Shoulder Injection

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I. **Accuracy of landmark guided injection (LMGI)**

A. **Systematic review published in* British Journal of Sports Medicine* in 2014** reported mean accuracy of injection

B. **Anatomic locations**

1. Glenohumeral (GH) joint: 64%
2. Acromioclavicular (AC) joint: 52%
3. Subacromial-subdeltoid (SA-SD) bursa: 82%
4. Biceps tendon (BT) sheath: 27%

C. **Ultrasound guided injection (USGI) mean accuracy for all shoulder injection locations was greater than LMGI**

D. **High variability (65-100%) reported for USGI of SA-SD bursa**

   1. “…a definite conclusion regarding whether or not USG SA-SD (ultrasound guided subacromial-subdeltoid) bursa injections are more accurate than LMGIs (land mark guided injections) cannot be made at this time.”

II. **Subacromial space injection**

A. **Indications**

1. **Diagnostic**

   a) **Aid diagnosis of SA-SD bursopathy/rotator cuff (RC) tendinopathy**

   [See Table 1 for diagnostic test information]
Yocum’s test, Hawkins test, and Neer sign combined: sensitivity 65%, specificity 72.7%

2. Therapeutic
   
   a) Rotator cuff tendinopathy
   
   b) Subacromial impingement

B. Contraindications

   1. Absolute: injectable substance hypersensitivity, cellulitis or broken skin over injection site, poorly controlled anticoagulation, severe primary coagulopathy, bursa or other soft tissue infection
   
   2. Relative: >3 injections in preceding 12 months, lack of response to previous injection, suspected bacteremia, pregnancy

C. Supplies

   1. Gloves (clean [non-sterile] and sterile)
   
   2. Skin cleanser (iodine or chlorhexidine)
   
   3. Needle (18g and 21-25g)
   
   4. Syringe (10 ml x 2)
   
   5. Local anesthetic (1% lidocaine)
   
   6. Steroid (40 mg triamcinolone)
   
   7. Gauze
   
   8. Dressing (band aid)

D. Technique

   1. Posterolateral: acromial angle is identified. Needle inserted 1-2 cm below angle and is directed medially and slightly cephalad towards AC joint.

   2. Lateral: lateral border of the acromion is identified. Needle inserted 1-2 cm below midpoint of lateral border and directed slightly cephalad towards undersurface of acromion.

   3. Anterolateral: lateral border of the acromion is identified. Needle inserted 1-2 cm anterior to midpoint of lateral border and directed slightly cephalad and posterior towards undersurface of acromion.
III. References:

