EXAMINATION OF HIP

History:

What is your trouble? Pain, stiffness, limp
Please tell me more about your problem? ….Listen
Listen for at least one minute: Let patient do the talking
Do not ask leading question to start with
Ask what might have brought it on?
If trauma: Mechanism of injury and previous treatment
Any red flags: weight loss, night pain, rest pain, fever, night sweats
If insidious: how long and how bad it is now.

Pain: localize, referred elsewhere, relieving and aggravating.
What do you do for pain? Medication, Physio, Acupuncture. Does it help you?
Any associated: weakness, loss of feeling
Disability: Pain on walking
Pain at night
Pain interfering at work
Pain with activities of daily activity
Pain on recreational activity
Any medical co-morbidity

A. Inspection Examination

Gait

Describe the posture on standing strait
Gait: Antalgic or not [short stance in the affected leg]
Trendlenburg or not: Sways on the same side
Short limb or not. Both pelvis and shoulder droops down
Stiff or not [less flexion of hip on walking]

Wasting of the glutei
Any surgical scar
See if hip is flexed [exaggerated Lordosis]: Confirm later by Thomas test

Shortening

Use blocks under the short limb until ASIS is same level.

Functional limb length

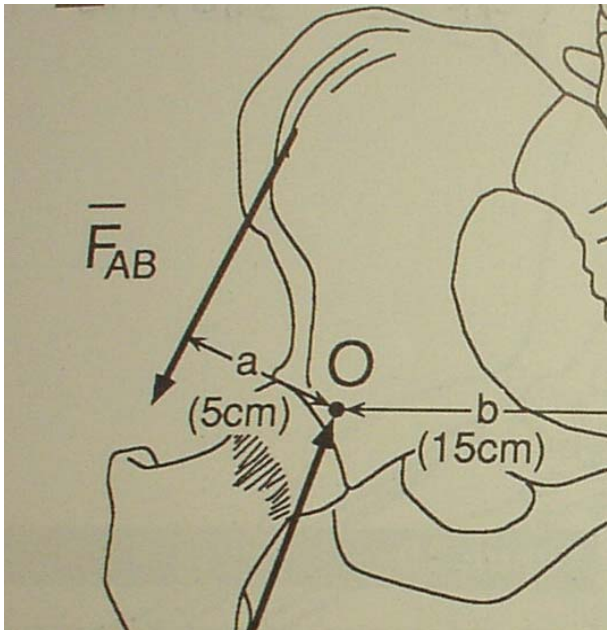
Trendlenburg test:
It can be performed from the back or front. Most prefer examination from the back is preferred
Ask the patient whether he can stand on one leg. If not, do not carry out this test

Examiner can support the body with hands for confidence only
Ask the patient to flex the knee with hip in neutral
Observe the pelvis. If from front: feel ASIS and if from the back feel the iliac crest
The pelvis should remain at same level or rise
There are many modifications for this test

Front

Back

Principle
Hip joint is a fulcrum with gluteus medius acting like a power and neck of the femur as a lever.
Any fault in the joint or gluteus medius or neck of the femur can cause positive test
Causes are
1.Joint:
Dislocated
Destroyed joint
2.Neck
Bent Coxa Vara
Broken neck: non-union neck
3.Muscle
Paralysis of gluteus [Polio]
Pseudomuscular dystrophy



Examination on Supine:
Look for any gross deformity
Rotational deformity of the lower extremity is obvious and is always revealed. The flexion and adduction or abduction deformity is usually concealed.
Any scar or wasting

B. Fixed Deformity
Fixed deformity means that the movement in the opposite direction is absent. Ie., fixed 30º flexion means extension is absent but further flexion may be possible.
Patient may have a fixed flexion or adduction or abduction or rotation deformity. In the presence of fixed deformity, pelvic movement at lumbar spine can compensate for the deformity. Ie., in case of flexion deformity there is Lordosis of the lumbar spine; in case abduction or adduction deformity there will be compensatory scoliosis to compensate for the deformity.

Fixed Flexion deformity:[Thomas test]
Patient supine on a firm bed
Examiner's hand under the lumbar spine to feel lordosis
Now ask the patient to flex both hips so as to undo the lordosis [felt by the examiners hand]
Now ask the patient to hold leg in flexion in the normal side
Patient tries to straighten on the side of the pathological hip
If leg cannot be straightened, assess amount of flexion. This gives fixed flexion deformity.

