

Musculoskeletal Imaging and Intervention Section Imaging Procedures

Shoulder Arthrogram

PREREQUISITES

- Obtain signed consent.

RISKS

- Infection
- Pain
- Hematoma

MATERIALS

- 22G 3 ½" needle
- 25G 1 ½" needle
- 5 cc syringe with lidocaine for skin anesthesia
- 20 cc syringe with combination of 1% lidocaine
- Omnipaque 300
- Gadolinium contrast (if performing MR)

TECHNIQUE – Shoulder MR or CT Arthrography

1. Place the patient on back with arm at side with hand supinated and place sandbag on finger tips to remind patient to keep arm in this position.
2. Target the junction of the middle and inferior thirds of humeral head 2 mm inside the cortex.
3. Prep and drape.
4. Anesthetize the skin and subcutaneous tissues with buffered 1% lidocaine.
5. Fill a 20 cc syringe with the proper contrast solution and fill connecting tubing being sure to eliminate all bubbles.
6. Advance a 22 G spinal needle until contact bone at target site. Be sure you are on bone; the subscapularis tendon is very firm and can fool you.
7. Pull back 1 mm and turn bevel toward humeral head. Advance and feel the syringe drop into the joint.
8. To eliminate air bubbles, drip the proper contrast into the hub of the needle and perform a wet-to-wet connection.
9. The injection and the remainder of the procedure depends on the type of arthrogram you are performing:
 - a. MR Arthrogram:
 - i. Inject 12 cc of a solution of 5 cc normal saline, 5 cc Omnipaque 300, 10 cc 1% lidocaine, and 0.1 cc gadolinium.
 - ii. Instruct the patient on the importance of the ABER position and how it

b. CT Arthrogram:

- i. Inject 12 cc of a solution of 5 cc normal saline, 10 cc Omnipaque 300, and 5 cc 1% lidocaine
- ii. Helical CT should be performed with thinnest slices available, preferably in a single breath hold in both internal and external rotation.



Fig 1: Shoulder arthrography approach, oblique AP.