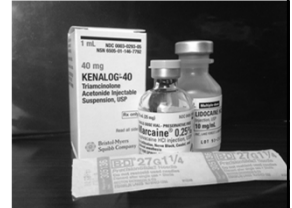


Posterior heel

- Retrocalcaneal exostosis
- Similar cause
- Posterior heel pain
- Pain with activity
- Heel lift
 - Alleviate achilles tension
- NSAIDs
- Physical therapy
 - Home therapy

Neuroma/Morton's Neuroma

- Burning pain
- Numbness/Tingling
- Sharp radiating pain
- “Wrinkled-sock sensation”



Exam

- Pain with palpation
- Mulder's click
- Radiating sensation
- Radiographs
 - R/O differentials
- Ultrasound
- MRI

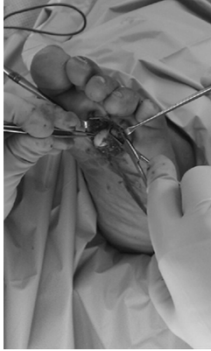


Treatment

- Shoe modifications
- Orthotics
- Padding
- Injections
 - Steroid
 - EtOH
- Surgery
 - Excision
 - Decompression



Neuroma Excision



Digital Deformities

- Hammertoe
- Claw toe
- Mallet toe
- Crossover toe
- Adductovarus
- Contracture



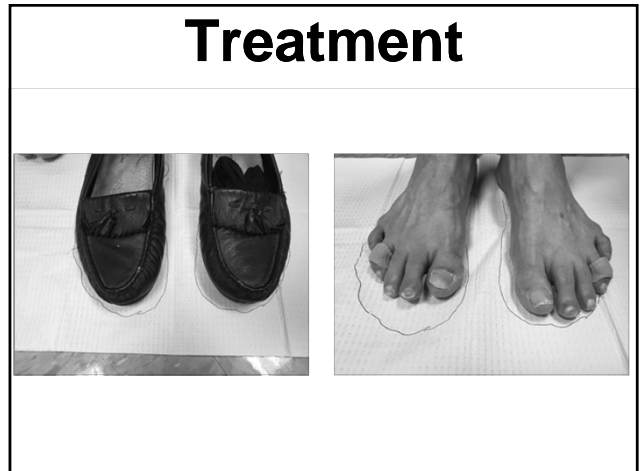
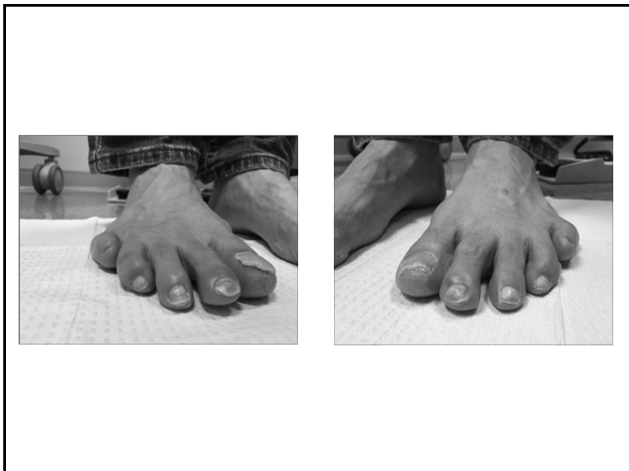
Exam

- Radiographs
- Pain with palpation
- Callus
- ROM
- Stability/push up/WB



Plane of Deformity







Polydactyly



Conservative Treatment

- Shoe modifications
- Padding
- Debridement
- Taping
- Injections



Surgery

- Arthroplasty
- Arthrodesis
 - Fixation
- Osteotomy
- Tendon transfer
 - Soft tissue balance



Verruca

- Human papilloma virus
 - 1,2,4,63
- Verruca plantaris
- Benign epithelial tumor
- 7-10% of population
- Moist surfaces
- Difficult to treat



Physical Exam

- Hyperkeratotic tissue
- Pinpoint bleeding
- Divergent skin lines
- Pain with lateral compression
 - Differentiates



Not a Wart



Treatment

- Keratolytics
 - Salicylic Acid (60%)
 - Canthiridin
- Cryotherapy
- Laser treatment
 - Leaves a wound
- Excision



Conclusion

- Exhaust conservative treatment
 - Shoe modifications
- Realistic goals
 - Patient expectations
- Surgical treatment options



Podiatry for the Primary Care Physician

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Objectives

- Eval some common pedal problems
 - Bunion (HAV)
 - Hallux Limitus/Rigidus
 - Paronychia
 - Tinea Pedis
 - Puncture Wounds

Bunion

- Hallux AbuctoValgus
- Etiology
 - Multiple factors, heredity primary influence
- Pain over the medial eminence of the 1st metatarsal head
- May also get pain from great toe impeding on 2nd digit



Author: Original uploader was
Cyberprout at fr.wikipedia
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Bunion- Treatment Options

- “Corrective” splints will not fix deformity
- If asymptomatic would not recommend any treatment
- Conservative options
 - Shoes with a wide toe box (accommodate the deformity)
 - Padding
 - Ice, NSAIDs
 - Orthotics- control mechanics (pronation)

Bunion

- Radiology Evaluation
 - IM 1-2 Angle
 - Normal 8 degrees
 - Tibial Sesamoid Position
 - Hallux Valgus Angle
 - Normal 15 degrees
 - Eval 1st MTP for osteoarthritis
 - Helps with operative decision making



Bunion Surgery

- Indicated if patient fails conservative therapy and pain limits ability to perform activities
- Multitude of surgical procedures based on degree of deformity and other factors

