



# Foot & ankle Injection Techniques

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## Principal Podiatrist

- Extended Scope Practitioner
- Clinical Lead for MSK across Greenwich and Bexley
- Use Injection therapy daily



# Injection Techniques

- Objectives:
- Diagnostics of foot and ankle pathologies
- Anatomy and landmarks
- Drug Choice
- Technique of Injecting the foot and ankle



# Diagnosics

- 4 main pathologies
- 2 intra-articular & 2 Soft tissue
- Hallux Limitus
- Sinus Tarsi (& subtalar joint)
- Interdigital Neuritis
- Plantar Fasciosis/ Enthesopathy



# Hallux limitus/ OA

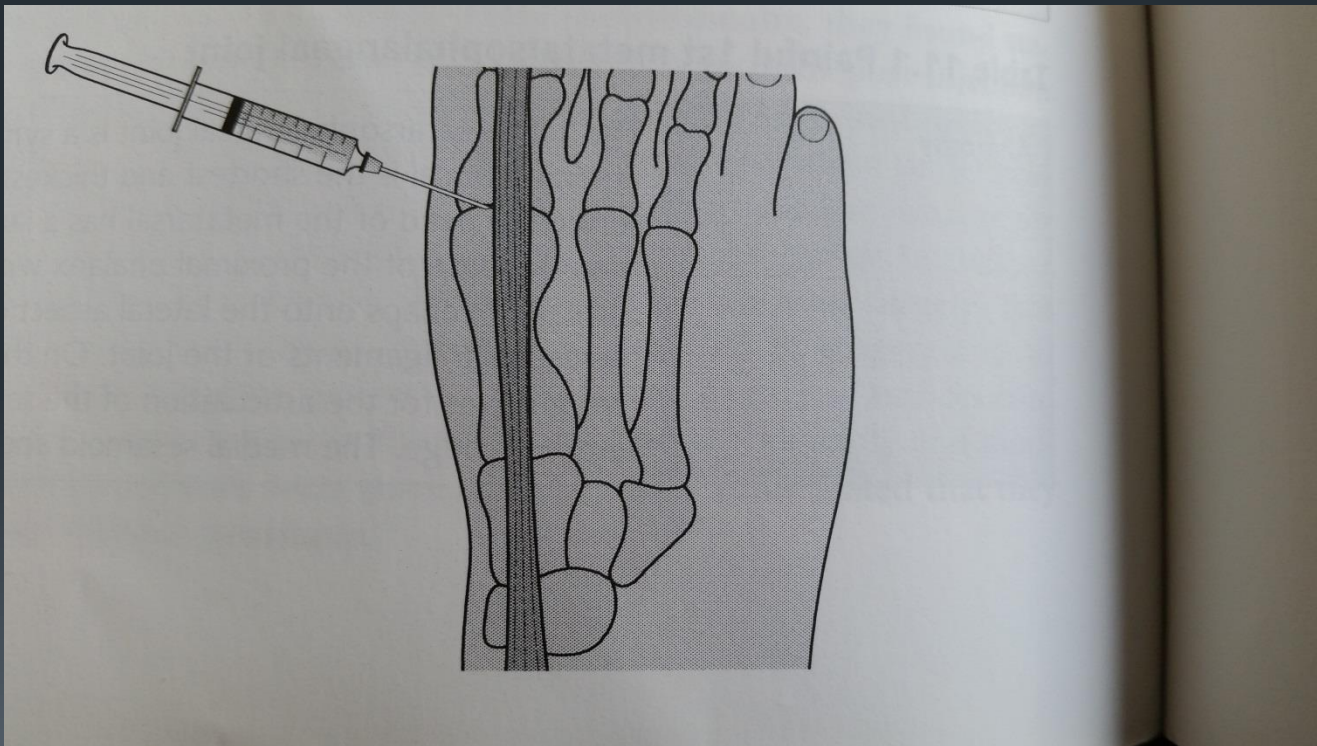
- Pain at 1<sup>st</sup> MTPJ
- Can be present all the time, or be functional
- Reduced ROM at the Joint
- Enlarged joints/ Osteophytes
- Sesamoids?
- Osteophytes usually on the Metatarsal
- Loss of joint space and sclerosis of the bones
- Imaging can be helpful



