ACP 2019 Clinical skills session

**The Diagnosis-Driven Physical Exam of the Knee Checklist**

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| **Maneuver** | **Notes** |
| **Standing** |  |
| * Inspection: varus, valgus, neutral; quad atrophy |  |
| **Seated** |  |
| * Palpate joint lines, medial and lateral femoral condyles, medial and lateral tibial plateau, MCL, LCL |  |
| * Palpate ITB at lateral femoral condyle, Gerdy's tubercle |  |
| * Palpate pes anserine bursa |  |
| **Supine** |  |
| * Palpation of patellar and quad tendons |  |
| * Palpation of patellar facets |  |
| * Patellar grind test |  |
| * Evaluate for effusion |  |
| * Range of motion: flexion, extension |  |
| * McMurray medial and lateral |  |
| * Lachman test for ACL * Valgus stress for MCL at 0 and 30 degrees * Varus stress for LCL at 0 and 30 degrees * Posterior drawer for PCL |  |
| * Ober test for ITB |  |
| **Standing** |  |
| * Thessaly test * Squat test |  |
| * Single leg squat for patellofemoral pain |  |

**Description of Tests**

**Inspection**

Varus deformity: bowlegged. Valgus deformity: knocked knees.

Quad atrophy: decreased bulk of quad muscle compared to contralateral side.

**Seated Palpation**

Medial joint line: palpate along the joint line from anterior all the way around to back of joint.

Lateral joint line: palpate along the joint line from anterior all the way around to back of joint.

MCL: Palpate medial femoral condyles and medial tibial plateau.

LCL: Palpate lateral femoral condyles and lateral tibial plateau.

IT Band: Palpate ITB at lateral femoral condyle and Gerdy's tubercle (lateral proximal tibia).

Pes anserine bursa: palpate the medial aspect of the proximal tibia just below the medial joint space. This bursa protects from friction by the conjoined tendon (sartorius, gracilis, and semitendinosis tendons).

**Supine Tests**

Patellar and Quadriceps tendon: Palpate the superior and inferior pole of the patellar where the quadriceps and patellar tendons attach.

Patellar facet tenderness: palpate the medial and lateral facets of the patella for tenderness.

Patellar grind: press down on the patella and have the patient tighten the quad muscle. Pain behind the knee cap is a positive grind test.

Effusion: Milk the fluid into the supra-patellar pouch and then compress down into the knee. Palpate the sides of the knee for a fluid wave. With a large effusion you can ballot the patella up and down by pressing on it.

Range of Motion: Have the patient extend their knee fully and then bend as much as they can. Normal is approx 0-140.

McMurray’s - Medial: Place the fingers over joint line. Fully flex the knee and externally rotate the leg. Then apply valgus stress and extend the knee. Pain and click indicate medial meniscal damage.

McMurray’s - Lateral: Place the fingers over joint line. Fully flex the knee and internally rotate the leg. Apply varus stress and extend the knee. Pain and click indicate medial meniscal damage.

Lachman’s test for ACL: Patient must be relaxed. Flex the knee to 30 degrees. Stabilize the femur with one hand and use the other to pull the proximal tibia anteriorly. Assess for anterior displacement and whether there is an endpoint.

Valgus stress test for MCL: Push on lateral aspect of knee while pulling ankle away from midline. Perform in 0 degrees (full extension) and 30 degrees flexion to try to isolate the medial collateral ligament

Varus stress test for LCL: push on medial aspect of knee while pulling ankle towards midline. Perform in 0 degrees (full extension) and 30 degrees flexion to try to isolate the lateral collateral ligament.

Posterior drawer test for PCL: place the knee flexed to 90 degrees and foot resting on the table. With thumbs resting over the joint line, apply a posterior force with palms on the proximal tibia. Assess for posterior displacement.

Ober test for ITB: The patient lays on his side with the bottom leg flexed. The examiner performs passive hip abduction and extension to position the ITB over the greater trochanter and looks at the knee of the top leg. A positive test occurs if the knee does not drop down towards the lower leg indicating a tight ITB.

**Standing Tests**

Thessaly test for Meniscus: Patient stands on one leg, knee flexed to 20 degrees, then pivots to rotate femur on tibia medially and laterally. Foot stays planted. If medial pain when pivot medially then concern for medial meniscus tear. If lateral pain when pivoting laterally then concern for lateral meniscus tear.

Squat test for Meniscus: Patient stands while the examiner holds their hands for balance. The patient squats down as low as is comfortable. The test is positive for a meniscal tear if there is pain at the medial or posterior joint line or a feeling of locking during knee flexion.

Single leg squat for patellofemoral pain: Patient stands on one leg and flexes supporting leg. The test is normal if the knee is in line over foot. If the knee falls into valgus the test is abnormal indicating hip abductor weakness.