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
Diagnostics

- 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\textsuperscript{st} 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 Technique

- 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
1st 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 ¾
- 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 enthesis
- Degeneration of fasia
- Enthesis of plantar fascia - medial calc tubercle
- Baxters nerve irritation - lateral
- Medial calcaneal nerve - medial heel
- Classic symptoms - post static dyskinsea
- 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?

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- Books:
  - Foot and Ankle Injection techniques - Metcalfe and Reilly
  - Injection Technique in Orthopaedics and sports Medicine - Saunders and Longworth