

Clinical Seminar IV

Sacrum, Coccyx & SI Joint

Pathology & Image Critique

MI Program
2022

1

Pathologies

2

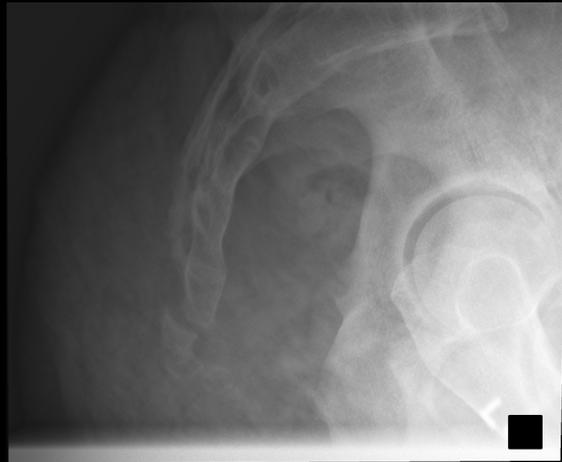
Dislocated Coccyx

- **Cause:** high-energy trauma, insufficiency fractures
- **Complications:** pain when sitting, stiffness
- **Radiographic appearance:** transverse orientation or displacement of fracture fragment.
- **Technical considerations:** No need to change technique from normal. But modification in positioning may need to occur.
- **Prognosis:** Prognosis is good



3

Dislocated coccyx



4

Dislocated SI Joint

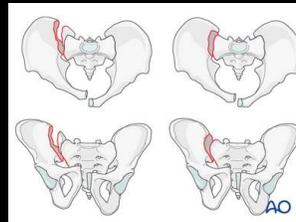
Cause: high-injury polytrauma

Complications: internal hemorrhaging, posterior pelvic fractures, nerve damage, and urethral or bowel injury with risk of sepsis

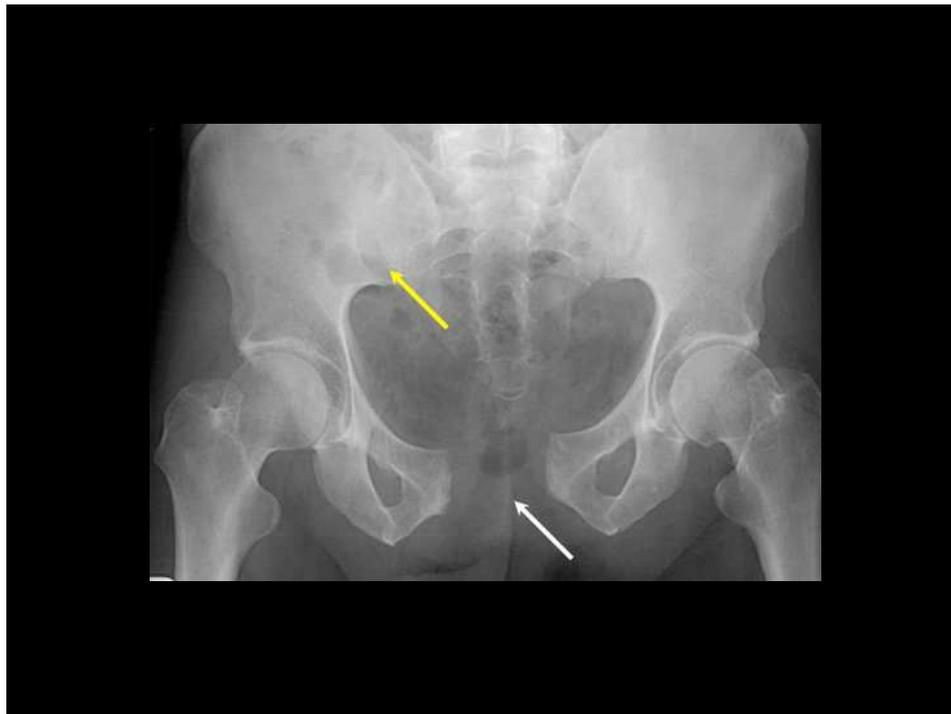
Radiographic appearance: misalignment of SI joints

Technical considerations: Neither additive or destructive, no technical factor change.