# Hallux Limitus Techniqiue

- Landmarks- Phalanx and Metatarsal
- Extensor hallucis Longus tendon
- Distal to the osteophytes
- Palpate joint line
- Distract toe distally
- Dorsal approach to joint
- Medial to EHL
- Distal plantar lateral angle at 45 degree
- Advance about half joint depth

# 1<sup>st</sup> MTPJ





# Sinus Tarsi

- Pain and tenderness over the lateral ankle
- Can have some neurological symptoms
- Can follow inversion injury
- Lateral impingement from pronation of foot.
- Joint between the Calcaneus and the talus that forms part of the Sub-talar joint
- Talo-calc ligament, sural nerve and blood vessels

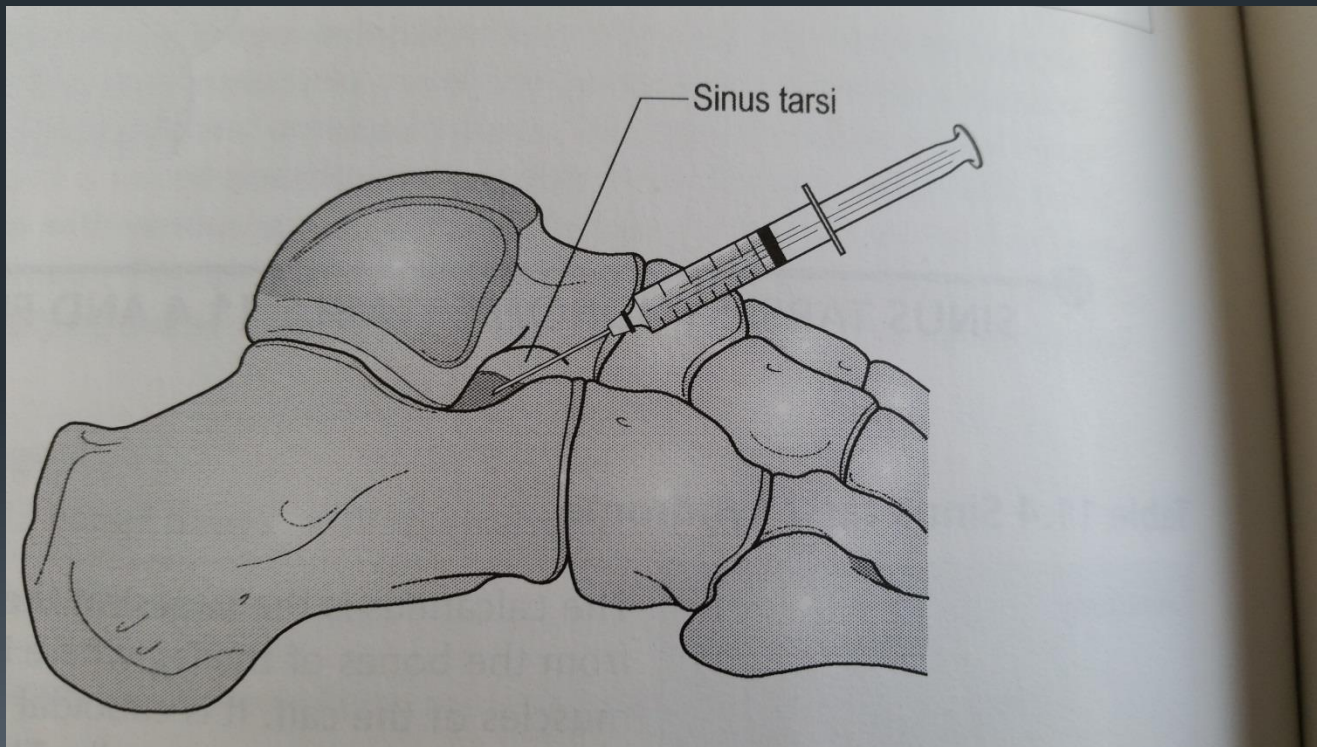




# Sinus Tarsi- Technique

- Mark up lateral ankle
- Talus, Cubiod and Calcaneus
- Peroneal Tendons & EDB
- Supinate foot- open up sinus
- Proximal Medial direction
- Advance as far as can due to sinus depth

