

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**

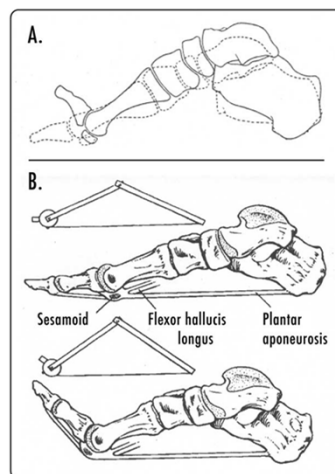
Heel Pain

- 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



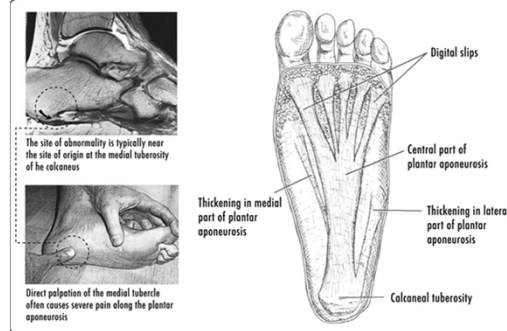
Physical Exam

- 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**



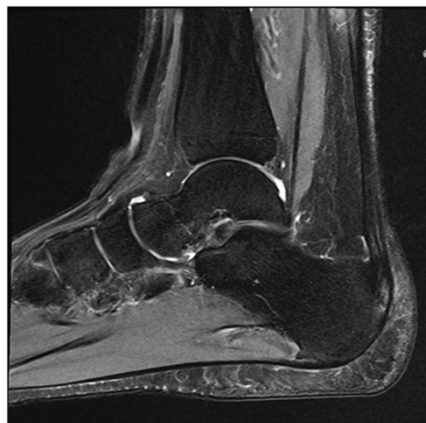
Surgical Treatment

- **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

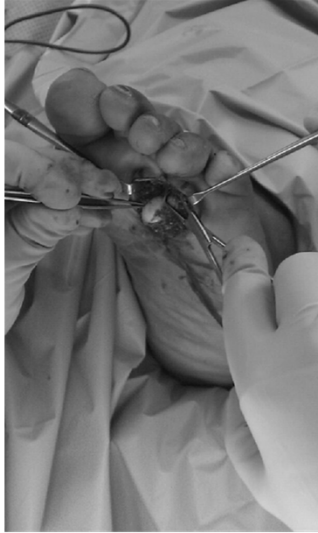


Treatment

- 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







Treatment





Polydactyly



Conservative Treatment

- **Shoe modifications**
- **Padding**
- **Debridement**
- **Taping**
- **Injections**



Surgery

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



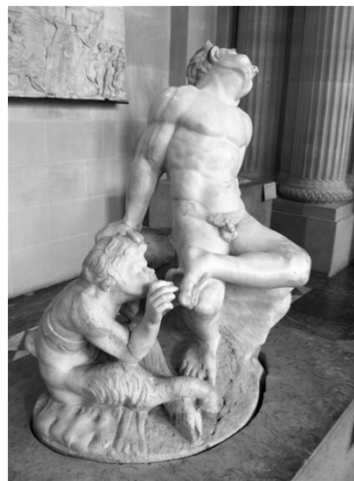
Verruca

- 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

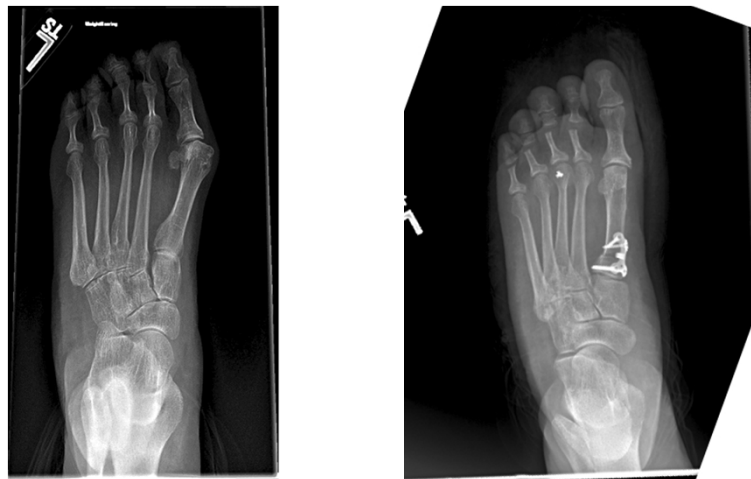
- Osteotomy
- Fusion



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**

