Injection Technique

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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
<table>
<thead>
<tr>
<th>Agent</th>
<th>Potency</th>
<th>Duration</th>
<th>Dose/site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocortisone acetate (Hydrocortone)</td>
<td>Low</td>
<td>Short</td>
<td>10 to 25 mg for soft tissue and small joints</td>
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<td></td>
<td></td>
<td></td>
<td>50 mg for large joints</td>
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<tr>
<td>Methylprednisolone acetate (Depo-Medrol) or Triamcinolone acetonide (Kenocort)</td>
<td>Intermediate</td>
<td>Intermediate</td>
<td>2 to 10 mg for soft tissue and small joints</td>
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<td></td>
<td>10 to 80 mg for large joints</td>
</tr>
<tr>
<td>Dexamethasone sodium phosphate (Decadron)</td>
<td>High</td>
<td>Long</td>
<td>0.5 to 3 mg for soft tissue and small joints</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>2 to 4 mg for large joints</td>
</tr>
<tr>
<td>Betamethasone sodium phosphate and acetate (Celestone Soluspan)</td>
<td>High</td>
<td>Long</td>
<td>1 to 3 mg for soft tissue and small joints</td>
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<td></td>
<td></td>
<td></td>
<td>2 to 6 mg for large joints</td>
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</table>
## Patient Perceptions

<table>
<thead>
<tr>
<th>Issue</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>These things are toxic</td>
<td>Only rarely, those are the interesting stories</td>
</tr>
<tr>
<td>They are incredibly painful</td>
<td>Only small joints</td>
</tr>
<tr>
<td>They aren’t natural</td>
<td>Body produces cortisone every day</td>
</tr>
<tr>
<td>They only treat inflammation not the problem</td>
<td>Inflammation is the problem</td>
</tr>
<tr>
<td>They cause cartilage damage</td>
<td>Yes..... But not as much as an inflamed joint</td>
</tr>
</tbody>
</table>
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

Sacroiliac joint steroid injection

Pre-operative Condition

Left sacroiliac joint sprain.

Posterior view

Left Sacroiliac Joint Arthrogram and Steroid Injection

A 22 gauge spinal needle is inserted into the inferior portion of the sacroiliac joint to inject 40 mg of Depomedrol and 3 cc of 1% Lidocaine.
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?