How to perform FFD in the presence of knee flexion deformity?
Perform Thomas test with knee at the edge of the bed
When hip joint is normal but problem is in deformed knee, the flexion deformity disappears.
When deformity in the hip is secondary to tightness of straight head of rectus femoris, the knee goes in to extension with hip in neutral position.

Adduction and Abduction deformity
Abduction and adduction deformity is masked by tilt in the pelvis. Feel the anterior superior iliac spine [ASIS].
When the ASIS higher level, an: Adduction deformity can be suspected. When ASIS is lower level, then an: Abduction deformity may be suspected.

Adduction deformity:
Pelvis is squared ie bringing ASIS to same level, by adducting the affected leg. Amount of adduction required to do this is the amount of adduction deformity. As discussed earlier, free abduction is absence in adduction deformity
Opposite is true with the abduction deformity

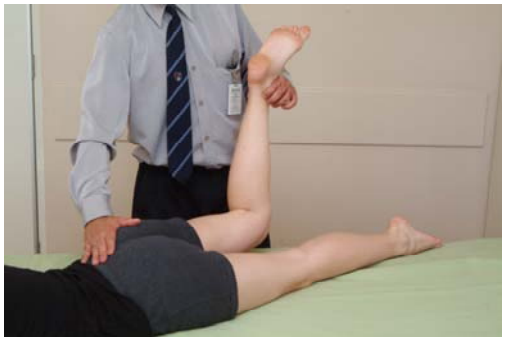
C. **ROM**

Normal Movements

Flexion	120º
Extension	10º
Abduction	40º
Adduction	30º
External rotation	50º
Internal rotation	40º

Abduction and adduction

Flexion	Is the last movement to be lost in arthritis
Extension	Performed in prone and flex the knee and lift. Surgeon hands studies the pelvis
Rotation	with Hip in Extension and knee in 90º Performed in prone position



Extension

Rotation

Diagnosis based on ROM and Deformity

Hip dislocation	Flexion, adduction and internal deformity
Hip arthritis	Flexion, adduction and external rotation
Hip synovitis	Flexion, abduction and external rotation
Transient synovitis	
Perthes	
Slipped epiphyses	Adduction and external rotation
Fracture neck of femur	External rotation deformity

Limb length
1. Measure true and apparent shortening

Measure the apparent length

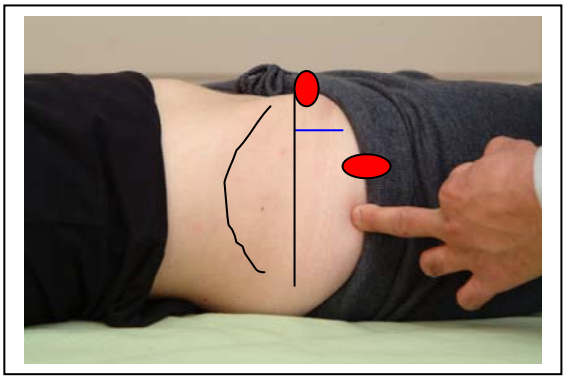
Patient supine
Lower limb parallel
Distance between the Xiphisternum
To the medial malleolus

True length
Patient supine
Square the pelvis:
Feel ASIS
Move the affected leg [abduct or adduct]
Until ASIS is at same level
Keep both legs in identical position with
Respect to adduction and abduction
Now measure from the anterior superior iliac spine [ASIS] to the medial malleolus with a tape.

True shortening is seen when there is destruction of the head or joint or dislocation
Apparent shortening is seen in fixed adduction deformity. 10º adduction, gives 3 cm shortening
Apparent lengthening: is seen in fixed abduction deformity

Galleazzia sign [shortening in the femur or tibia]
Flex the hip to 45º and knee in 90 º
Any shortening in the femur or tibia

Bryant's test
Determines whether the shortening in the supra-trochanteric or infra-trochanteric.
Is the perpendicular distance from the line drawn from the ASIS
This gives Supratrochanteric distance
It is a comparative test [compare with the contralateal side]
Supratrochanteric shortening occurs:
Destruction of the joint
Dislocation of the joint



Functional length
Using blocks
Patient is asked to stand on different height block
When ASIS appears squared
Ask the patient whether he is comfortable

Always check

Check knee movement
Check opposite hip
Straight leg raise [Check spine]
Distal neurology;
Dorsalis pedis
Check abdomen

The Stinchfield test
With the patient in a supine position,
a resisted Straight Leg Raise
Pain in the hip area suggests hip joint pathology.