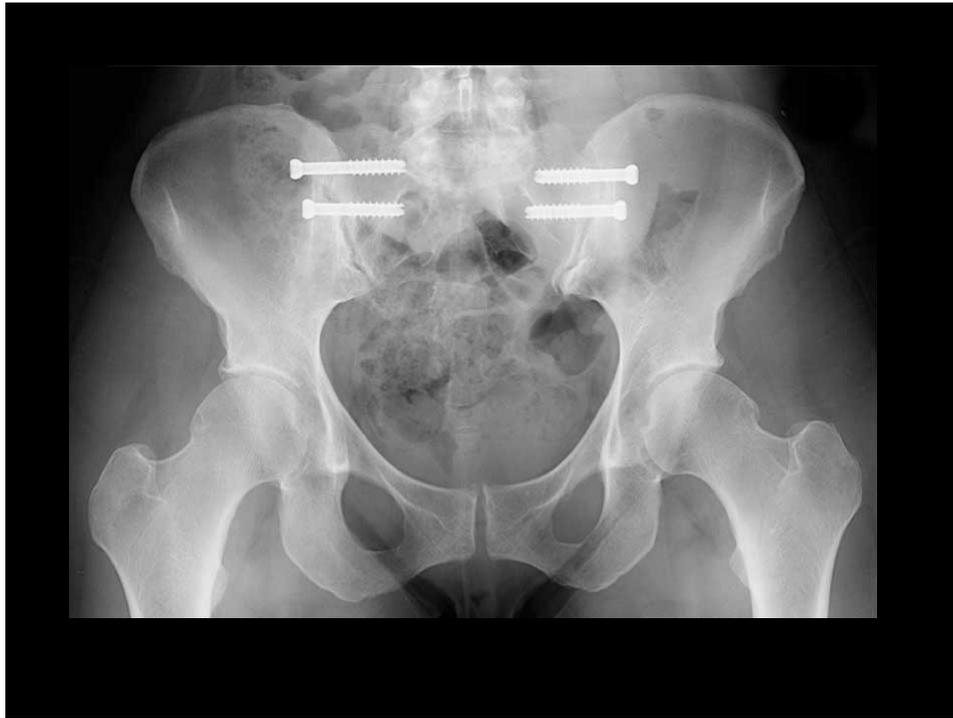
Prognosis: Depends on the severity of the fracture and any associated injury.



