Department of Radiology Techniques

Radiological Position

The Second Stage

Semester 2

Acetabulum and hip Position

Lecture 3

Assist. Lecturer

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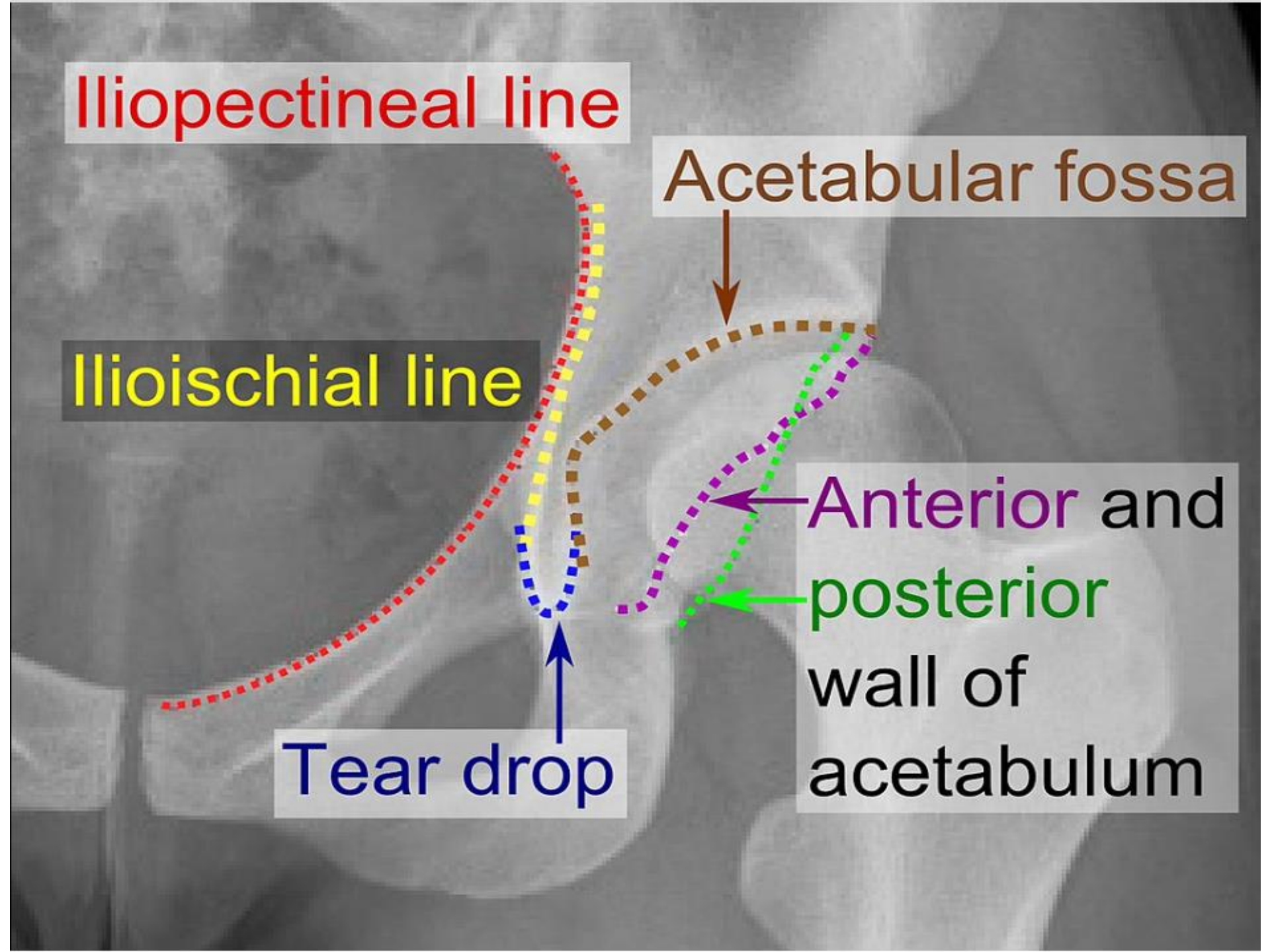
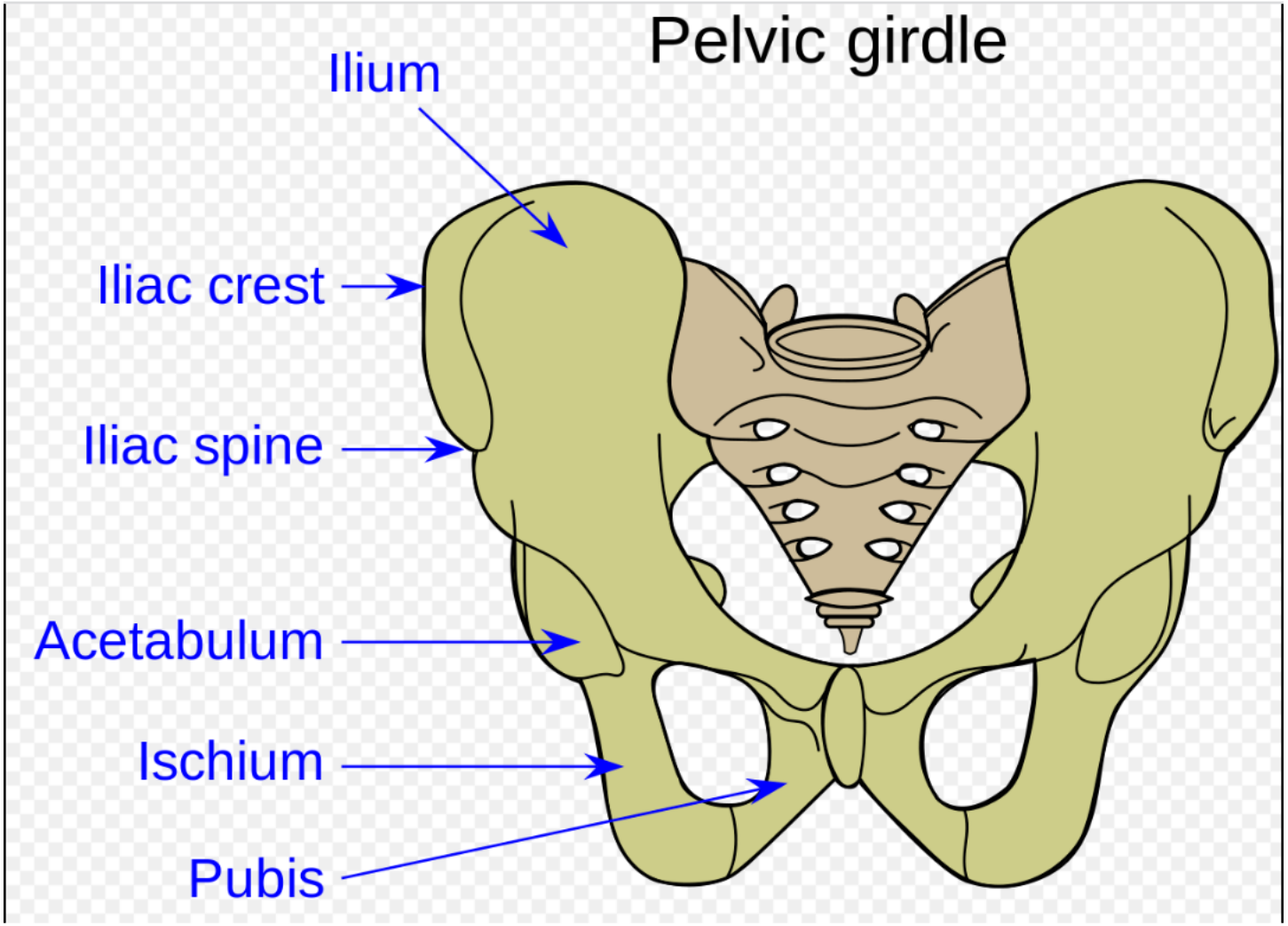
Positions of Acetabulum

