

Percutaneous Fixation of the Acetabulum: Determining Safe Corridors

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UCSF/SFGH Orthopaedic Trauma Institute

SF Trauma Course 2022



Learning Objectives

- Being safe
- Learn imaging
- Then . . . percutaneous fixation

“Perc the Tab?”

Starr *JOT* 1998

Gary *JOT* 2012

Being safe

- Know Anatomy
- Understand indications
- Direct and Indirect Reduction

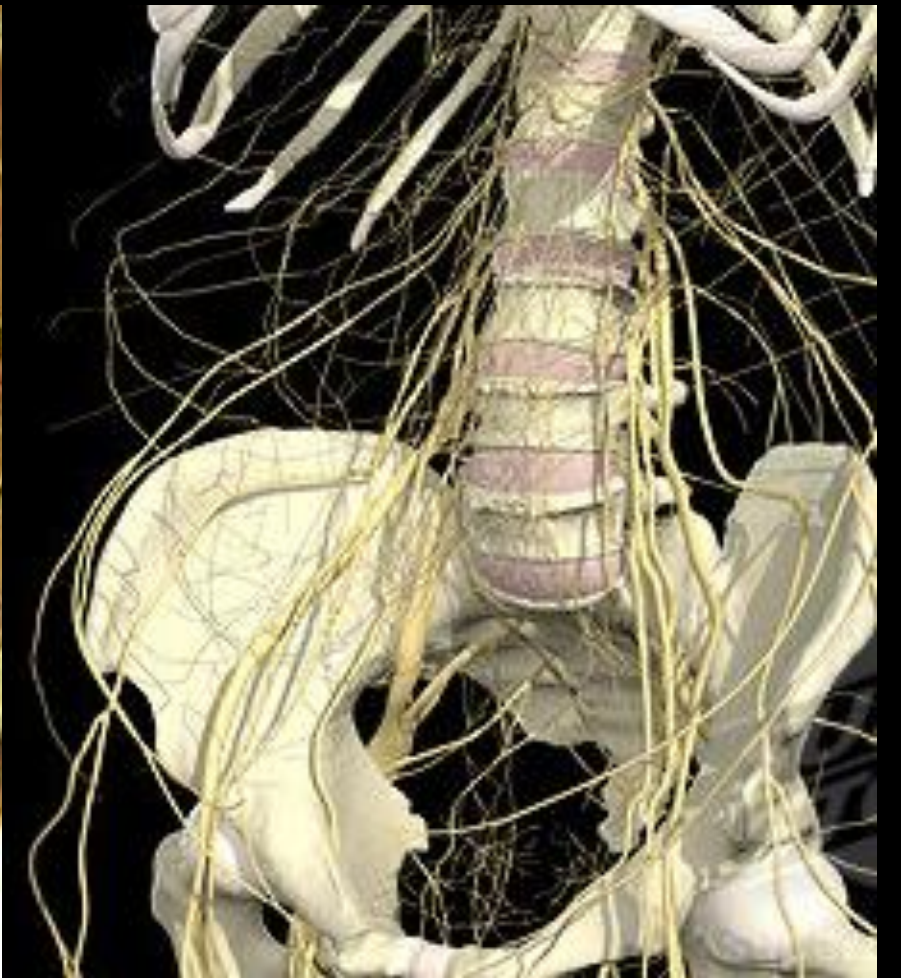
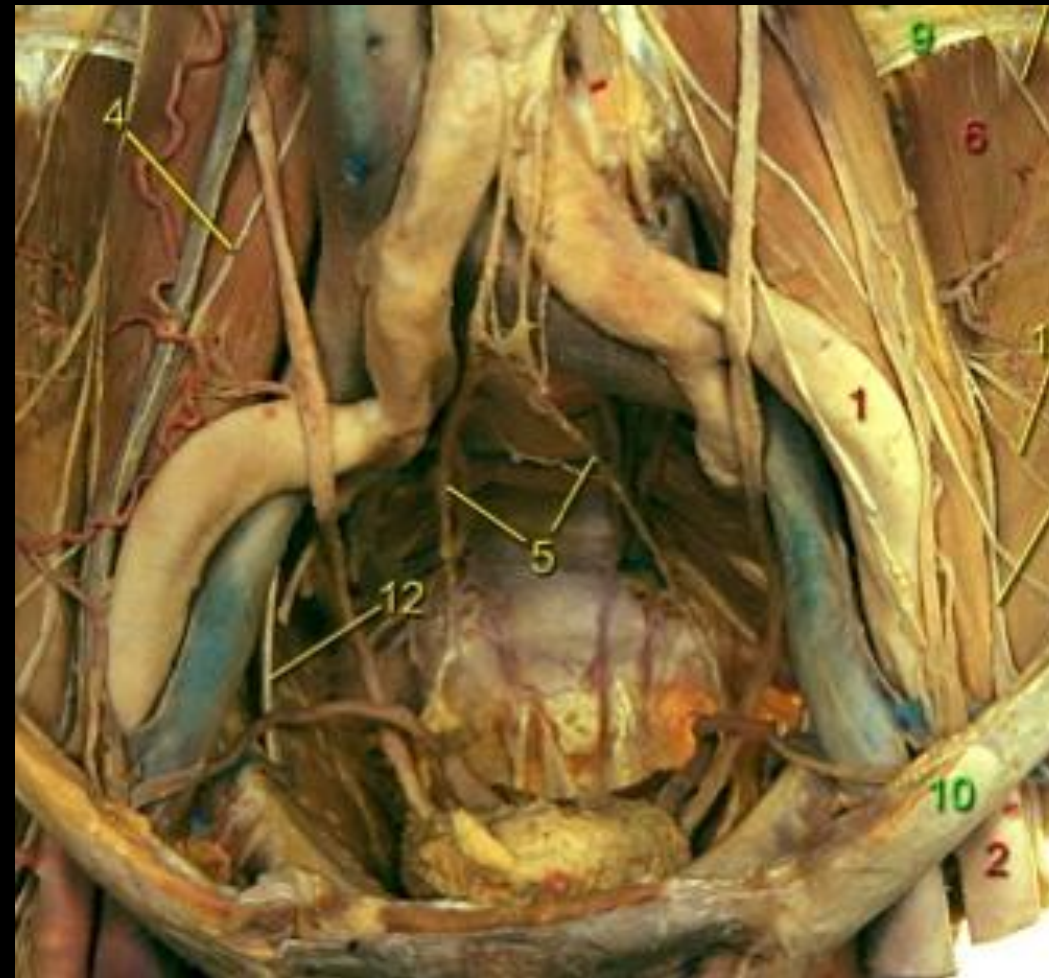
Being safe

- **Know Anatomy**
- Understand indications
- Direct and Indirect Reduction



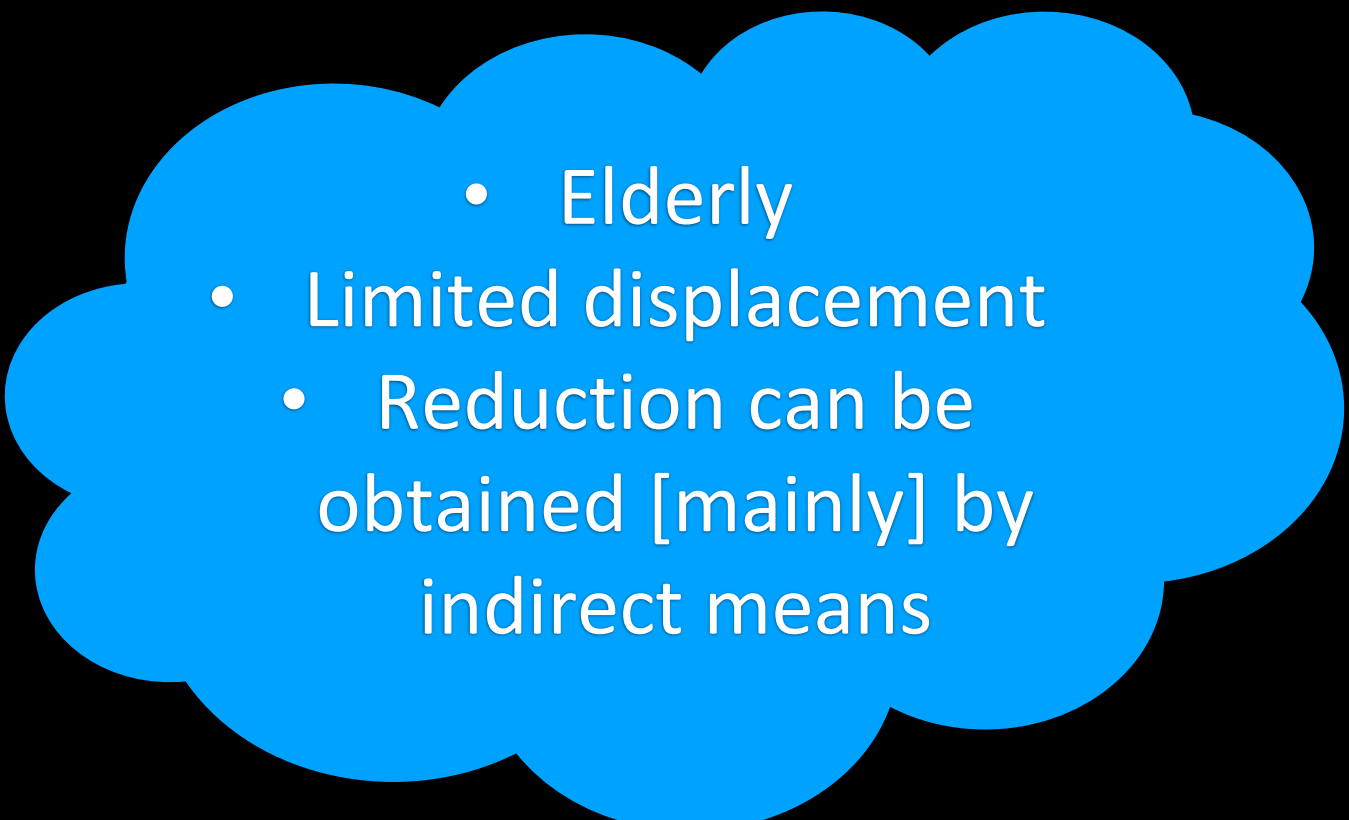
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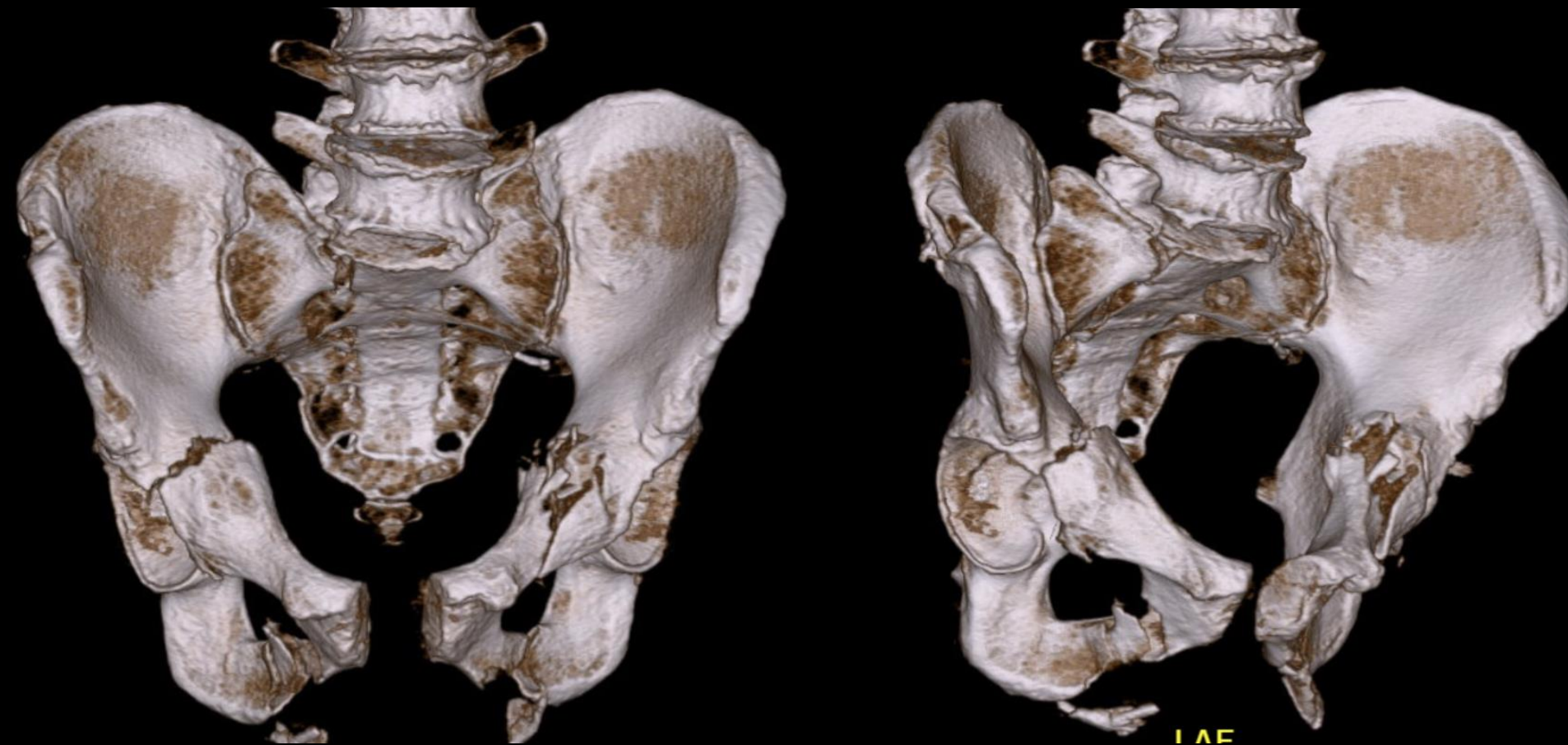
Being safe

