

Department of Radiology Techniques

Radiological Position

The Second Stage

Semester 2



Shaft of Femur, hip and pelvis Positions

Lecture 6

Assist. Lecturer

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Basic Positions of Femur Shaft

1- Anterior – Posterior

2- Lateral

Cassette In or Out – Bucky (14x17 Inch)

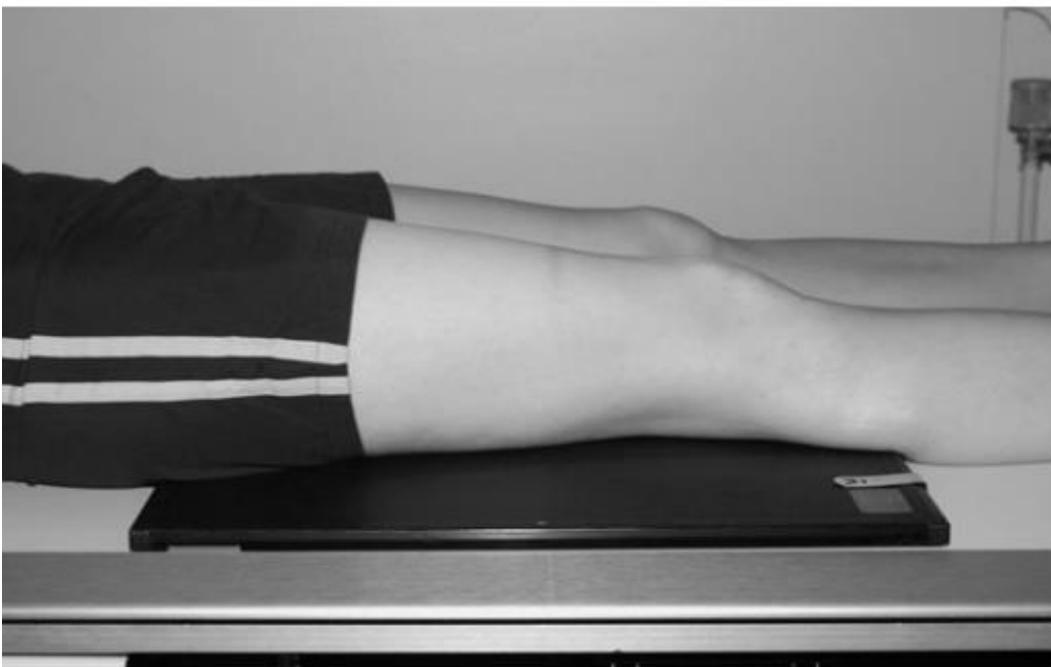
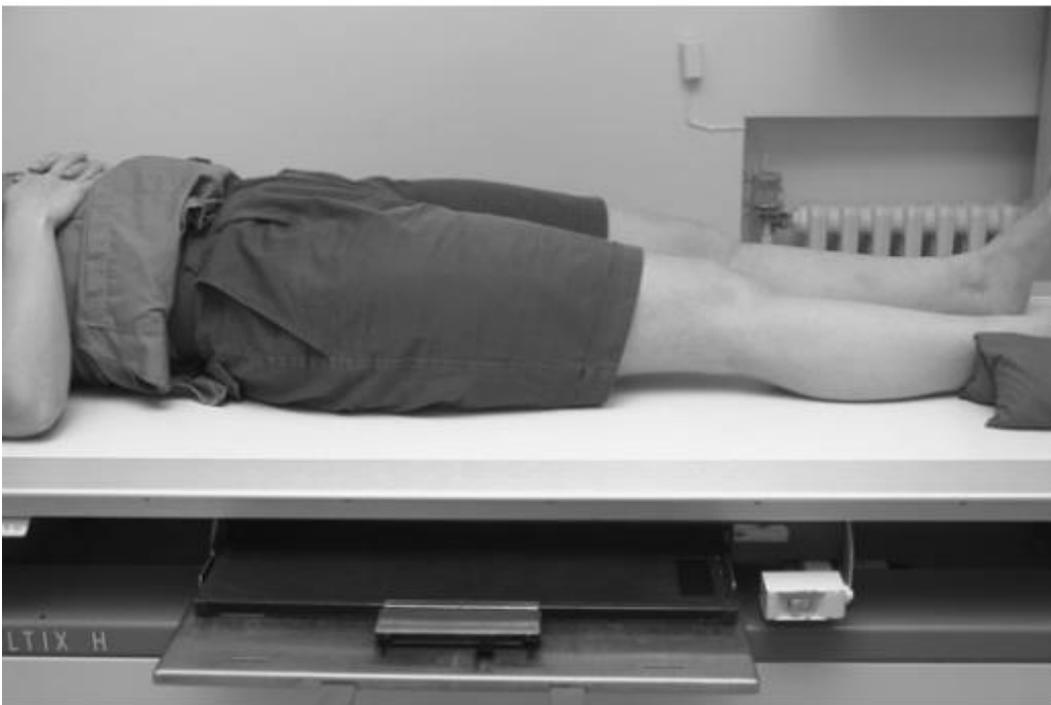
Antero-posterior