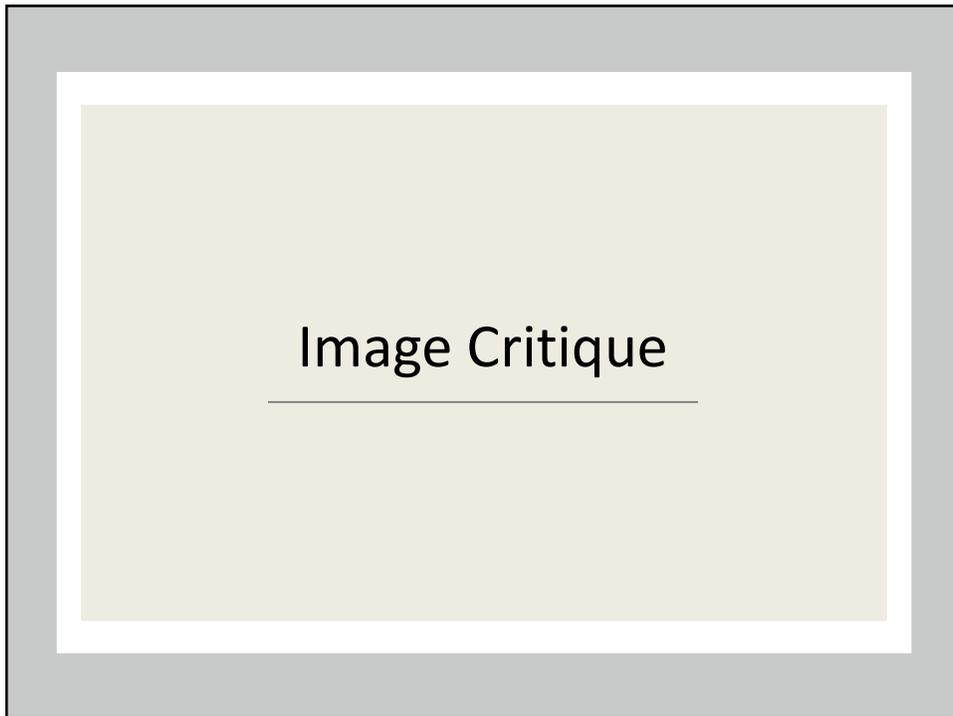
5



6



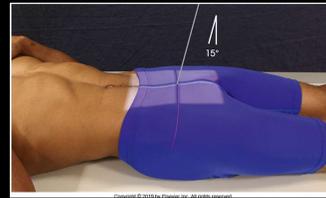
7



8

Sacrum – AP Axial

- Evidence of proper collimation and presence of the side marker placed clear of anatomy of interest
- Bony trabecular detail and surrounding soft tissues
- Sacrum centered and seen in its entirety
- Sacrum free of foreshortening, with the sacral curve straightened
- Pubic bones not overlapping the sacrum
- No rotation of the sacrum, as demonstrated by symmetric alae



9

1

AP Axial
SACRUM



EI 300

10



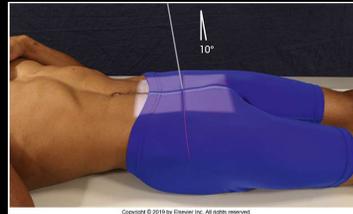
11



12

Coccyx – AP Axial

- Evidence of proper collimation and presence of the side marker placed clear of anatomy of interest
- Bony trabecular detail and surrounding soft tissues
- Sacrum centered and seen in its entirety
- Sacrum free of foreshortening, with the sacral curve straightened
- Pubic bones not overlapping the sacrum
- No rotation of the sacrum, as demonstrated by symmetric alae



13

4

AP Axial
COCCYX

EI 330



14



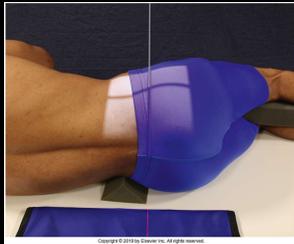
15



16

Sacrum – Lateral

- Evidence of proper collimation and presence of the side marker placed clear of anatomy of interest
- Sacrum
- Closely superimposed posterior margins of the ischia and ilia, demonstrating no rotation
- Bony trabecular detail and surrounding soft tissues



