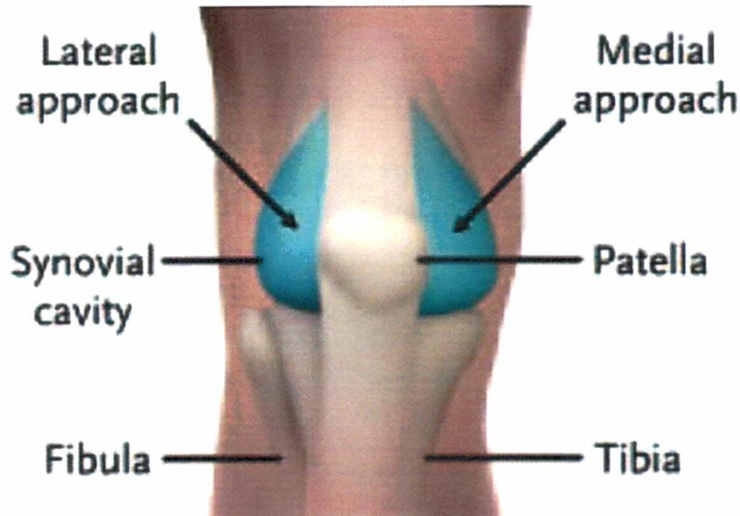
Basic Skills Qualification
Large Joint Arthrocentesis/Injection - Knee

Evaluation Process
Prior to seeking BSQ certification, a resident should be confident in their skills. The "Basic Skills Qualification" is printed and given to the supervising physician, where after, the resident performs the procedure under direct observation of the supervising physician. The competency assessment is completed by the supervising physician with their signature and given back to the resident. The resident then returns the competency assessment to the Academic Coordinator.



Resident: ______________________________

	Competent	Needs Work
Lists indications for arthrocentesis/injection		
Discusses contraindications		
Determines point of best access		
Discusses decision to use/not use local anesthesia		
Demonstrates appropriate sterile field		
Orders appropriate ratio of anesthesia and corticosteroid		
Inserts needle into joint atraumatically. Aspirates/injects as appropriate.		
Collects samples and orders tests as appropriate		
Discusses appropriate billing code		

Faculty: ______________________________

Date: ______________________________

Indications:
Diagnostic:
Differentiate between crystal arthropathies, such as gout and pseudogout, inflammatory and noninflammatory effusions, and hemarthroses.
Demonstration of fat globules in suspected fracture involving joint surface
Therapeutic:
Increased comfort by relief of tense effusion or hemarthrosis
Reduction of inflammatory process and pain with intra-articular corticosteroid

Contraindications:
Bleeding disorder or excessive anticoagulation
Superficial infection or cellulitis
Artificial joint
Immunocompromized patient with non-infected joint

Instructions:

1. Patient is placed in supine position with knee extended or flexed at 20 degrees if the lateral approach is selected, or sitting with legs dangling over end of table at ninety degrees if an anterior approach is chosen.
2. In the case of a lateral approach, the patella is identified and palpation is carried out to determine presence of effusion. The joint will be entered at the upper third of the patella, 1 cm lateral to the patella, through the supra-patellar recess at the superior patellar pole.
3. If an anterior approach is selected, the anterior joint line on either side of the patella tendon is palpated to determine effusion and easiest approach.
4. In either approach, the needle is directed toward the intracondylar notch
5. The planned site of entry may be marked with skin marker at this stage.
6. A local sterile field is created with antiseptic solution.
7. 1% Lidocaine may be injected along the proposed needle track, particularly if an 18-gauge or larger needle is used. (Evacuation of a hemarthrosis). If so, a 25 or 30-gauge needle may be used. A wheal can also be raised as an additional landmark.
8. The needle is directed toward the suspected effusion
9. In the case of a lateral approach, the medial aspect of the joint may be compressed to encourage collection of effusion at target site. This may also stabilize the joint for needle entry.
10. In the case of an anterior approach, the needle should be directed into the joint at approximately 20 degrees to the horizontal plane.
11. In either case, if indicated, fluid should be collected for diagnostic purposes.
12. In the case of tense effusions (usually hemarthrosis) large volumes of extraction - 50 mls at a time - may reduce pain and. Improve function.
13. If corticosteroid is to be injected, or if the sole purpose of the arthrocentesis is injection, the ratio of steroid to anesthetic solution should be 1:2. In the case of a knee joint, 10 mls may be injected.
14. At conclusion, injection site should be covered with a Band-Aid.

A video can be found here:
"New England Journal of Medicine - knee arthrocentesis"