- Know Anatomy
- **Understand indications**
- Direct and Indirect Reduction

- 
- Elderly
 - Limited displacement
 - Reduction can be obtained [mainly] by indirect means

Being safe

- Know Anatomy
- **Understand indications**
- Direct and Indirect Reduction



69 yo man, HSMVC, spleen and bladder injuries

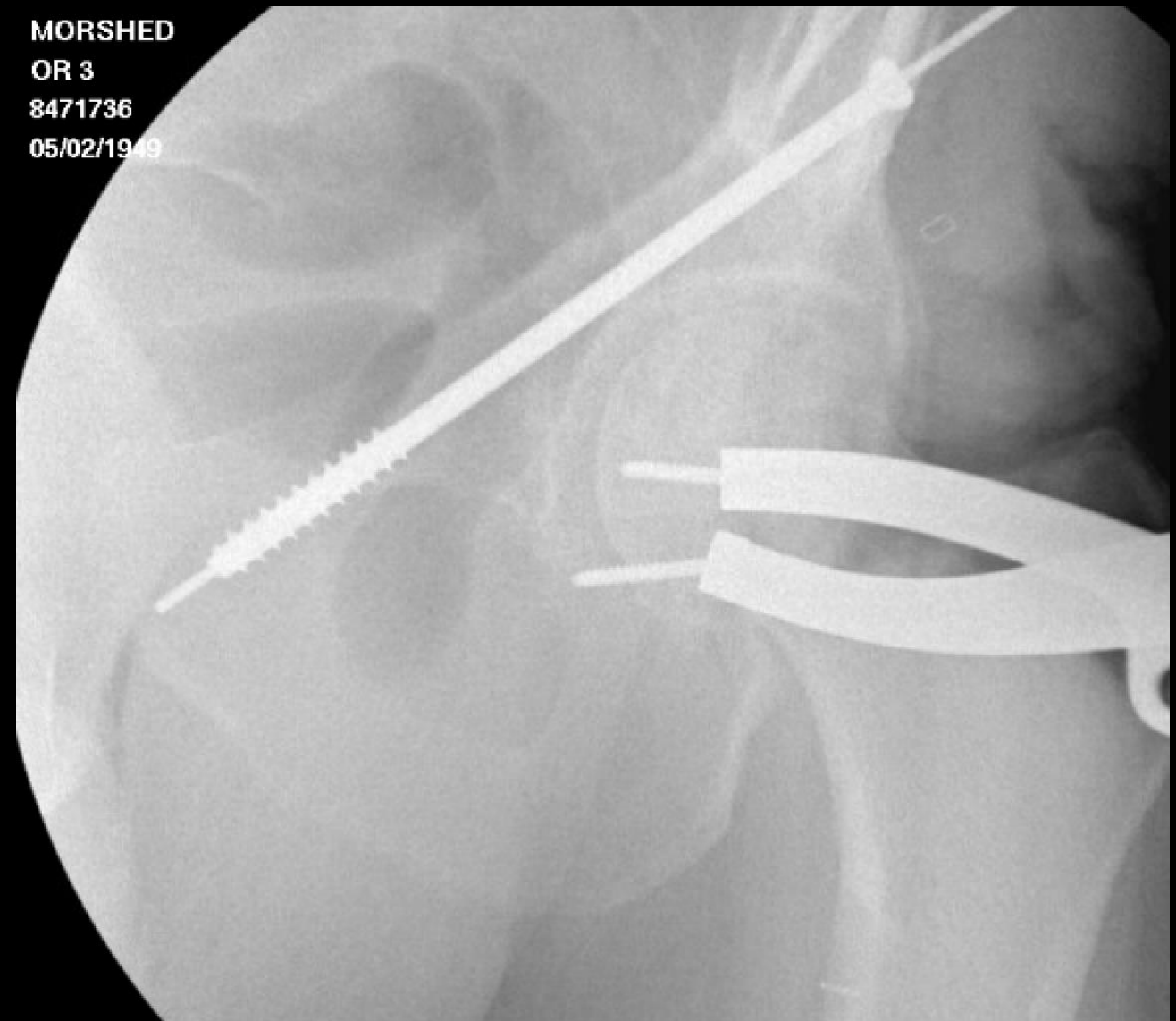
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- Understand indications
- **Direct and Indirect Reduction**



Being safe

- Know Anatomy
- Understand indications
- **Direct and Indirect Reduction**



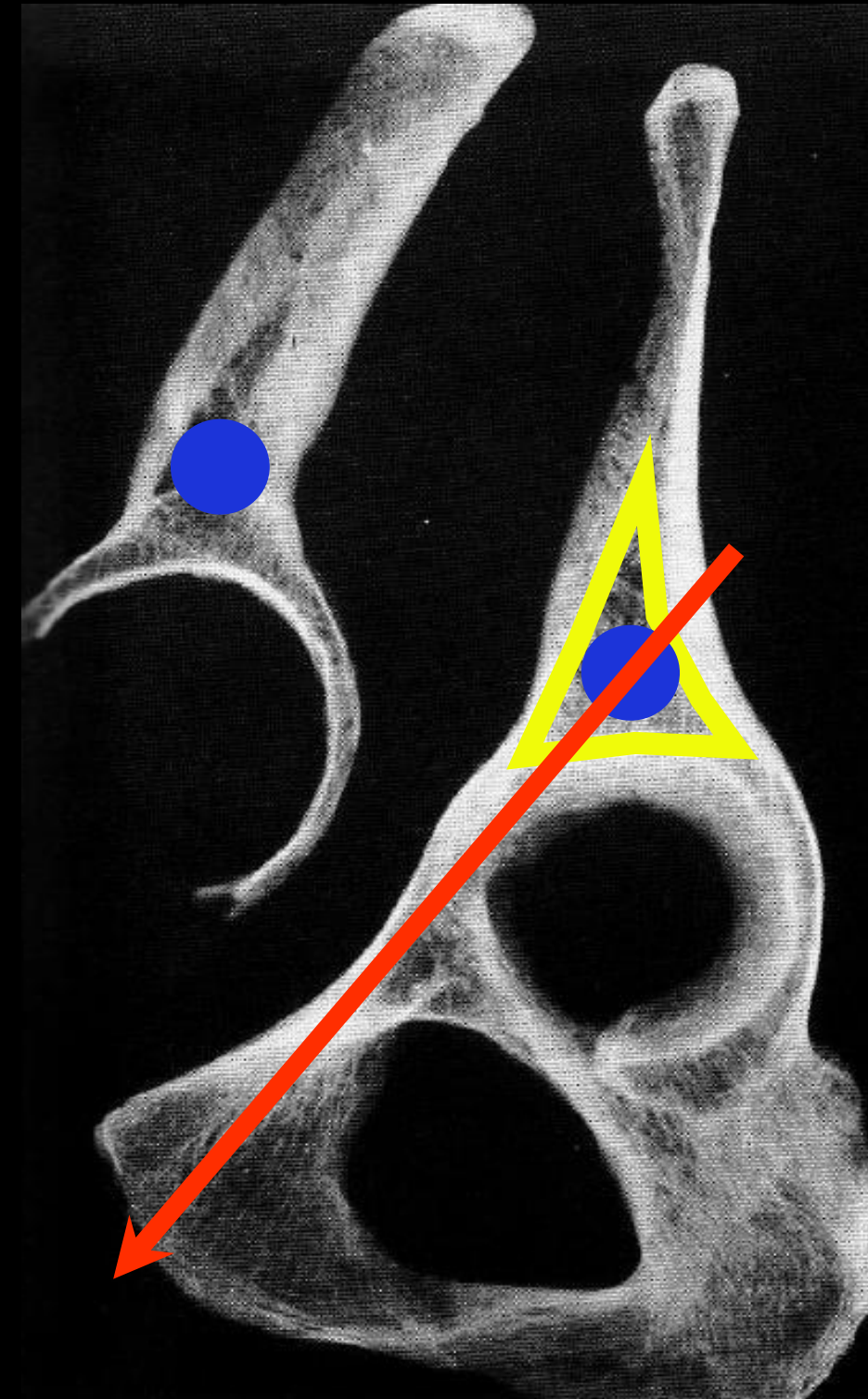
Osseous Corridors

Innominate Bone

- Anterior Column
- Posterior Column
- Sciatic Buttress
- Gluteus Medius Pillar
- Iliac Crest

