HIP EXAMINATION

If the hip examination is unremarkable or you suspect referred pain, consider examining the back and knee.

GAIT
- Stance phase (heel strike → mid-stance → toe-off)
- Swing phase and stride length
- Smoothness, symmetry, ability to turn quickly
- Antalgic gait (identify point at which pain occurs)
- Trendelenburg gait
- Weak hip abductors

INSPECTION
Ensure adequate but respectful exposure
- Swelling
  - Unlikely to see effusion, but massive swelling may present as a prominence in groin
- Erythema
- Atrophy
  - Pelvic girdle
  - Gluteal muscles
  - Hamstrings
  - Quadriceps
  - Lower back
- Deformity
  - Posture
    - Scoliosis
    - Exaggerated lumbar lordosis
      - May suggest flexion contracture of the hip
    - Pelvic tilt (inspect or palpate level of iliac crests)
      - Possible hip adduction deformity on higher side, or hip abduction deformity on lower side
    - External or internal rotation of hip at rest (look at feet)
      - Possible rotational deformity of the hip
      - External rotation also found in hip fracture.
  - Trendelenberg Sign
    - Patient stands on one leg at a time - if the unsupported side drops, this indicates weakness of the hip abductors on the standing side.
- Swelling and skin changes
  - Rashes
  - Scars from surgery (on lateral aspect of hip)
PALPATION
- Pubic symphysis
- Inguinal ligament
- Femoral pulse
- ASIS
- Iliac crest
- PSIS (dimples of Venus)
- Ischial tuberosity (bony prominence that you sit on)
- Greater trochanter (tender in trochanteric bursitis)
- Iliotibial band

RANGE OF MOVEMENT
Generally perform active ROM first, followed by passive ROM if active ROM is limited. These may be integrated at terminal range of movement.
- **Active ROM**
  - Flexion (knee to chest): 120°
  - Abduction: 45°
  - Adduction: 30°
    - **Abduct other leg out of the way so that leg can be brought in as far as possible without lifting (which will flex hip)**
  - Extension (best done with patient lying prone): 20°
    - **If patient on side, stabilize hemipelvis with one hand**
  - Internal rotation at hip: 35-40°
    - **Flex knee to 90° and stabilize knee with one hand, bringing lower leg outwards with the femur as the axis of rotation**
  - External rotation at hip: 45°
    - **As above, except moving lower leg inwards**
- **Passive ROM** (performed with each step above as needed)
  - Assess end-feel

POWER ASSESSMENT
This is best done by resisted isometric testing, with patient resisting examiner’s force
- Flex hip and knees to 90°
  - Flexion strength: examiner pushes thigh in direction away from head
  - Extension strength: examiner pushes thigh in direction of patient’s head
- Extend hip and knee (flat on bed), slightly abducted
  - Abduction: examiner presses thigh together
  - Adduction: examiner pushes thighs apart
SPECIAL TESTS

- **Thomas Test** *(hip contracture)*
  - With the patient supine, place a hand under the lumbar spine
  - Patient pulls one knee to the chest with his/her hands
  - If the contralateral thigh raises off the bed, this is suggestive of a contralateral hip contracture

- **Ober Test** *(Tight iliotibial band)*
  - Decubitus position, upper leg is extended backwards with knee bent, then released and allowed to fall into bed
  - Failure of knee to touch bed indicates a tight iliotibial band

- **Patrick Test/FABER Test/Figure-Of-4 Test** *(sacroiliac joints, also stresses hips)*
  - This is primarily a test of the sacroiliac joints, but is included in multiple sources as part of the hip exam
  - FABER: Flexion, Abduction, External Rotation
  - In supine position, patient places heel of one leg on the knee of the other leg
  - Apply applies downward pressure on the flexed knee and contralateral hemipelvis
  - Pain in anterior or lateral aspects may indicate hip joint pathology
  - Pain in lower back or gluteal region may indicate sacroiliac joint pathology
● Leg Length Discrepancy
  ○ True/Actual Leg Length
    ○ Measured from the ASIS to the medial malleolus on each side
    ○ If different, then a true length leg discrepancy is present
  ○ Apparent Leg Length Discrepancy
    ○ An apparent leg length discrepancy occurs when the actual lengths are the same, but there appears to be a difference in length visually
    ○ First measure the true leg length on each side (above)
    ○ Then measure from the umbilicus to the each medial malleolus
    ○ If the umbilicus-to-malleolus lengths are not equal, but true leg length measurements are the same, this indicates an apparent leg length discrepancy. This may be due to pelvic tilt or abduction/adduction deformities of the hips.