

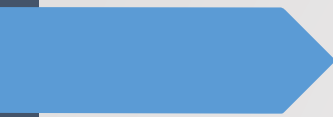


Injection Technique

Dr Stuart Armstrong

Sport and Exercise Physician

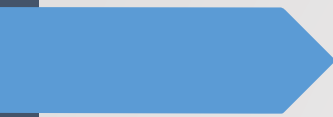
Hamilton



Introduction



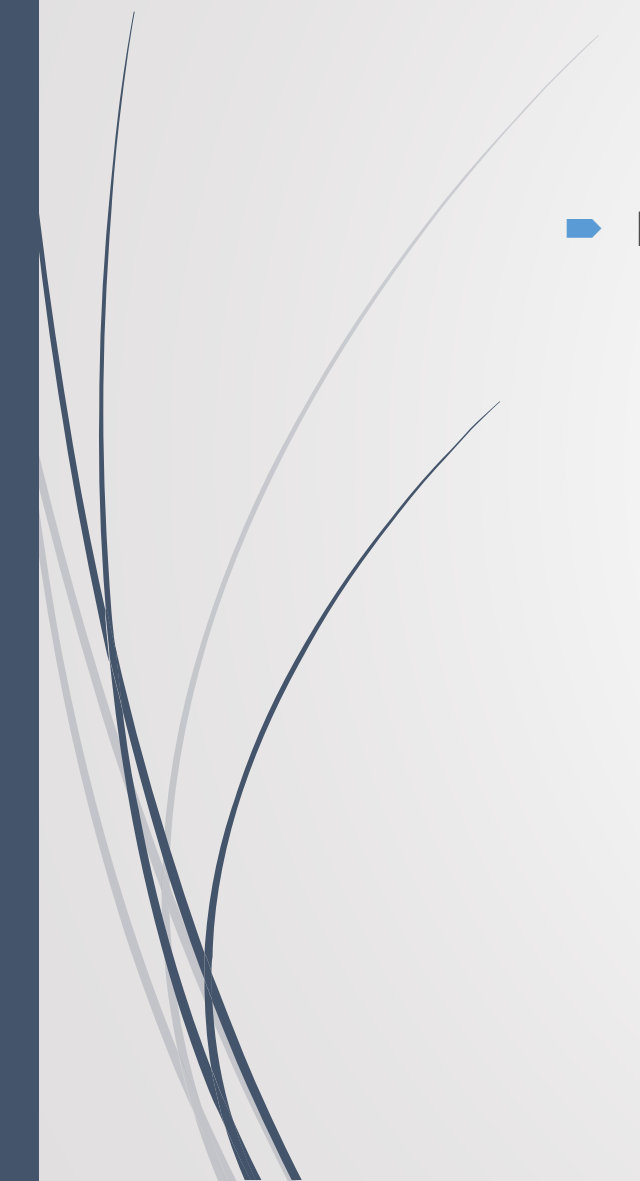
- Who, what and why to inject
- Patient perceptions
- Consent and contraindications
- How to inject
- Post injection care

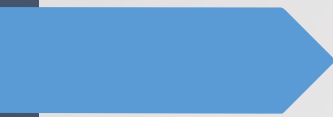


Disclosures and Conflicts



None





Who, what and why to inject

- ▶ “Anything can be injected with a long enough needle and a strong enough arm” House of God
- ▶ In sports medicine cortisone is used to help patients do their exercises
- ▶ Arthritis
- ▶ Pain Management
- ▶ Cortisone for treatment, local anaesthetic for diagnosis

Corticosteroid Agents by Relative Potencies, Duration, and Dose



Agent

Hydrocortisone acetate
(Hydrocortone)

Potency

Low

Duration

Short

Dose/site

10 to 25 mg for soft tissue and small
joints

50 mg for large joints

Methylprednisolone acetate
(Depo-Medrol) or triamcinolone
acetonide (Kenocort)