1- Anterior oblique (Judet's projection)

2- Posterior oblique (reverse Judet's projection)

Cassette In – Bucky (10x12 Inch)


Iliopectineal line
Acetabular fossa
Ilioischial line
Anterior and
posterior
wall of
acetabulum
Tear drop


Pelvic girdle
Ilium
Iliac crest
Iliac spine
Acetabulum
Ischium
Pubis

1- Anterior oblique (Judet's projection)

This projection may be used to assess the acetabulum when a fracture is suspected. Although the acetabulum is seen on the anteroposterior pelvis, the anterior and posterior rims are superimposed over the head of the femur and the ischium. If the patient is immobile or in pain, then a reverse Judet's projection is taken.

***Judet's projection** demonstrates the anterior rim of the acetabulum, with the patient prone.*

***A posterior oblique projection** (Lauenstein's projection) show the posterior rim of the acetabulum, with the patient supine.*

Position of patient and cassette

• The patient lies prone on the X-ray table.
• The trunk is then rotated approximately 45 degrees on to the unaffected side and the affected side is raised and supported on non-opaque pads.
• In this position, the rim of the acetabulum nearest the tabletop is approximately parallel to the cassette.
• Cassette (10x12 Inch) is placed longitudinally in the Bucky tray.

Direction and centering of the X-ray beam

• Centre just distal to the coccyx, with the central beam directed 12 degrees towards the head. Collimate to the affected area.


MULTIX

Judet's projection of hip showing a central fracture of the acetabulum

2- Posterior oblique (reverse Judet's projection)

Position of patient and cassette

• The patient lies supine on the X-ray table.

• The affected side is raised approximately 45 degrees and supported on non-opaque pads.

Direction and centering of the X-ray beam

• Centre to the femoral pulse on the raised side, with the central ray directed 12 degrees towards the feet.

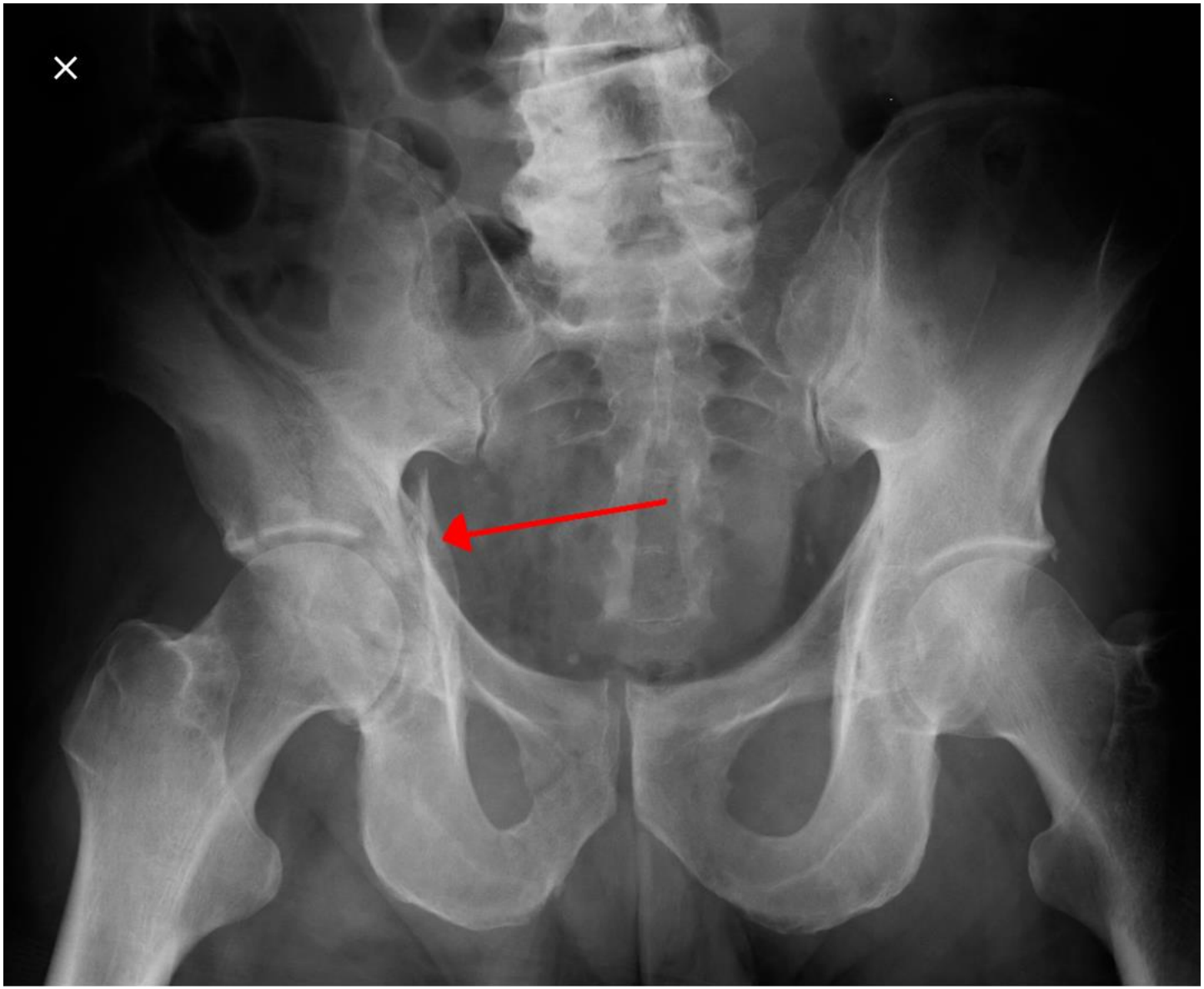
• The cassette is centered at the level of the femoral pulse and collimated to the area under examination.