# Sinus Tarsi





## Sub-talar Joint

- OA type pain
- Deep pain medial and lateral
- Sinus tarsi is lateral approach
- Pain on inversion and eversion of the joint



# STJ Technique

- Can be difficult to locate through palpation guided
- Landmarks- Sustentaculum tali on medial ankle
- Joint line between Talus and the calcaneus
- Proximal to Tibialis Posterior
- FDL and FHL in near proximity
- 90 degrees and slightly posteriorly to the Sustentaculum Tali



## Interdigital Neuritis

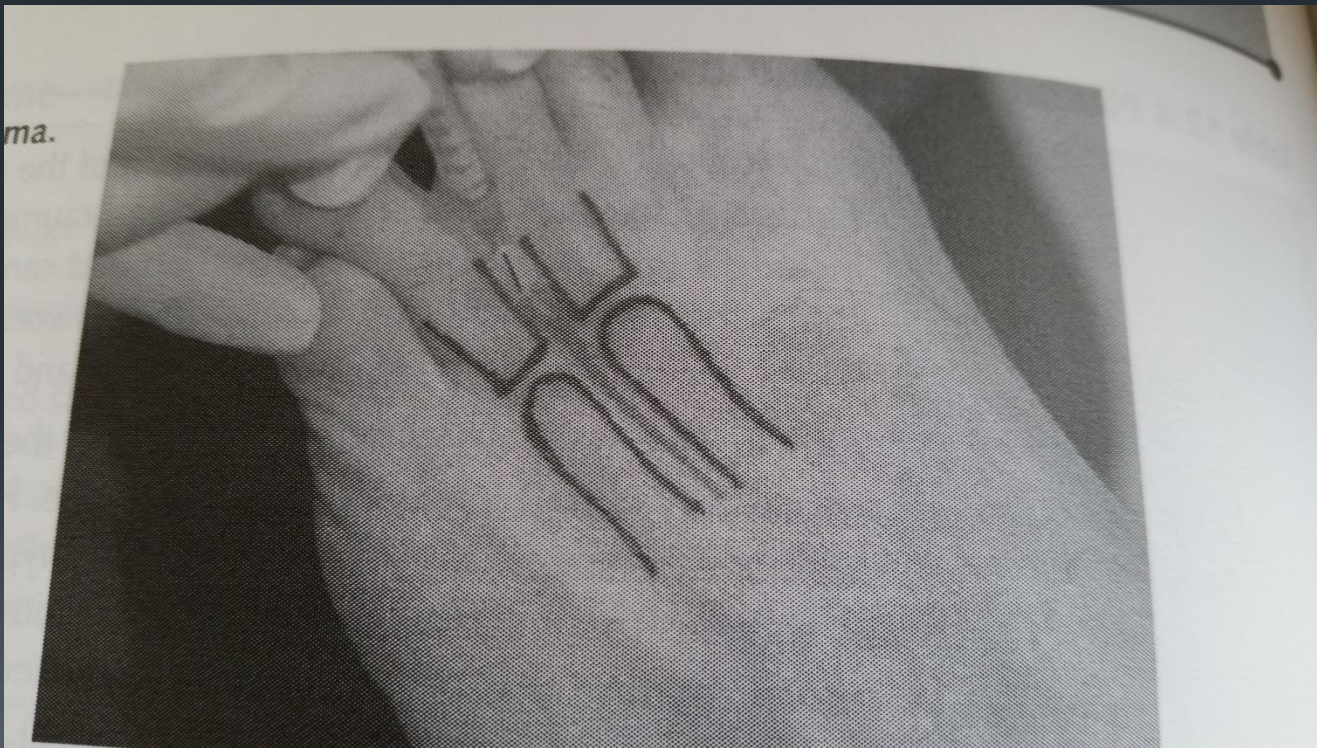
- Often between 2/3 and 3/4
- Neuroma
- Burning/ pins and needles
- Lateral compression test
- Entrapment neuropathy of digital nerves- Distal to MTPJ



# Interdigital Neuritis- Technique

- Mark up foot
- Met heads and phalanges
- Palpation of symptoms
- Approach at 90 degree distal to met heads
- Aspirate- Blood vessels
- 2/3 thickness of foot

# Interdigital Neuritis





# Plantar Heel pain

- Common medial/ plantar entheses
- Degeneration of fascia
- Enthesis of plantar fascia- medial calc tubercle
- Baxter's nerve irritation- lateral
- Medial calcaneal nerve- medial heel
- Classic symptoms- post static dyskinesia
- Pain on palpation- Chronic conditions (Inflammatory response??)

