

INJECTION SITES

Checklist

CARPAL TUNNEL

- Dorsiflex the wrist 30° and rest it on a rolled towel or other support
- Identify the palmaris longus tendon by having the patient flex the middle finger against resistance
- Insert needle at distal wrist crease either on the medial or lateral side of palmaris longus tendon

TROCHANTERIC BURSA

- Position patient in supine position
- Locate greater trochanter, the most superior prominent portion of the femur
- Tenderness here generally denotes a trochanteric bursitis
- Direct needle perpendicular to femur until bone is felt
- Withdraw 2-3 cm and inject
- If patient is still experiencing pain after 5 minutes, a more distal injection or an injection at the areas of greatest tenderness may be necessary

ARTHROCENTESIS & JOINT INJECTION Checklist

- ① **POSITION THE PATIENT**
 - Both physician and patient should be comfortable
- ② **IDENTIFY THE INJECTION SITE**
 - Differs for each injection
- ③ **PREPARE INJECTION SITE**
 - Clean area 3X with povidone-iodine, wipe with alcohol
 - Spray site with ethyl-chloride (optional)
 - With 5/8 inch 25 gauge needle inject xylocaine to form wheal
 - Insert needle, inject xylocaine along path of needle
- ④ **REMOVE SYNOVIAL FLUID**
 - Prepare aspirating syringe with 1.5 inch 18 gauge needle
 - Direct needle through wheal into joint
 - Stabilize syringe with the non-dominant hand
 - Gently aspirate as much fluid as possible
- ⑤ **INTRODUCE STEROIDS (when indicated)**
 - Separate syringe from needle, keeping needle in joint
 - Attach a pre-filled steroid syringe
 - Gently inject medication, remove needle
 - Apply firm pressure with gauze
 - Clean area and apply band aid

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KNEE

- Locate upper and lower borders of patella
- Divide patella in half, and locate medial edge
- Mark site just below midpoint of medial patellar edge
- Insert needle parallel to the undersurface of the patella

SHOULDER INTRA-ARTICULAR INJECTION

- Locate coracoid process and head of humerus
- Mark site medial to humerus and 1 cm lateral and 1 cm below coracoid process
- Direct the needle perpendicularly into the glenohumeral joint
- No bone should be encountered

SUBDELTOID (SUBACROMIAL) BURSA

- Palpate the superior surface of shoulder. Move laterally to the lateral edge of acromion where there is a slight drop-off
- The subdeltoid bursa is at a palpable soft spot below the acromion but above the humeral head
- Mark the site
- Direct the needle perpendicular to the surface through the deltoid muscle into the bursa
- Introduce needle up to its hub
- The needle should be free floating
- Aspirate to be sure needle is not in a blood vessel
- If resistance is felt when injecting, reposition needle to avoid tendons of rotator cuff

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BICIPITAL TENDON SHEATH

- Palpate the bicipital tendon overlying the anterior capsule of the shoulder
- Injection site is inferior to the anterior capsule of the shoulder
- Direct needle at a 45° angle upwards in direction of tendon sheath
- Use a "fanning technique" to spread medication along tendon sheath
- Resistance should not be met when introducing medication
- If resistance is encountered, reposition needle to avoid injecting directly into bicipital tendon
- Before each injection, aspirate to ensure needle is not in a blood vessel

WRIST

- With palm down, have patient lift thumb against resistance
- Locate extensor pollicis longus tendon on the back of wrist as it crosses the distal radius
- Mark injection site at a shallow depression on ulnar side of extensor pollicis longus just distal to distal radius
- Flex joint to 20° to open joint spaces
- Direct the needle into joint, perpendicular to the mark
- If needle can be inserted 1 to 2 cm, it is correctly positioned in the joint space
- If bone is hit withdraw needle slightly and redirect slightly toward the thumb