Position of patient and cassette

- The patient lies supine on the X-ray table, with both legs extended.*
- The affected limb is rotated to centralize the patella over the femur.*
- Sandbags are placed below the knee to help maintain the position.*
- The cassette is positioned in the Bucky tray immediately under the limb, adjacent to the posterior aspect of thigh to include both hip and knee joints.*
- Alternatively, the cassette is positioned directly under the limb, against the posterior aspect of the thigh to include the knee joint.*

Direction and centering of the X-ray beam

- Centre to the middle of the cassette, with the vertical central ray at 90 degrees to an imaginary line joining both femoral condyles.*



Antero-posterior radiograph of femur, hip down, showing fracture of upper femoral shaft



Antero-posterior radiograph of normal femur, knee up

Lateral

Position of patient and cassette

- From the anterior-posterior position, the patient rotates on to the affected side, and the knee is slightly flexed.*
- The pelvis is rotated backwards to separate the thighs.*
- The limb is then adjusted to vertically superimpose the femoral condyles.*
- Pads are used to support the opposite limb behind the one being examined.*
- The cassette is positioned in the Bucky tray under the lateral aspect of the thigh to include the knee joint and as much of the femur as possible.*
- Alternatively, the cassette is positioned directly under the limb, against the lateral aspect of the thigh, to include the knee joint.*