Sacrum

- Upper Sacral Segment
- Second Sacral Segment



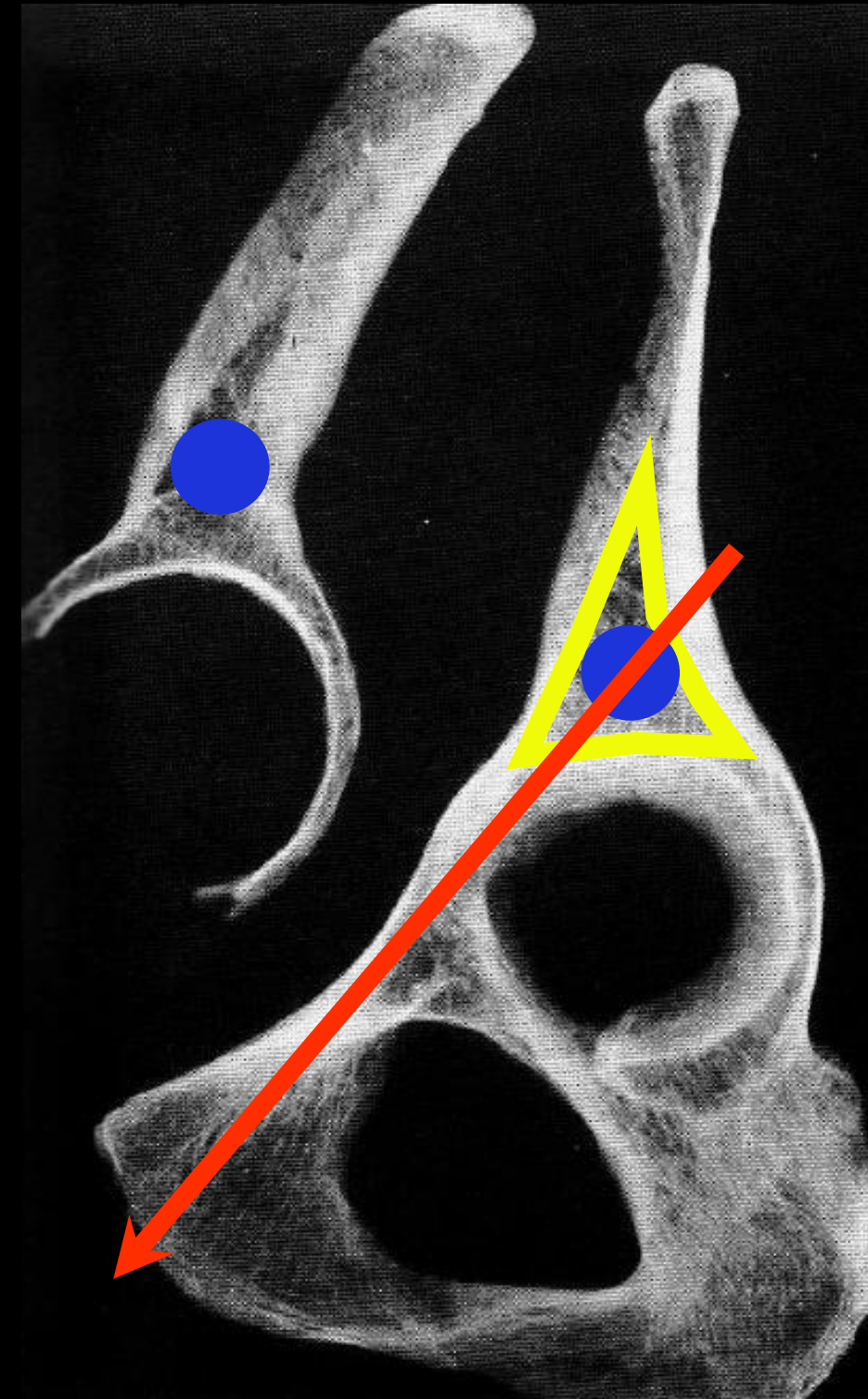
Osseous Corridors

Innominate Bone

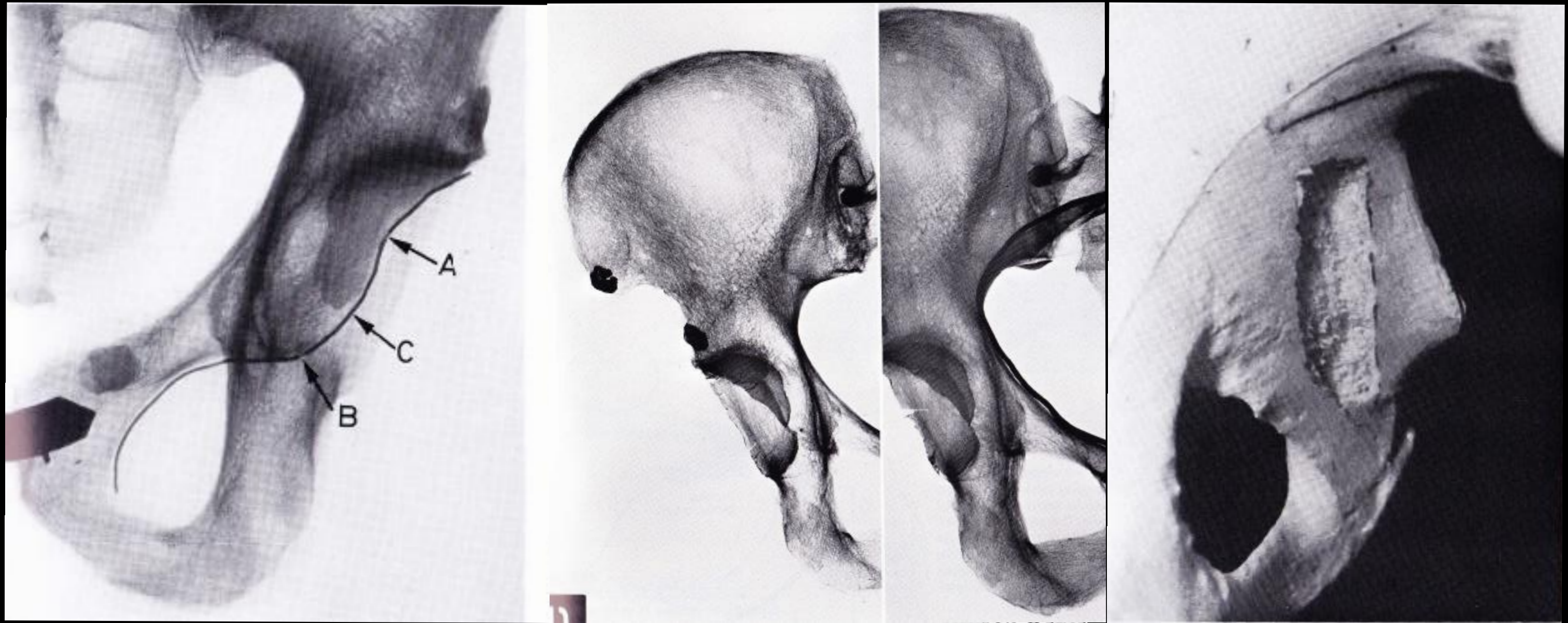
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Sacrum