17

7

LATERAL
SACRUM

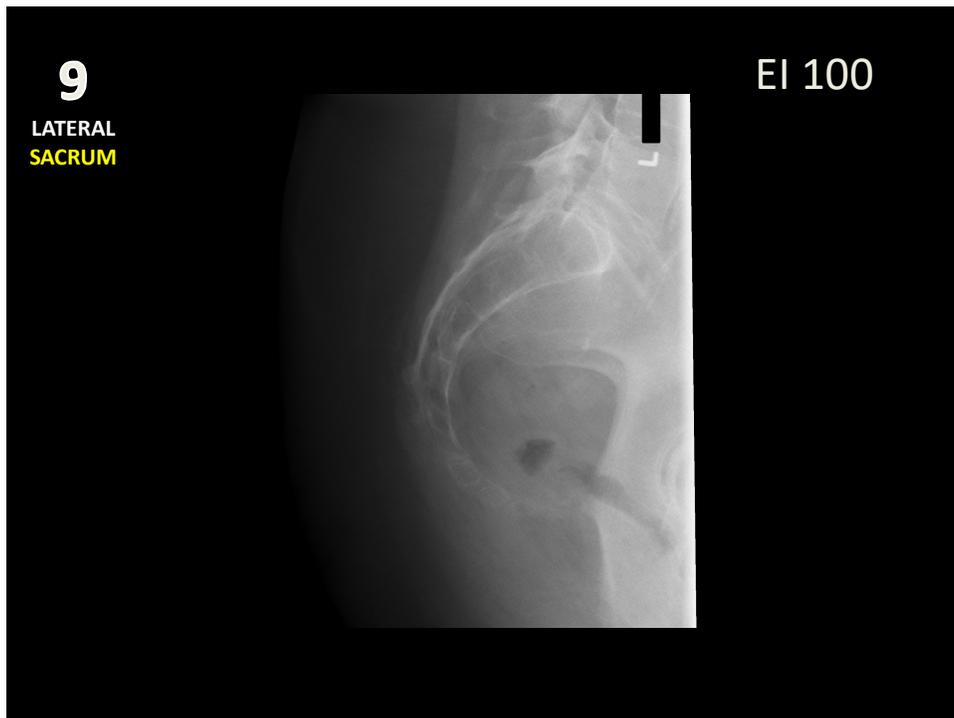
EI 330



18



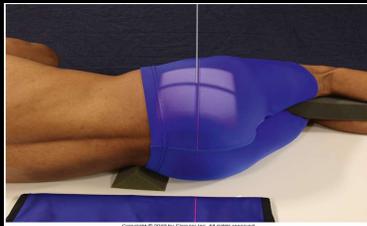
19



20

Coccyx – Lateral

- Evidence of proper collimation and presence of the side marker placed clear of anatomy of interest
- Coccyx
- Closely superimposed posterior margins of the ischia and ilia, demonstrating no rotation
- Bony trabecular detail and surrounding soft tissues



