Physical Examination of the Hip & Knee

Melvyn Harrington, MD
Department of Orthopaedic Surgery & Rehabilitation
Loyola University Medical Center

BUY THIS BOOK!

- Essentials of Musculoskeletal Care
- Written for Primary Care Providers
- Perfect for 3rd & 4th year med students going into primary care

Where is your hip?

- Hip joint pain is most commonly felt in the groin and anterior thigh
- Hip joint pain may radiate to the knee
- Pain over the greater trochanter is typically trochanteric bursitis
- The buttock is not the hip!
- Buttock pain is typically from the sciatic nerve or lumbar spine
**Hip Exam**

- **Palpation**
  - Greater trochanter - bursitis
  - Pubic rami - fractures
  - Ischium - fractures, bursitis, sciatic nerve
- **Meralgia Paresthetica**
  - Numbness over the lateral thigh
  - Compression of the lateral femoral cutaneous nerve

**Trendelenberg Test**

- Negative Trendelenberg
- Positive Trendelenberg

**Hip Exam**

- **Range of Motion**
  - Flexion/ Extension
  - Internal/ External Rotation
  - Abduction/ Adduction
- **Check in several positions**
- **Know where the pelvis is!**
- **Compare with the contralateral side**
- **Neurovascular exam**
Hip Range of Motion

- Flexion
  - Most pts > 90
- Flexion Contracture
  - Maximally flex opposite hip to fix pelvis
  - Thigh will not lie flat on the table

Hip Range of Motion

- Hip Rotation
- Check in several positions:
  - Supine with hip flexed
  - Supine with hip extended
  - Seated
  - Prone (most accurate)

Hip Range of Motion

- External Rotation
- Internal Rotation
  - Seated
Hip Range of Motion

**Prone**

- **Internal Rotation**
- **External Rotation**

**Hip Range of Motion**

- Palpate ASIS to feel when pelvis begins to rotate

- **Abduction**
- **Adduction**

Knee History

- Knee pain stays in the knee
- Hip pain may be felt in the knee
- The knee is more complex than the hip
- More things can hurt in the knee
Knee History

- **Location**
  - Anterior, posterior, medial, lateral
  - Almost every structure in the knee except for the cruciate ligaments can be directly palpated

Knee Exam

- **Observation**
- **Alignment (standing)**
  - Varus/valgus
  - Procurvatum/recurvatum
- **Skin**
  - Redness
  - Warmth
  - Effusions
  - Lesions/wounds

- **Range of motion**
  - Active and passive
  - Extensor lag
  - Extension (0 - 10)
  - Flexion (100 - 150)
Collateral Ligaments

Lateral Collateral Ligament | Medial Collateral Ligament

Test collateral ligaments in 20-30 degrees of flexion to isolate the ligaments.

Cruciate Ligaments

- Ant drawer = ACL
- Post drawer = PCL
- Know where starting point is.
- Femoral Condyles are ~1cm posterior to anterior tibia normally.
Cruciate Ligaments

• Posterior Sag = PCL injury
• Quadriceps Active Drawer
  – Dynamic test for PCL
• Lachman’s Test
  – Ant drawer at 30 degrees of flexion
  – Most specific for ACL
• Pivot Shift
  – Dynamic test for ACL

Knee Exam

• Menisci
  – McMurray’s test
    • Flex/ext with varus/valgus and int/ext rotation
    • Goal is to get torn piece to pop in and out of place
    • Positive if pop or reproduction of pain
  – Apley’s grind test
    • Isolates menisci
    • Prone w/ knee flexed, axial load and rotation
Knee Exam

• Patellofemoral Joint
  – Patellar tracking/tilt
    • Should sit horizontally in the trochlear groove and track centrally with ROM
  – Patellar grind & shrug
    • Grind patella into trochlea
    • Contract quads while applying pressure to patella
    • Both will reproduce patellofemoral pain

Go Examine Yourselves!