Surgical Options

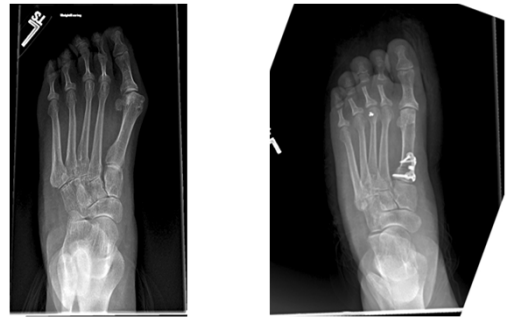
- Osteotomy
- Fusion



Distal Osteotomy



Proximal Procedure



Lapidus Fusion

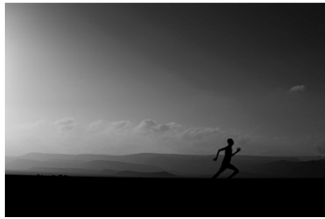


Phalangeal Osteotomy



Bunion Surgery

- Remove prominent 1st metatarsal head, realign 1st MTP and sesamoid position, improve 1st MTP function
- Decrease patient pain and improve function



Author: U.S. Air Force photo by Staff Sgt. Jonathan Steffen

Hallux Limitus/Rigidus

- Limitation of Motion of the 1st MTP
- Normal dorsiflexion of this joint is 60 degrees with the foot loaded
- Sometimes called a dorsal bunion

Hallux Limitus

- Etiology
 - Previous trauma, long or elevated 1st ray, forefoot supinatus, osteoarthritis, longstanding HAV, inflammatory arthritis
- Symptoms
 - Pain, stiffness, crepitus, painful dorsal bony prominence
- Clinical Presentation
 - More pain noted over dorsal joint and with ROM of the joint, as opposed to medial pain seen with HAV



Hallux Limitus

- Conservative Treatment
 - Decrease ROM of 1st MTP
 - Rigid shoe, carbon fiber foot plate, mortons extension on orthotic
 - NSAIDs, ICE
 - Injection
 - Physical Therapy
 - Activity Modifications

Hallux Limitus

- **Surgical Options**
 - Chielectomy
 - 1st MTP Implant
 - Controversial, difficult to manage complications
 - 1st MTP Arthrodesis



Paronychia

- Inflammation/Infection of nail fold
- Onychocryptosis typically involved
 - Incurvation of nail plate punctures nail fold and creates opportunity for infection



Author: ILAMETH at the wikipedia project

Paronychia

- **Mild Case**
 - May respond to antibiotic, Epsom salt soaks
- **Moderate/Severe**
 - Require more aggressive treatment
 - Toe block and nail avulsion
- **Extreme/Neglected**
 - Could potentially result in osteomyelitis



Author: M Lawrenson
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Paronychia

- **Nail avulsion**
 - Typically simple drainage is not sufficient
 - Remove portion of nail impeding on the skin and drainage of any purulent material
 - Toe blocked with local, nail freed from nail bed, English anvil to resect the affected portion of nail

Paronychia

- Antibiotics-Cover gram positive
 - Cephalexin, clindamycin
- In diabetic may want to broaden antibiotic coverage
- May augment with topical antibiotic

Paronychia

- Recurrent Cases would consider a matrixectomy procedure
 - Chemical versus surgical procedures

Tinea Pedis

- Acute form
 - Trichophyton Mentagrophytes
 - Intensely pruritic, sometimes painful, erythematous vesicles or bullae between the toes or on the soles, frequently extending up the instep
 - Self-limited, intermittent, and recurrent



Tinea Pedis

- Chronic form
 - Most common
 - Trichophyton Rubrum
 - Slowly progressive, pruritic, erythematous erosions and/or scales between the toes
 - Erythema and white, macerated skin are present between the toes



Tinea Pedis

- Extension onto the sole, sides of the foot, and in some cases the top of the foot follows, presenting as moccasin distribution with variable degrees of underlying erythema
- The border between involved and uninvolved skin is usually quite sharp



Tinea Pedis

- Clinical picture and history are typically diagnostic, and KOH is to confirm
 - Septate hyphae are visible on a background of squamous cells on KOH prep

Tinea Pedis

- Treatment
 - Topical antifungal cream for four weeks; interdigital tinea pedis may only require one week of therapy
 - Butenafine– Mentax or Lotramin ultra 1% cream QD to BID
 - Naftine – Naftin 1% cream QD
 - Terbinafine – Lamisil 1% cream Qday to BID
 - Ketoconazole – Nizoral 2% cream Qday
 - Miconazole – Monistat-derm 2% cream BID
 - Clotrimazole – Lotrimin 1% cream BID
 - Oxiconazole – oxistat 1% cream Qday or BID
 - Oral antifungal
 - Terbinafine 250 mg daily for 2 weeks
 - Intraconazole

Puncture Wound/Foreign Body

- Typically caused from walking barefoot
 - Though may occur with shoe gear
 - Greatest occurrence between May-October
 - July most common



Puncture Wound

- Most common object is a nail
- Treatment
 - Superficial cleansing
 - Tetanus prophylaxis
 - Oral antibiotic
 - Remove FB if possible/superficial
 - Close follow up



Author: James Heilman, MD
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Puncture Wound/Foreign Body

- Deep foreign body may require removal in operating room
 - Need for fluoroscopy

Puncture Wound/Foreign Body

- Complications
 - Cellulitis
 - Septic Arthritis
 - Retained foreign body
 - Osteomyelitis
 - *Pseudomonas Aeruginosa*

Puncture Wound/Foreign Body

- Goals
 - Conversion of contaminated wound to a clean wound
 - Prevent infection
 - Remove foreign body
 - Prevent residual pain or deformity