Direction and centering of the X-ray beam

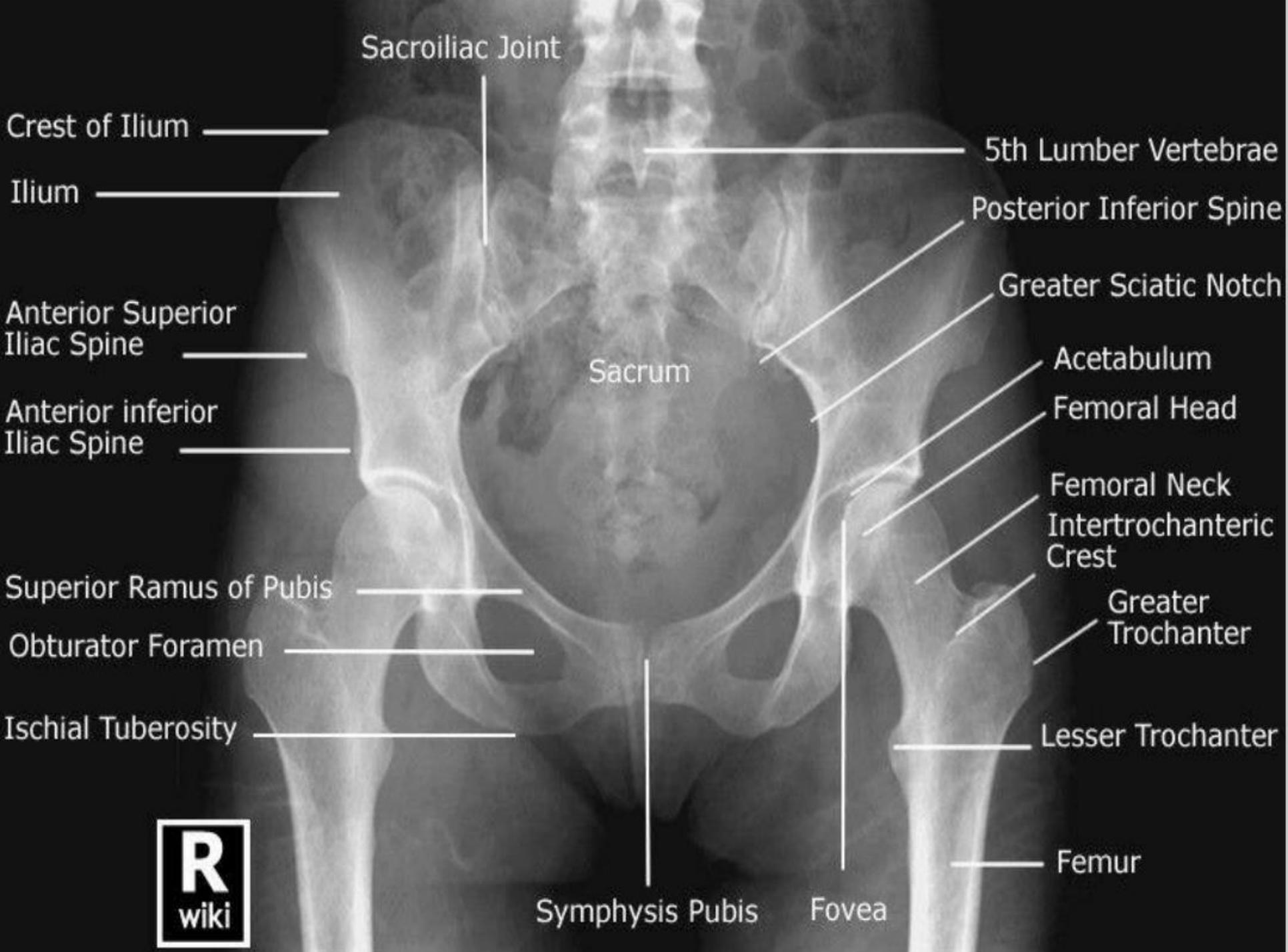
- Centre to the middle of the cassette, with the vertical central ray parallel to the imaginary line joining the femoral condyles.*



Lateral radiograph of femur, hip down, showing prosthetic hip



Lateral radiograph of femur, knee up, showing an area of myositis ossificans



Sacroiliac Joint

Crest of Ilium

Ilium

Anterior Superior Iliac Spine

Anterior inferior Iliac Spine

Superior Ramus of Pubis

Obturator Foramen

Ischial Tuberosity

Sacrum

Symphysis Pubis

Fovea

5th Lumbar Vertebrae

Posterior Inferior Spine

Greater Sciatic Notch

Acetabulum

Femoral Head

Femoral Neck

Intertrochanteric Crest

Greater Trochanter

Lesser Trochanter

Femur



1- Anterior – Posterior (Pelvis and both hip)

Position of Patient

- The patient lies supine and symmetrical on the X-ray table.*
- The limbs are slightly abducted and internally rotated 15 degree to bring the femoral necks parallel to the cassette.*
- Sandbags and pads are placed against the ankle region to help maintain this position.*
- Cassette In-Bucky (14x17 Inch)*

Direction and centering of the X-ray beam

- The center of the cassette is placed midway between the upper border of the symphysis pubis and anterior superior iliac spine.*



Antero-posterior projection of the whole pelvis, with internal rotation of the femora



Neutral



Lesser trochanters visible



Internal rotation



Femoral neck parallel to cassette, lesser trochanters not visible



External rotation



Lesser trochanter clearly visible



Antero-posterior radiograph of both hips and upper femora showing bilateral prostheses



Antero-posterior radiograph showing fracture of the neck of the left femur

Lateral – both hips (‘frog’s legs position’)

