LOCOMOTOR - HIP

STEPS OF EXAMINATION

Step 1: Approach the patient

- Read the instructions carefully for clues
- Shake hands, introduce yourself
- Ask the patient "Are you quite comfortable? Do you have any pain? Where do you feel the pain? Can you point to it?" (pain into the groin is more suggestive of hip disease)
- Ask permission to examine him "I would like to examine your hip joint, if it is all right with you"
- Position patient lying flat on the bed.
- Expose the patient legs up to his underwear and remove socks and shoes. You should be able to see the iliac crests so you may need to pull down the top of his underpants.

Step 2: General inspection:

- **Bedside:** walking stick, shoes-callipers, built-up heels
- **General appearance:** scan the patient quickly looking for:
  - Nutritional status (under/average built or overweight)
  - Rheumatoid (symmetrical deforming polyarthritis in the hands)
  - Psoriatic arthritis (asymmetrical arthritis and skin plaques)

Step 3: Look at the leg (comparing one side to the other)

- Abnormal postures (hip is held in flexed position or leg is externally rotated)
- Shorter leg
- Scars
- Stigmata of rheumatic disease

Step 4: Feel the hip: tenderness over the greater trochanter (trocahnteric bursitis)

Step 5: Move the hip:

- **Flexion:** ask the patient to bend his knee then to flex his hip to the chest (the normal range of movement is flexion 120 degrees).
- **Internal and external rotation:** With both the knee and hip flexed to 90 degrees rotate the hip joint internally and externally using the foot as a pointer and the knee as pivot. Estimate the degree of rotation (the normal range of movement is internal rotation 30 degrees and external rotation 45 degrees)
- **abduction and adduction:** place one hand on the opposite iliac crest (to keep the pelvis stationary) then, place your other hand under the ankle of the leg being examined and abduct and adduct the hip (the normal range of movement is abduction 60 degrees and adduction 30 degrees)
- **Thomas test:** if you suspect a hip flexion deformity that is masked by an increased spinal lordosis, flex the opposite hip (with knee bent) to flatten out the lumbar lordosis (feel with your hand under the patient's spine). Any fixed flexion deformity of the opposite hip will be brought out by the flattening of the lumbar spine
- **Straight leg raise:** slowly raise the patient's leg by taking hold of his heel and lifting the leg slowly (stop if pain occurs). Note the angle attained (normally > 90 degrees) and compare to the other side. Pain in the leg to the foot indicates spinal origin (nerve root entrapment – lumbosacral radicular entrapment). Consider testing for weakness (particularly of ankle plantar flexion) and abnormal sensation or reflexes. Be prepared to differentiate a nerve root from a peripheral nerve lesion

Step 6: Measure (check for shorter leg)**:** while both legs stretched out as far as possible and in equivalent positions, measure with a tape from umbilicus to medial malleolus (the apparent length of leg) and from ASIS to medial malleolus (the true length of leg)

Step 7: Ask the patient to walk: see "*Ch 9. CNS – Gait*"

- **Antalgic (painful) gait** occurs when there is pain in one hip and the patient leans to the other side to avoid putting weight on the affected side.
- **Waddling (myopathic) gait** indicates hip muscle weakness (e.g. osteomalacia, myositis)

Step 8: Ask to examine the **other joints**, e.g. knee and spine for associated inflammatory spondylitis

Step 9: Additional signs: features of psoriasis, inflammatory bowel disease, reactive arthritis (enthesitis, keratoderma blenorrhagica, conjunctivitis, balanitis)

Step 10: Thank the patient and cover him (her)

THEORETICAL NOTES

Causes of shorter leg:

- Protrusion of acetabulum: occurs mainly in rheumatoid arthritis when the femoral head migrates through the acetabulum because of regional osteoporosis
- Undetected fracture at the neck of femur
- Occasionally following joint replacement (mainly hip, but may be with knee replacement also)
- Following a Girdlestone procedure in which no hip joint prosthesis is placed (or it is removed) because of sepsis or patient's general health does not allow a major operation (the neck of femur and femoral head are excised and the femur is held in place by the joint capsule, but migrates upwards)
- Apparent leg shortening: due to pelvic tilt secondary to spinal disease

Origin of hip pain