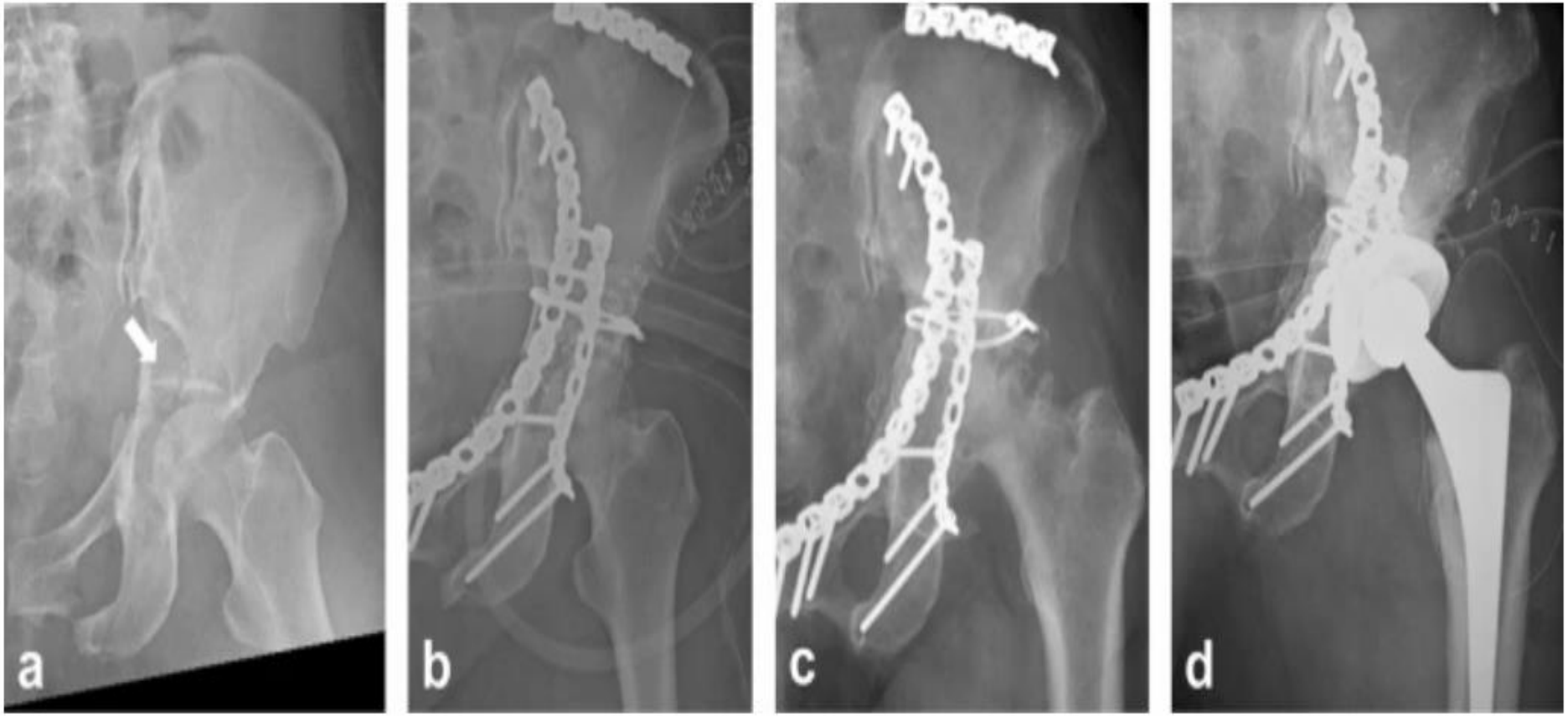
Notes

• It is necessary in trauma cases to adequately demonstrate fractures of the pelvis and acetabulum, as there is a high incident of damage to the surrounding anatomy (Lower urinary tract, blood vessels, nerves)

These fractures can be classified as stable/unstable depending on the stability of the bony fragments.

• Computed tomography (CT) scanning is used to assess the position of intra-articular bony fragments and soft-tissue injury .





Case of acetabular fracture with dome impaction. (**a**) A 72-year-old woman had an injury associated with a column fracture with dome impaction (white arrow). (**b**) Surgery was performed without reduction and fixation of the impacted dome fragment. (**c**) Five years postoperatively, the patient presented with post-traumatic osteoarthritis and severe pain. (**d**) Total hip arthroplasty was performed.


Thanks