Position of patient and cassette

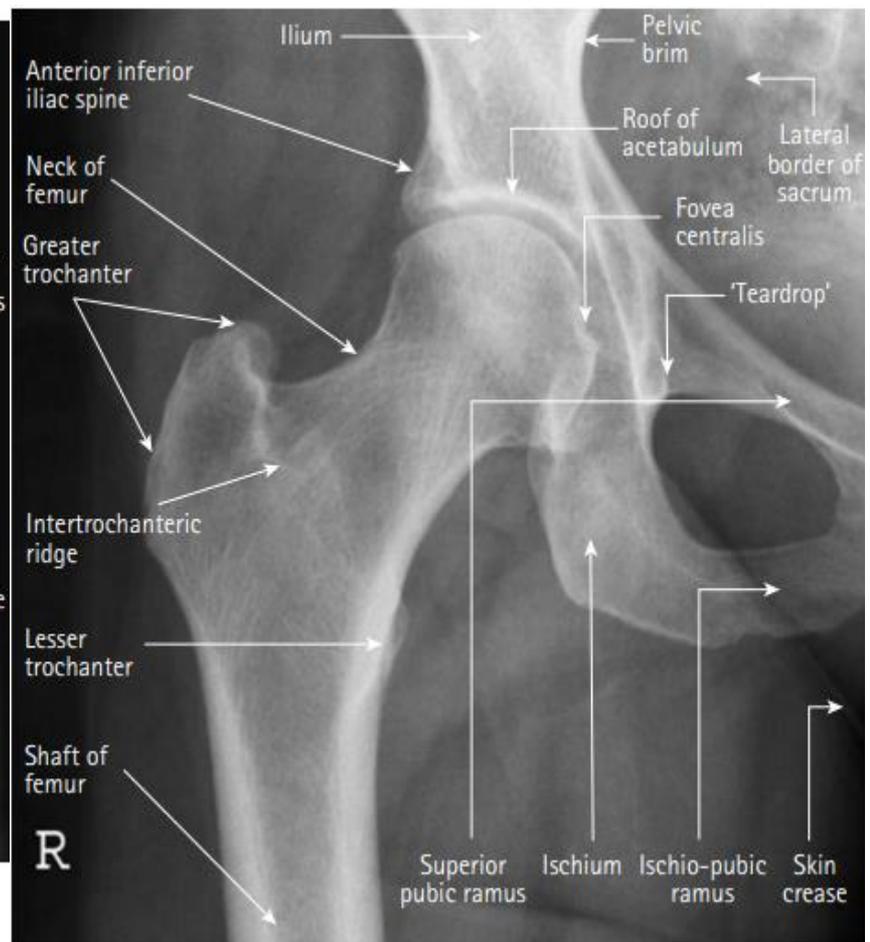
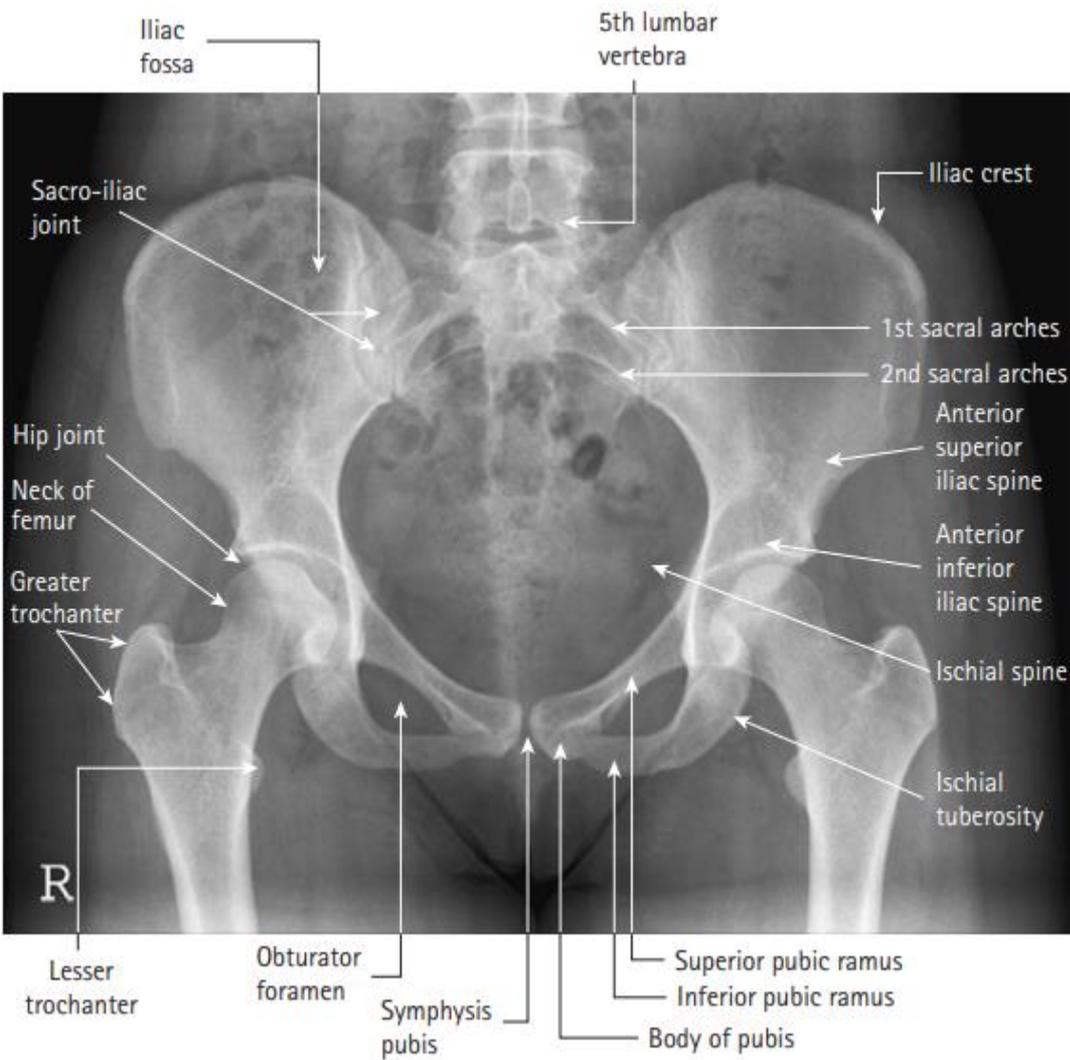
- The hips and knees are flexed and the limbs rotated laterally through approximately 60 degrees. This movement separates the knees and brings the plantar aspect of the feet in contact with each other.*
- The limbs are supported in this position by pads and sandbags.*
- Cassette In-Bucky (14x17 Inch)*