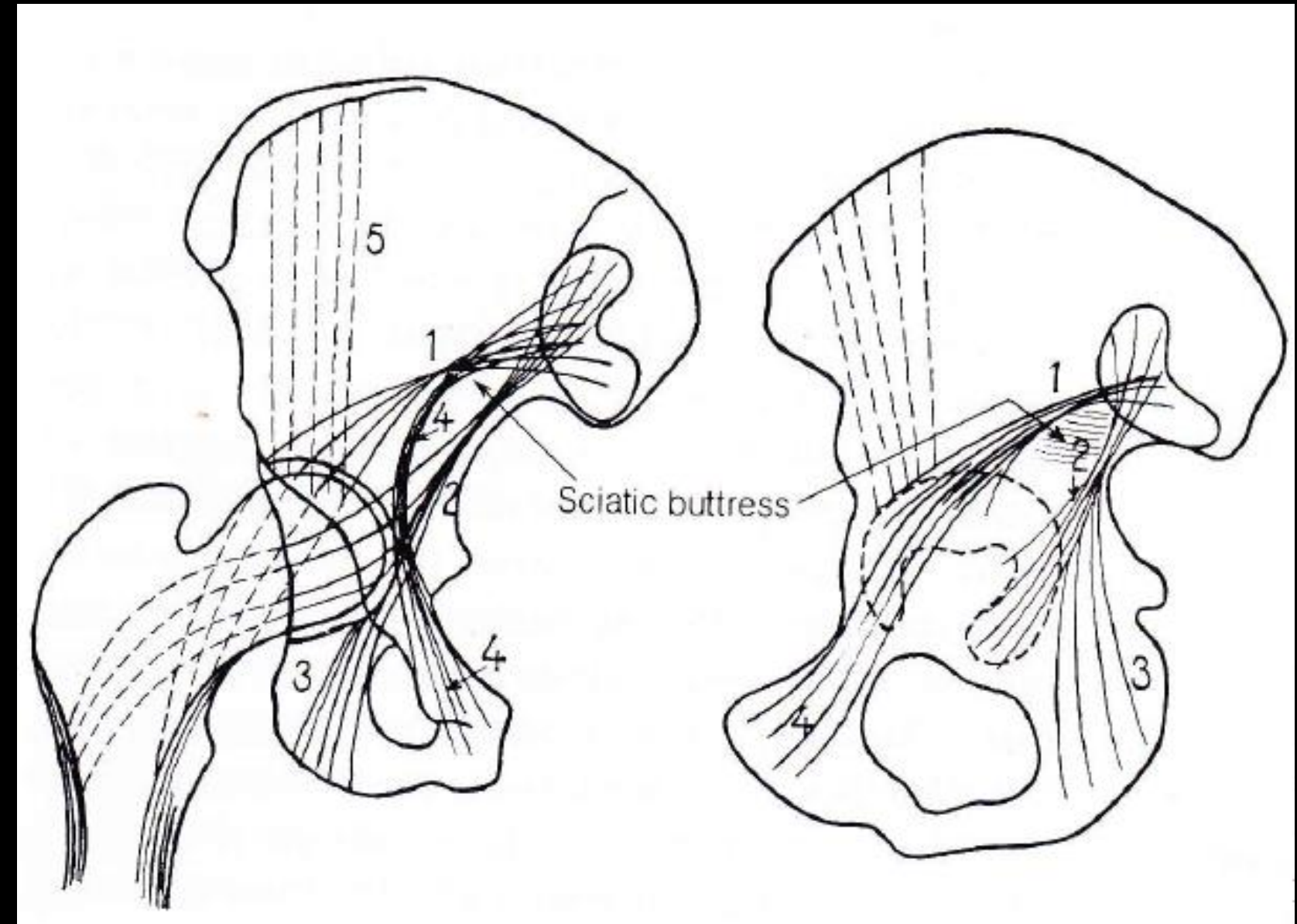
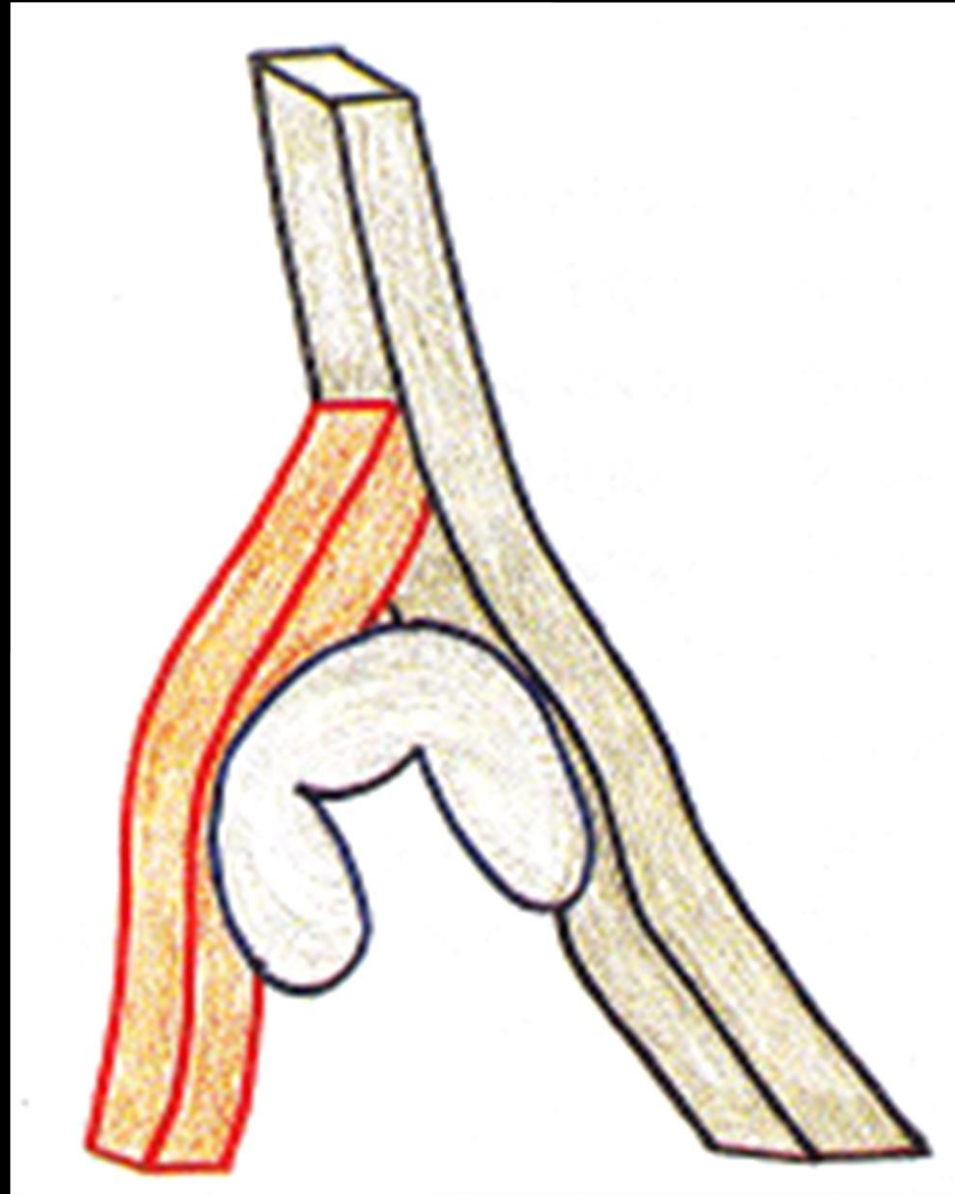
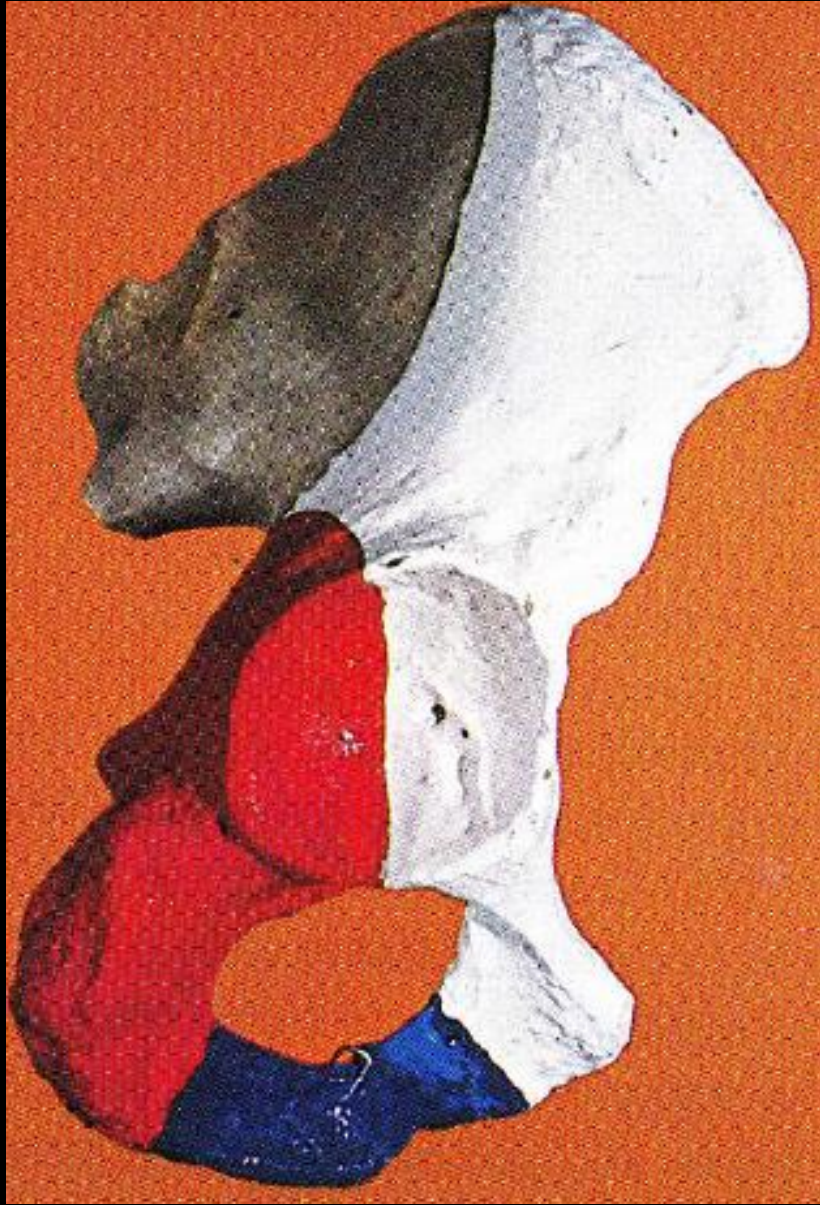
- Upper Sacral Segment
- Second Sacral Segment



Radiology of Surfaces



Columns of the Acetabulum

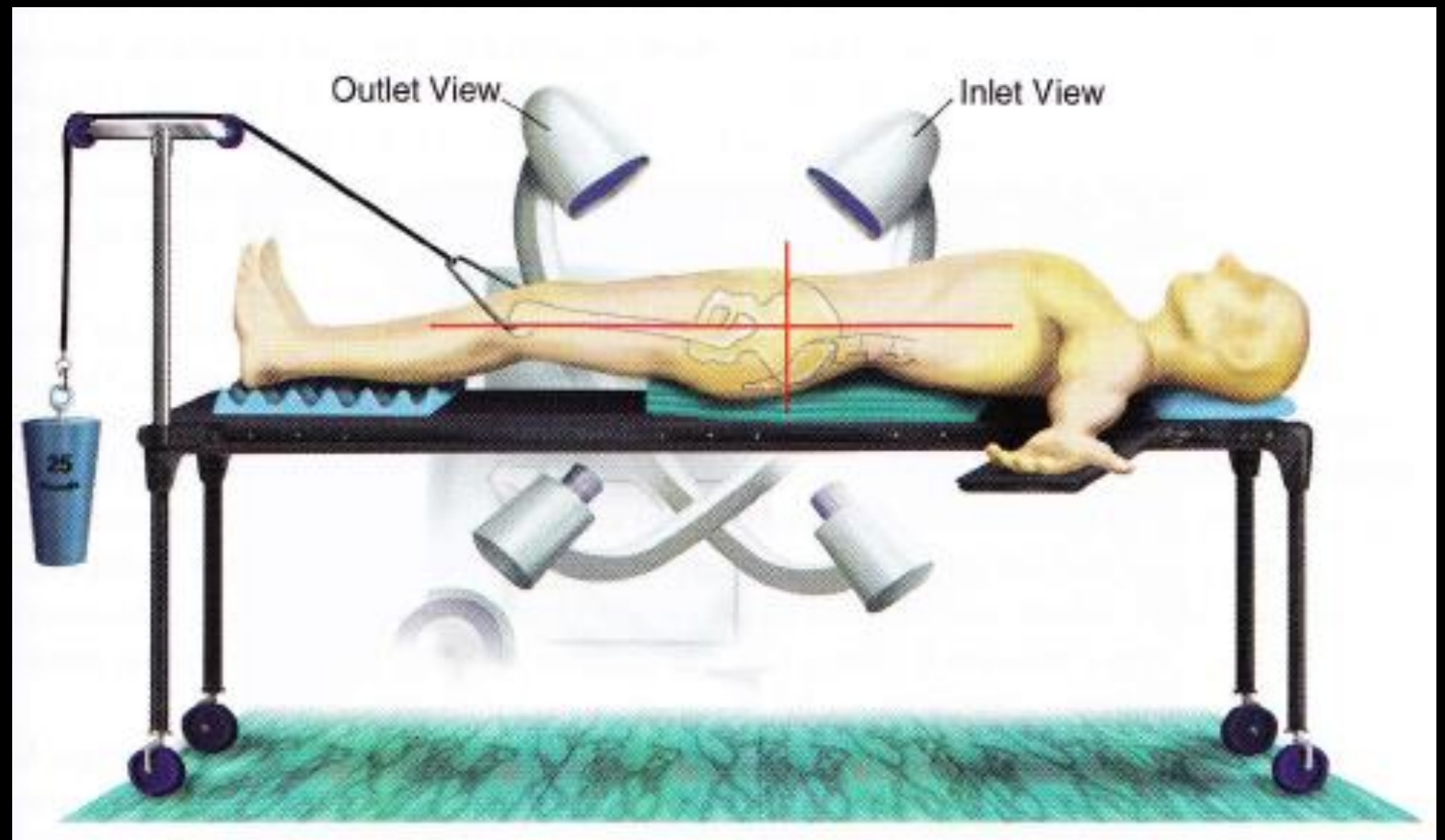


Letournel and Judet 1974

Imaging

Intra-op Fluoroscopy:

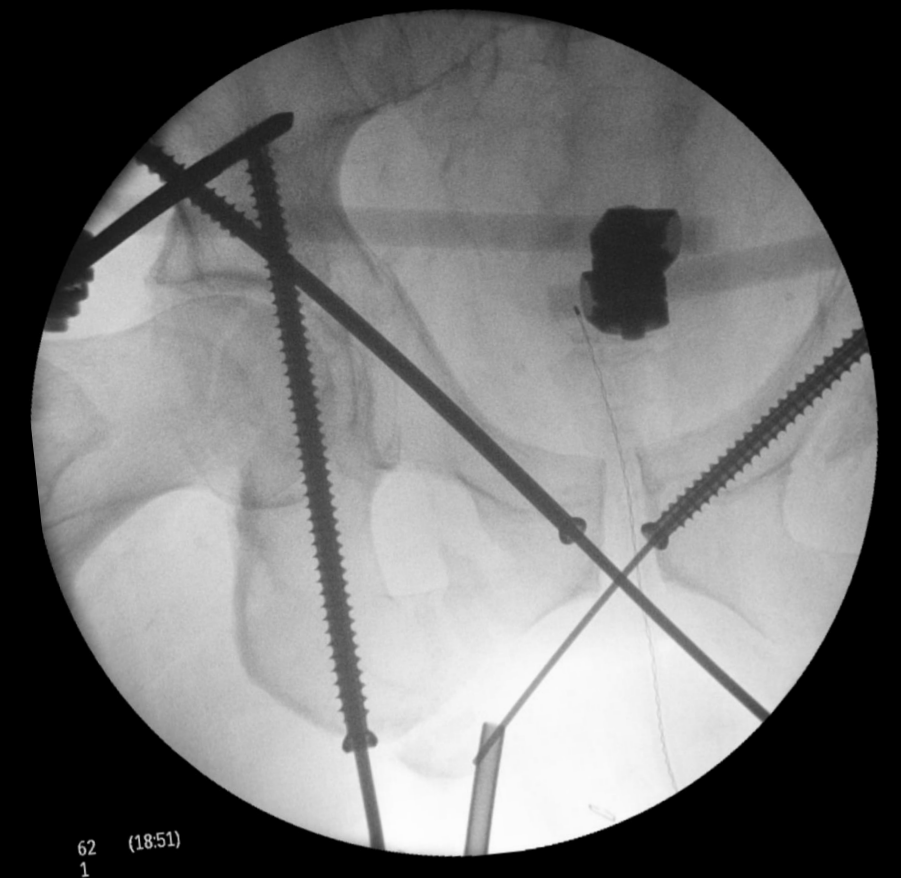
- AP
- Lateral
- Inlet
- Outlet
- Obturator Oblique
- Iliac Oblique
- Inlet Obturator
- Outlet Obturator



Imaging

Intra-op Flouroscopy:

- AP
- Lateral
- Inlet
- Outlet
- Obturator Oblique
- Iliac Oblique
- Inlet Obturator
- Outlet Obturator

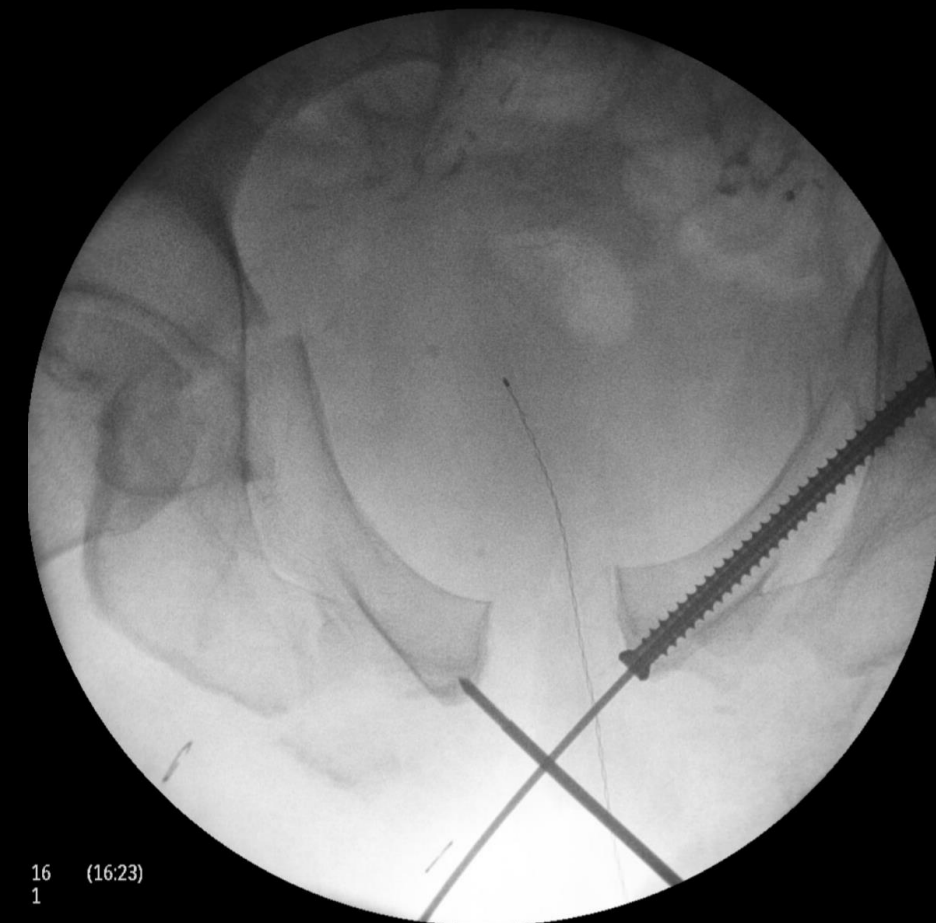
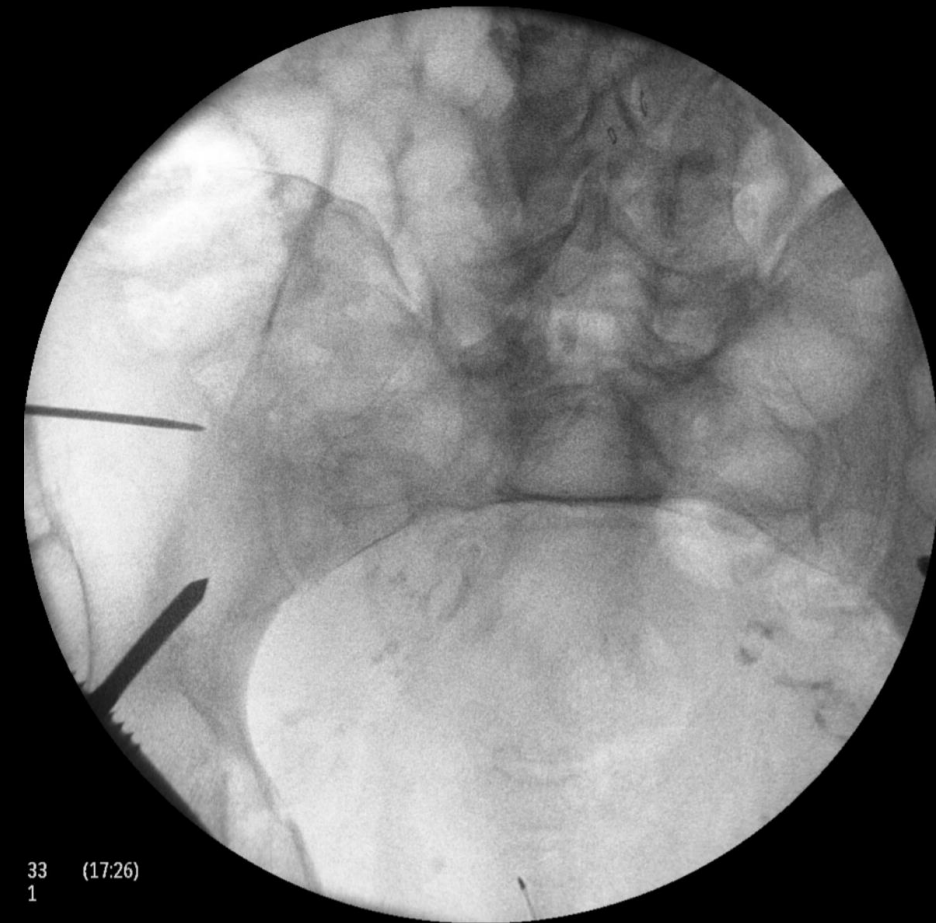


62 (1851)
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Imaging

Intra-op Flouroscopy:

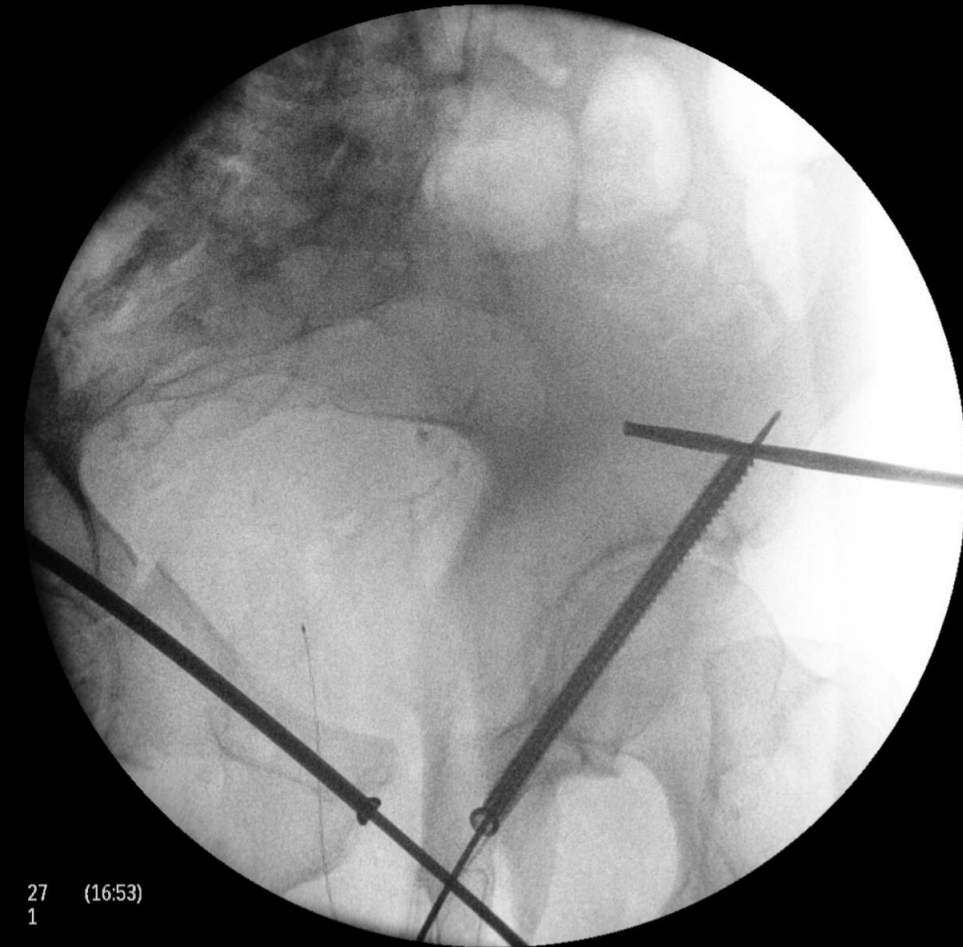
- AP
- Lateral
- **Inlet**
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- Iliac Oblique
- Inlet Obturator
- Outlet Obturator