21

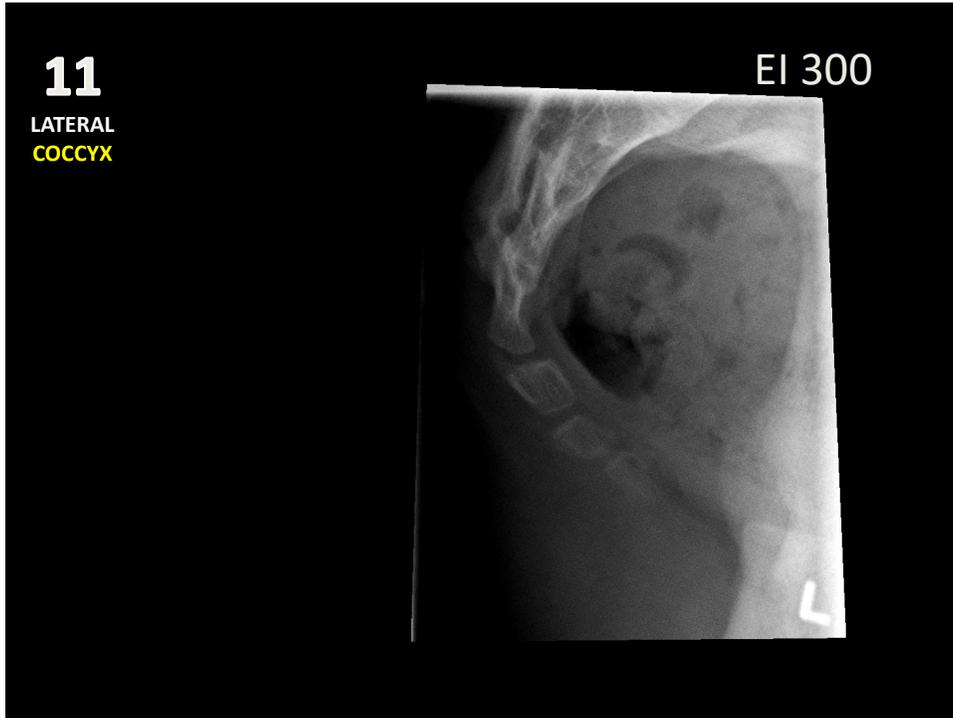
10

LATERAL
COCCYX

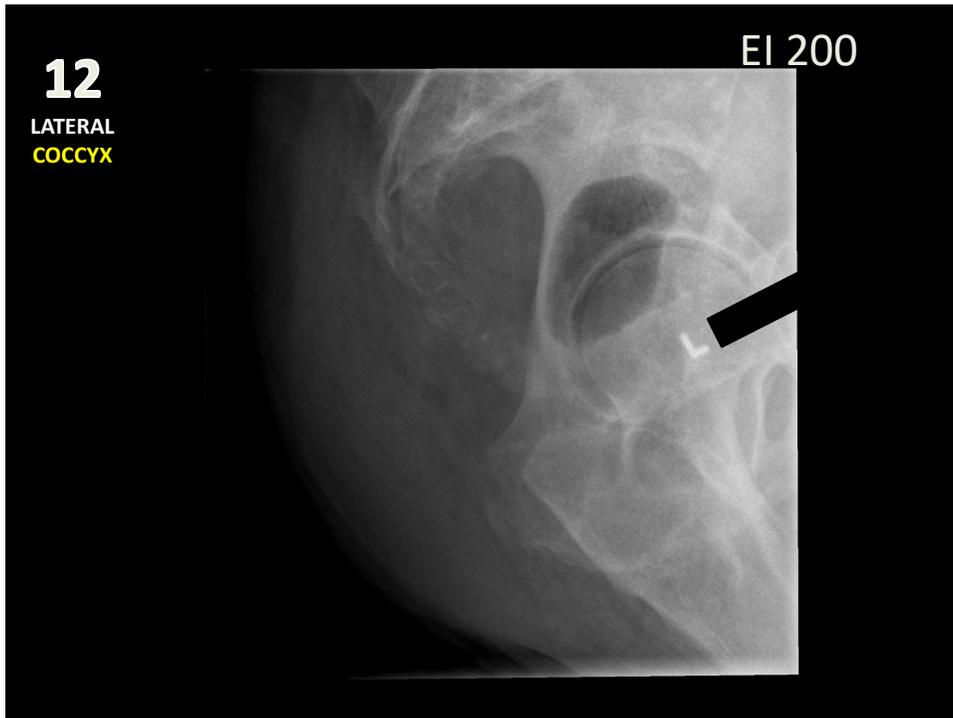
EI 250



22



23



24

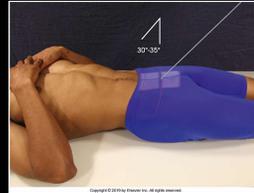
SI Joints – AP Axial

- Evidence of proper collimation and presence of the side marker placed clear of anatomy of interest
- Lumbosacral junction and sacrum
- Open intervertebral disk space between L5 and S1
- Both sacroiliac joints
- Bony trabecular detail and surrounding soft tissues