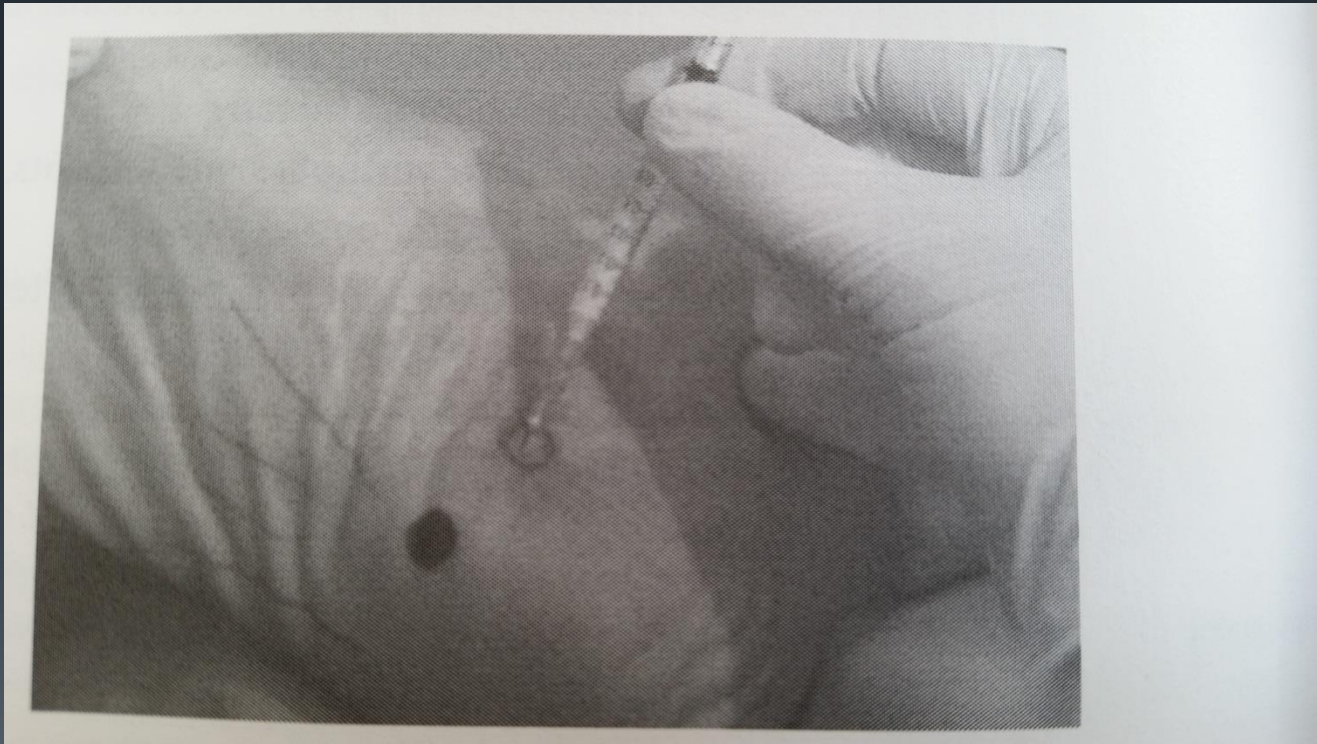




# Plantar Heel pain- Technique

- Mark up foot
- Point of most tenderness
- Can be painful for most
- Medial or lateral heel approach towards pain
- Peppering/ Fan out
- Slow gradual progression of needle

# Plantar Fasciitis





# Groups

- Volunteer in each group
- Use models
- Attempt technique with needles



# Questions?

- [Andrew.cumming@nhs.net](mailto:Andrew.cumming@nhs.net)
- Books:
- Foot and Ankle Injection techniques- Metcalfe and Reilly
- Injection Technique in Orthopaedics and sports Medicine- Saunders and Longworth