Imaging

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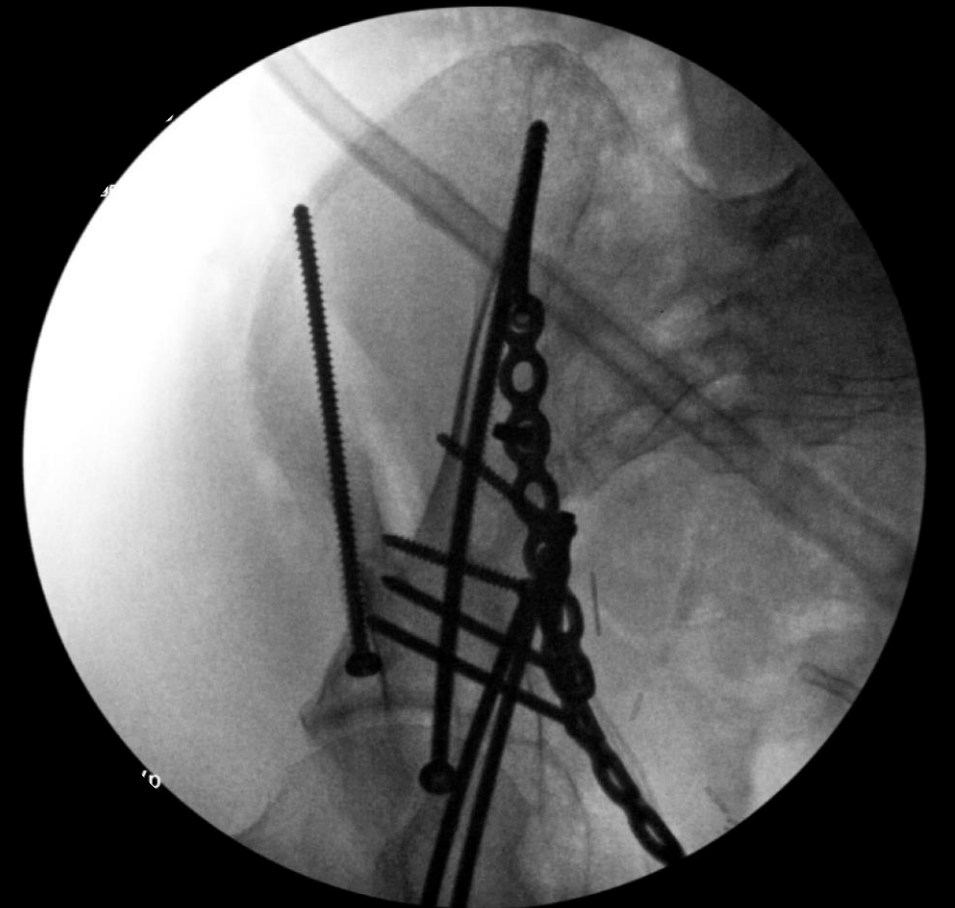
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- **Iliac Oblique**
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Imaging

Intra-op Flouroscopy:

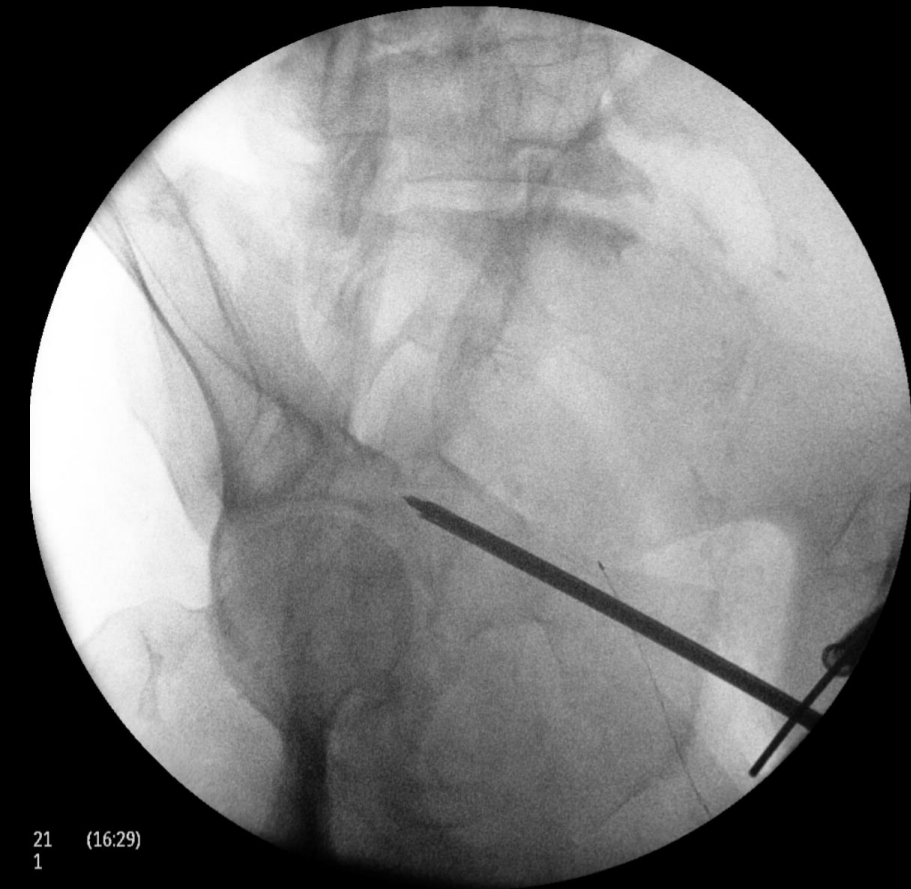
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- Iliac Oblique
- **Inlet Obturator**
- Outlet Obturator



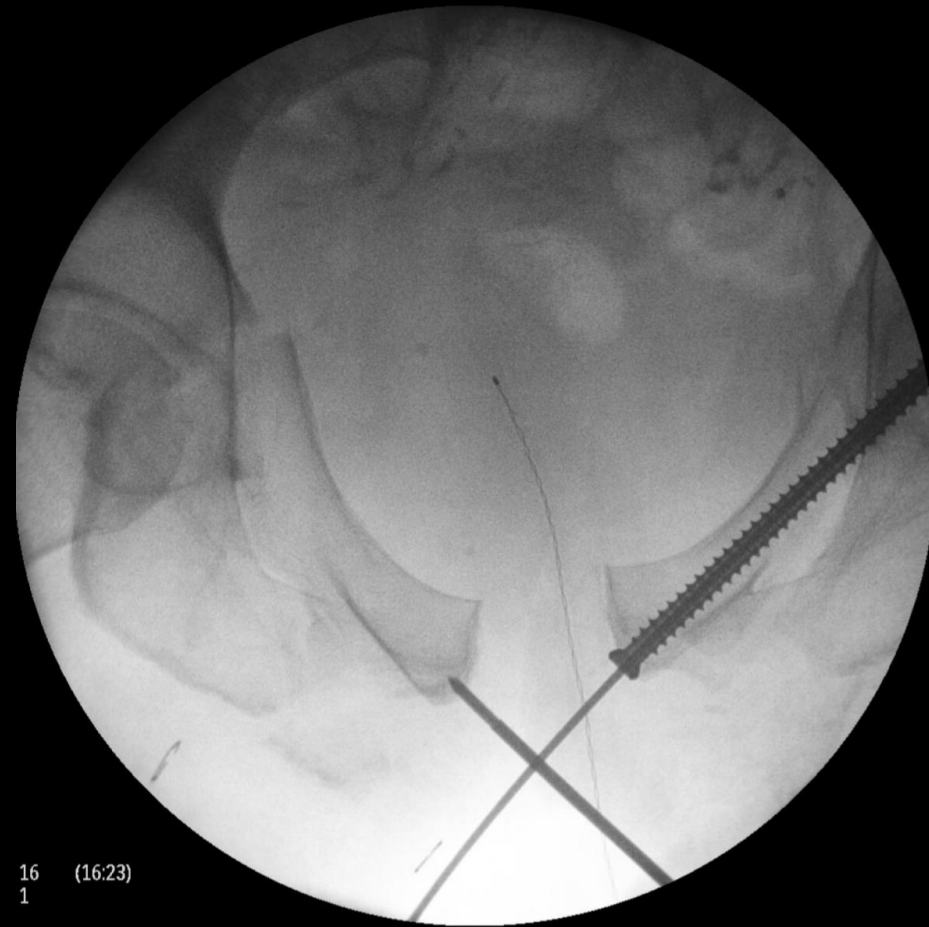
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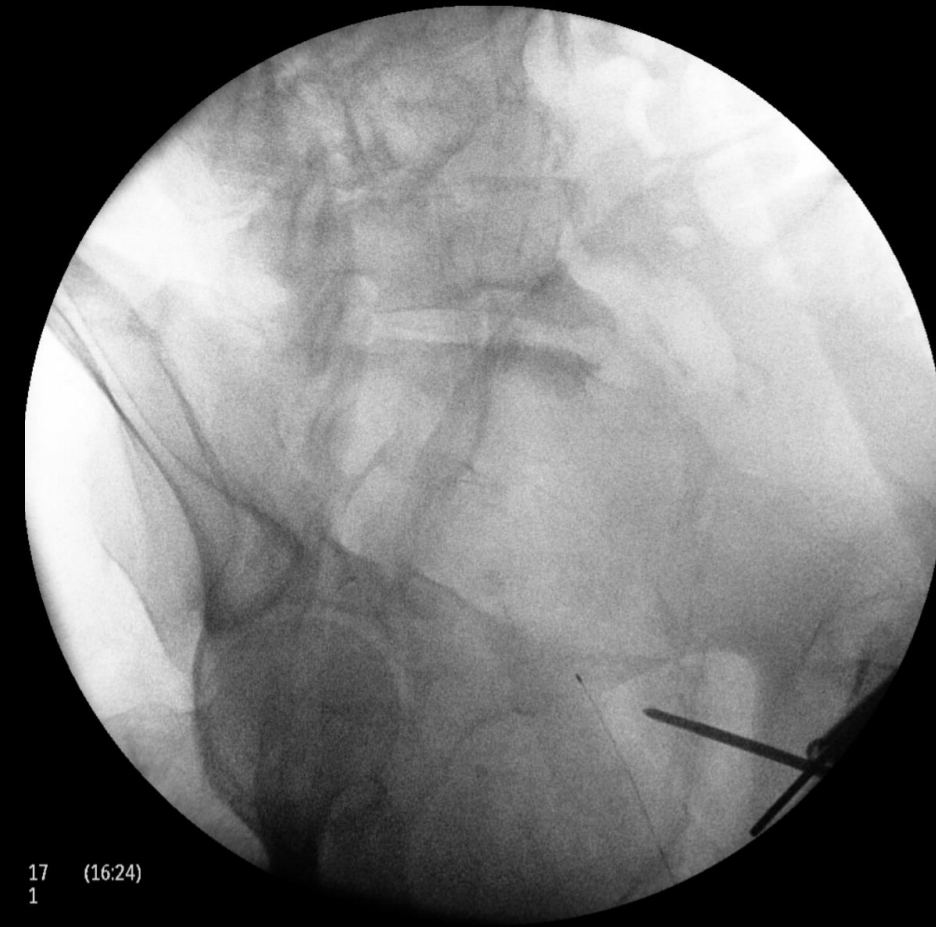
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Anterior Column