Direction and centering of the X-ray beam

- Centre in the midline at the level of the femoral head.*



Normal radiograph showing both hips in lateral projection (frog legs)



Antero-posterior projection of hip

Antero-posterior – single hip (basic)

Position of patient and cassette

- *The patient lies supine and symmetrical on the X-ray table*
- *To avoid pelvic rotation, the anterior superior iliac spines must be equidistant from the tabletop.*
- *The affected limb is internally rotated to bring the neck of the femur parallel to the tabletop, and is then supported by sandbags.*
- *Cassette In-Bucky (10x12 Inch)*

Direction and centering of the X-ray beam

- *Centre to the head of femur.*



Antero-posterior radiograph of single hip



Antero-posterior radiograph of single hip showing pin and plate *in situ*

Lateral single hip

Position of Patient

- The patient lies supine on the X-ray table, with the legs extended.*
- The patient rotates through 45 degrees on to the affected side, with the hip abducted 45 degrees and flexed 45 degrees, and is supported in this position by non-opaque pads.*
- The knee is flexed to bring the lateral aspect of the thigh into contact with the tabletop..*
- A (10 × 12 inch) cassette is used in Bucky.*

Direction and centering of the X-ray beam

- Centre to the head of femur.*



Lateral projection of hip showing fracture of neck femur

oblique projection showing position of Garden screws

Thanks

The word "Thanks" is written in a large, pink, cursive font with a sparkling, glitter-like texture. The text is centered and surrounded by several pink roses and green leaves on thin stems, creating a decorative floral border around the word.