Central Ray angled

- 30° cephalad angle for males
- 35° cephalad angle for females

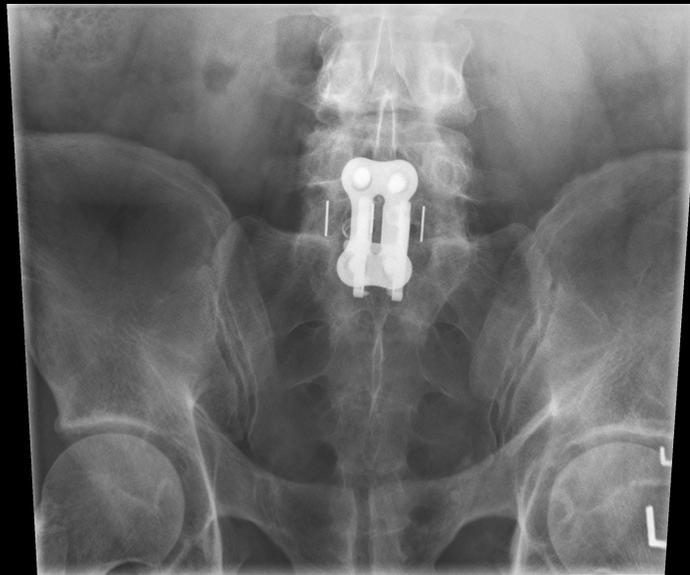


25

13

AP Axial
SI JOINTS

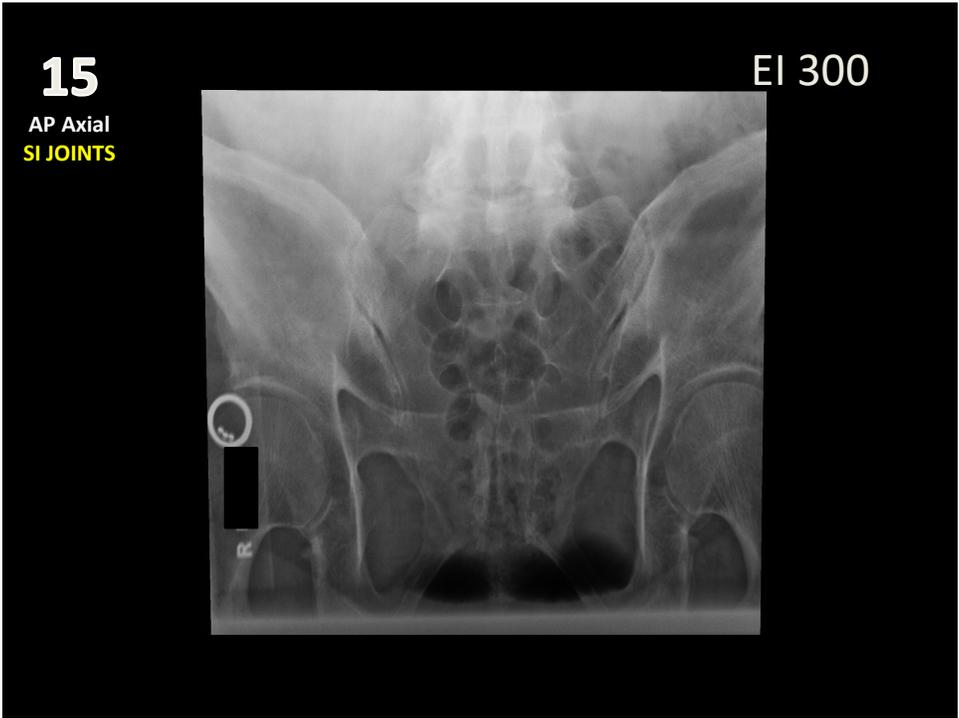
EI 320



26



27

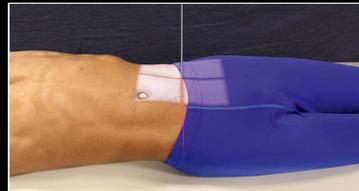


28

SI Joints – RPO/ LPO (AP Obliques)

- Evidence of proper collimation and presence of side marker placer clear of anatomy of interest
- Open sacroiliac joint space with minimal overlap of the ilium and sacrum
- Joint centered on the radiograph
- Bony trabecular detail and surrounding soft tissue

** Appropriate right or left marker should be used to mark laterally on the elevated side. **



29

Two ways to check for rotation: iliac tuberosity and sacrum border



30



31



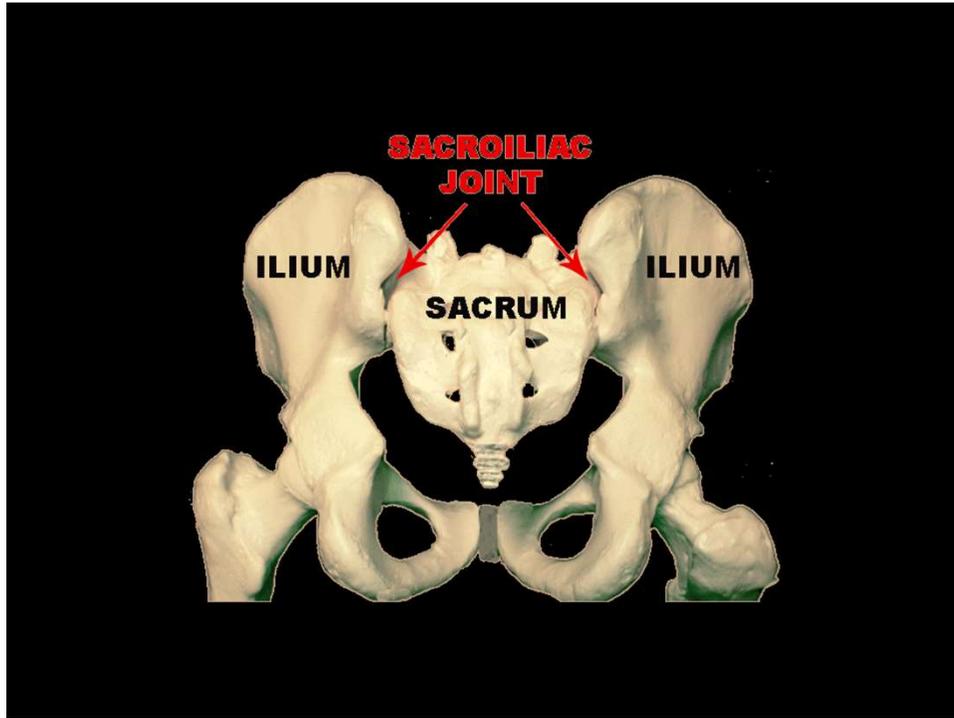
32



33



34



35