

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

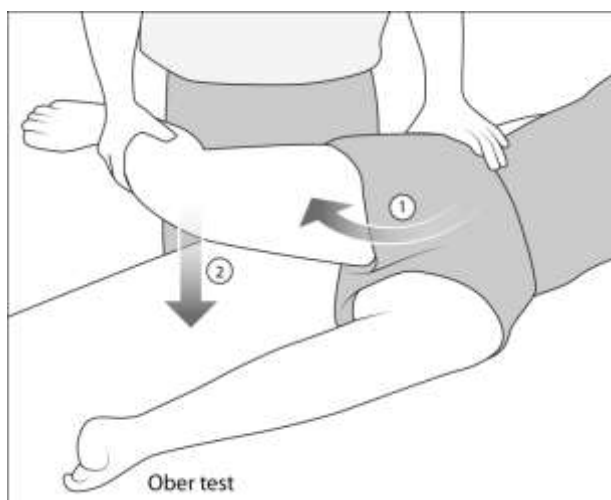
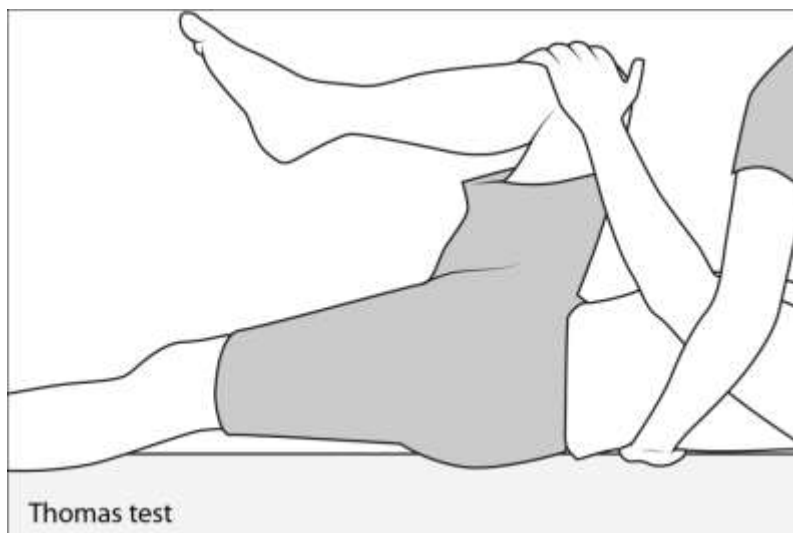
POWER ASSESSMENT

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.