Intermediate

Intermediate

2 to 10 mg for soft tissue and small
joints

10 to 80 mg for large joints

Dexamethasone sodium
phosphate (Decadron)

High

Long

0.5 to 3 mg for soft tissue and small
joints

2 to 4 mg for large joints

Betamethasone sodium
phosphate and acetate
(Celestone Soluspan)

High

Long

1 to 3 mg for soft tissue and small
joints

2 to 6 mg for large joints

Patient Perceptions

Issue

- These things are toxic
- They are incredibly painful
- They aren't natural
- They only treat inflammation not the problem
- They cause cartilage damage

Response

- Only rarely, those are the interesting stories
- Only small joints
- Body produces cortisone every day
- Inflammation is the problem
- Yes..... But not as much as an inflamed joint



Consent

- Verbal consent
- 1/10,000 risk introducing infection
- 1/20 risk of pain flare for 48 hours
- Problems sleeping, facial flushing
- Next period heavier
- Skin blanching



Contraindications

- Over 3 injections to that area last 12 months
- Joint Sepsis
- Prosthesis
- Bacteraemia
- Fracture
- Coagulopathy
- Cellulitis



Image Guided versus Landmark Guided

- No strong evidence that image guided injection is better than landmark guided in experienced hands
- Image guidance adds \$200+ and can only be done once under ACC
- Not all injections can be performed by landmarks
 - Dequervains
 - Trigger Finger
 - Hip intra-articular
 - Peroneal tendons
 - Any you aren't familiar with



Preparation

- 40mg Kenocort
- 2-5ml Lignocaine
- Alcohol wipe
- Syringe and 25G Needle (0.5mm)
- Patient!



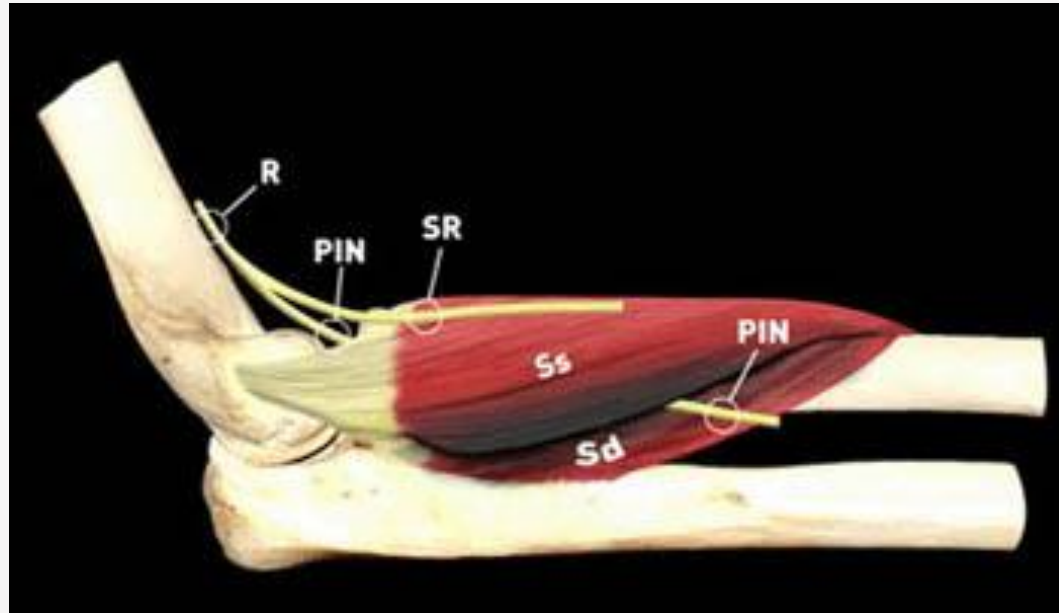
Injection Technique - Wrist



Triangular Fibro Cartilage Complex (TFCC)