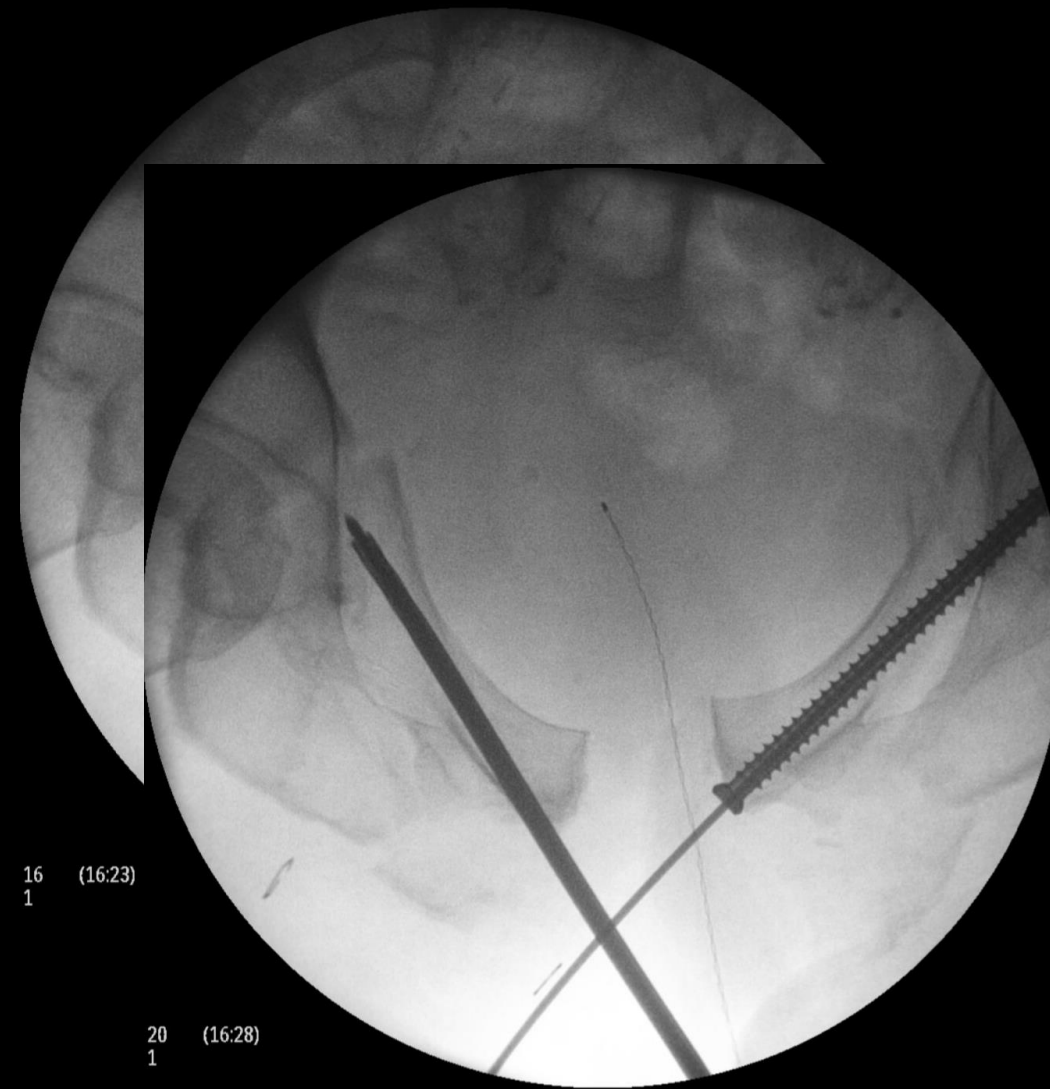


Inlet

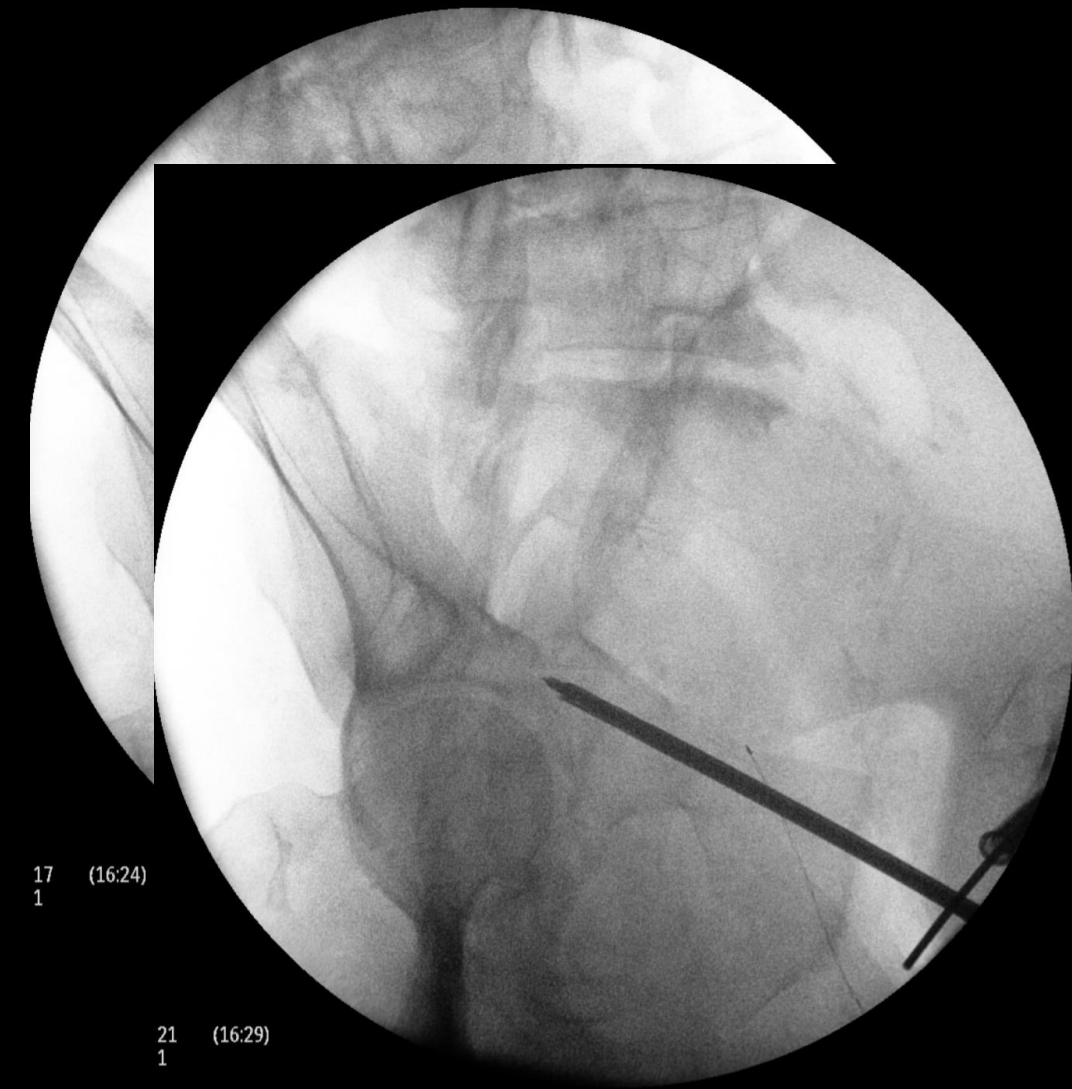


Outlet-Obturator

Anterior Column

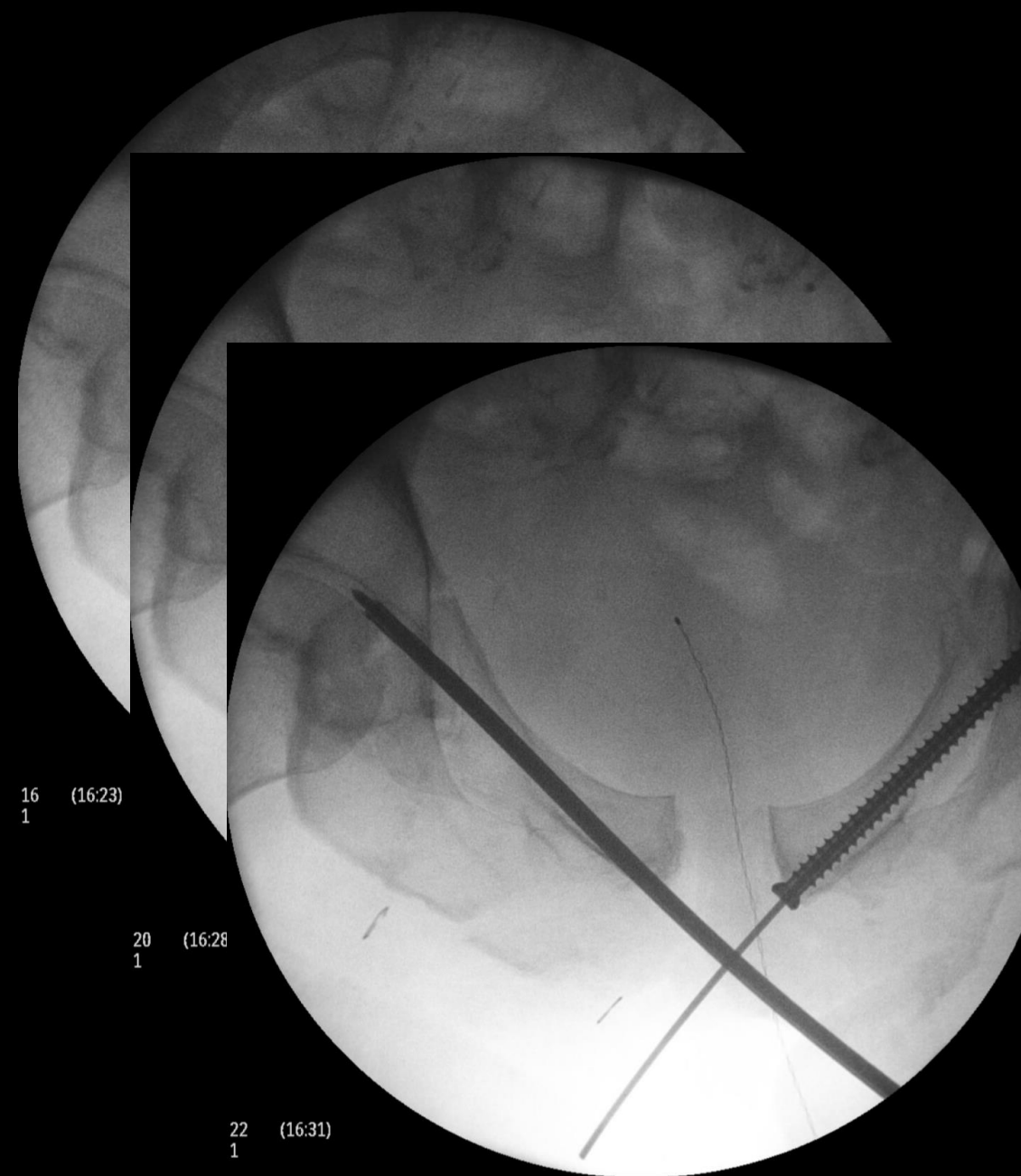


Inlet

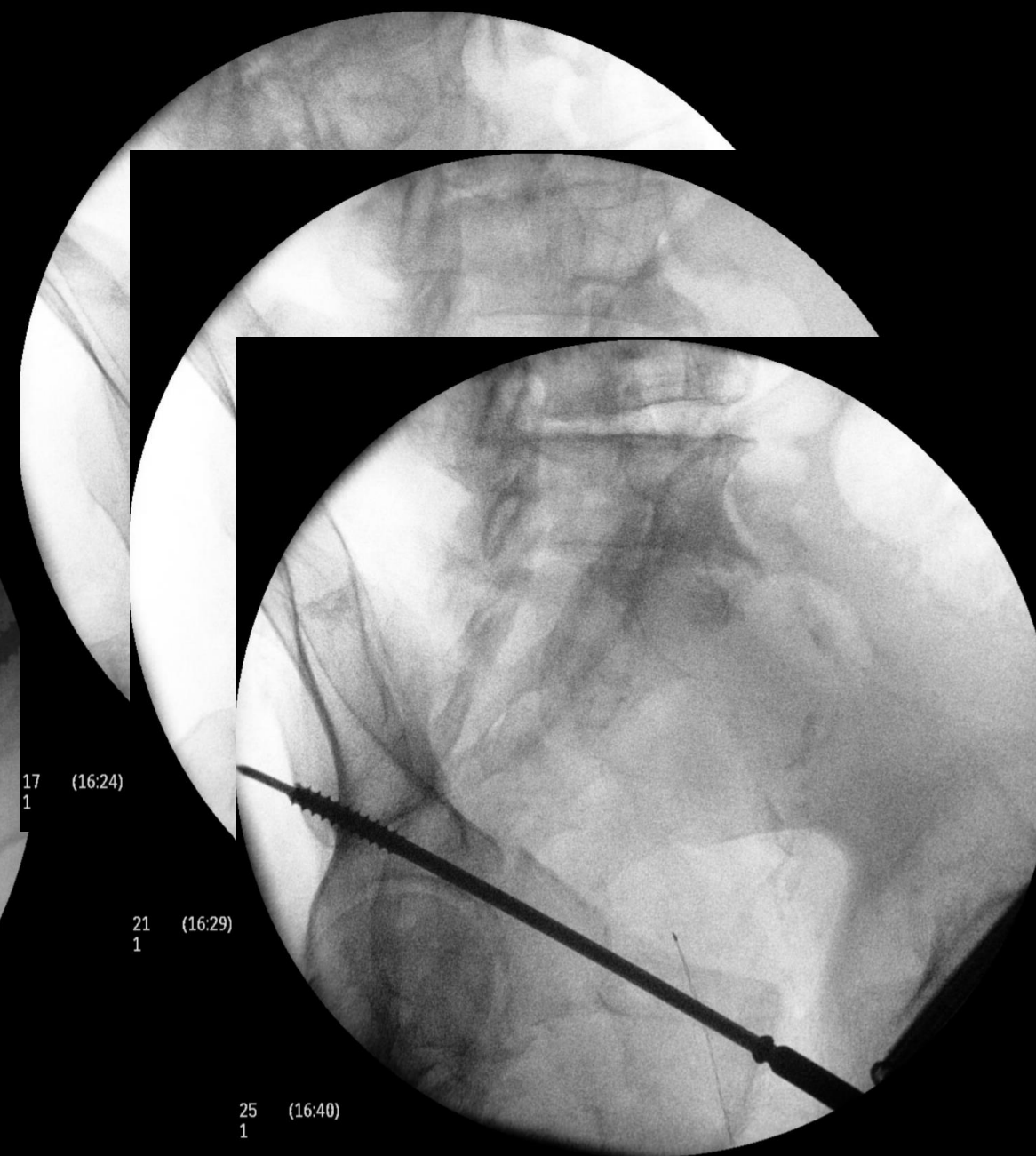


Outlet-Obturator