Elbow – Posterior Interosseous Nerve



Elbow – Posterior



Shoulder - Subacromial



Shoulder GH Joint



Shoulder – AC Joint



Chest – Costochondral injection



Thoracentesis



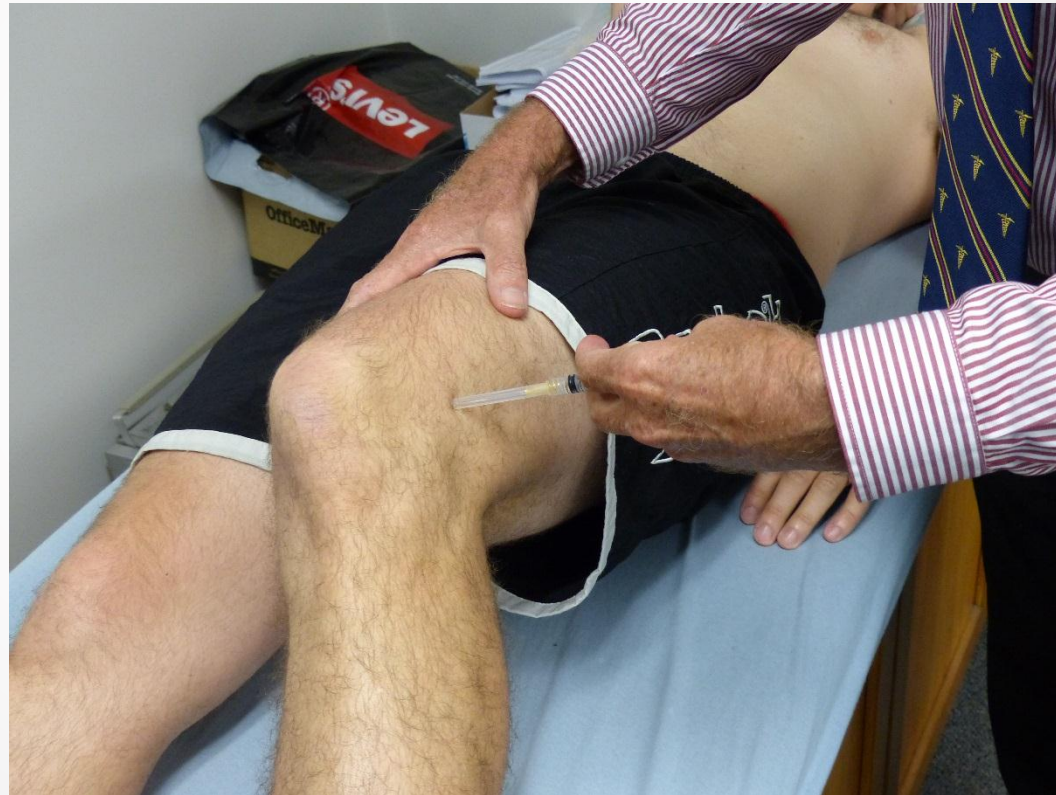
Sacroiliac Joint



Gluteal/Trochanteric bursa



Iliotibial band



Knee aspiration



Knee Injection



Ankle Injection



1st MTP joint injection

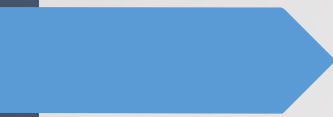


Retrocalcaneal bursa injection



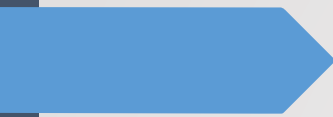
Plantar fascia





Post injection care

- Depends on joint injected but generally avoid new activity for 2 weeks
- If post injection flare simple analgesics
- No point injecting if patients will not do their exercises
- Can be repeated at 6 weeks
- Looking for a 50% benefit for “successful injection”



Conclusion

- Cortisone is good
- Mostly used to let patients do their rehab
- Can break cycle of pain
- Only inject if you are comfortable.... But you have to start somewhere

Questions?