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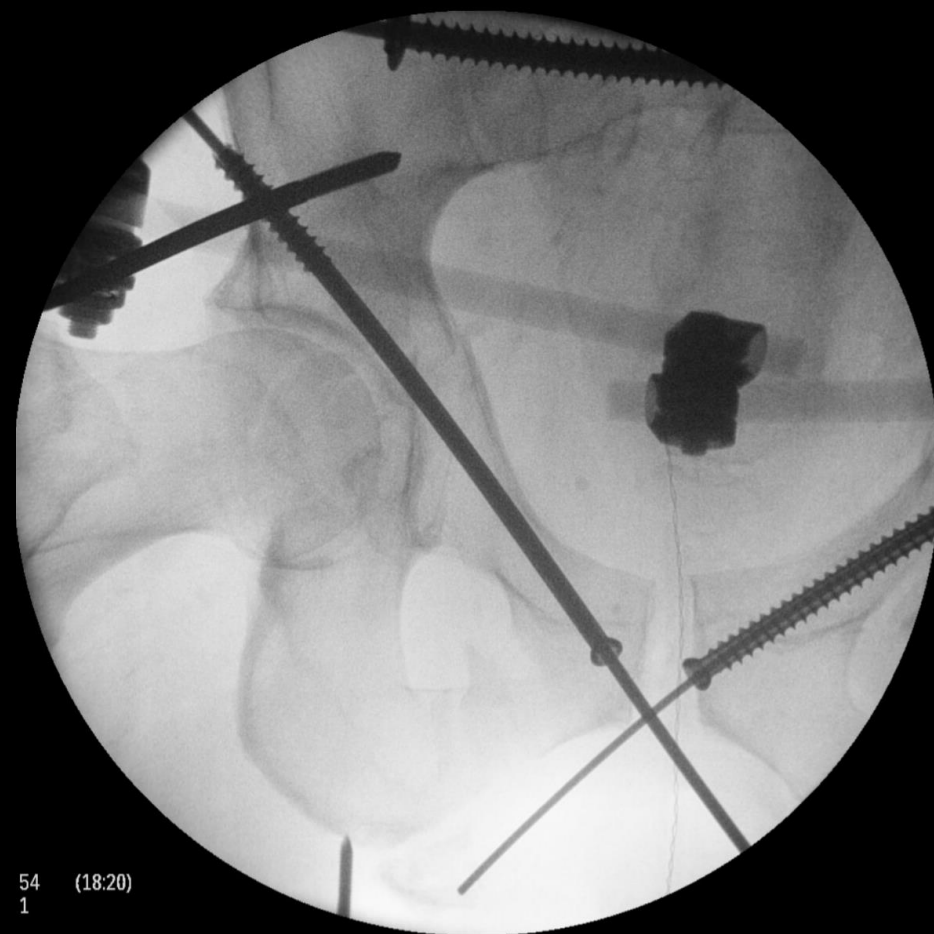


Inlet



Outlet-Obturator

Posterior Column



AP



Iliac Oblique

Posterior Column

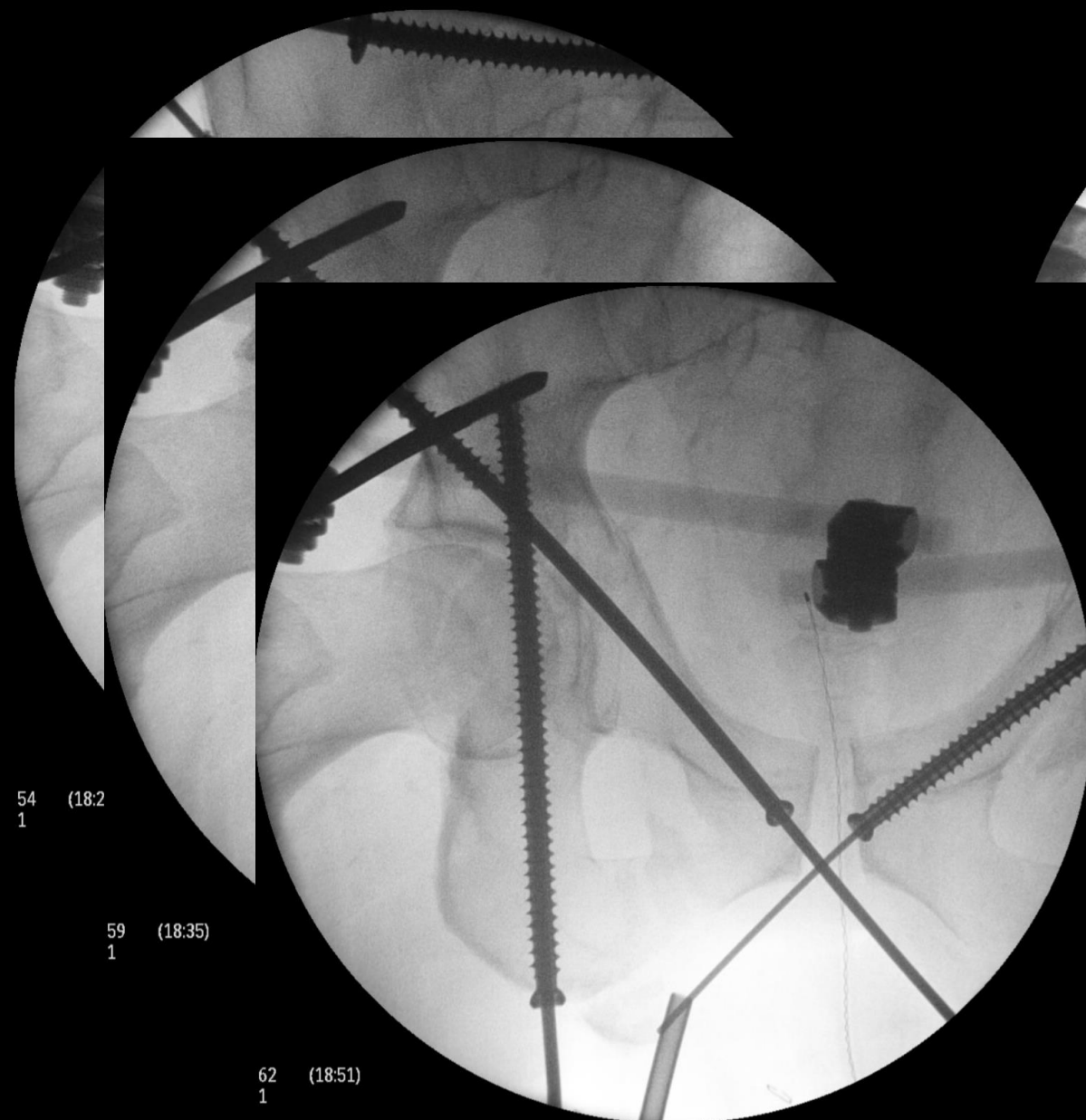


AP

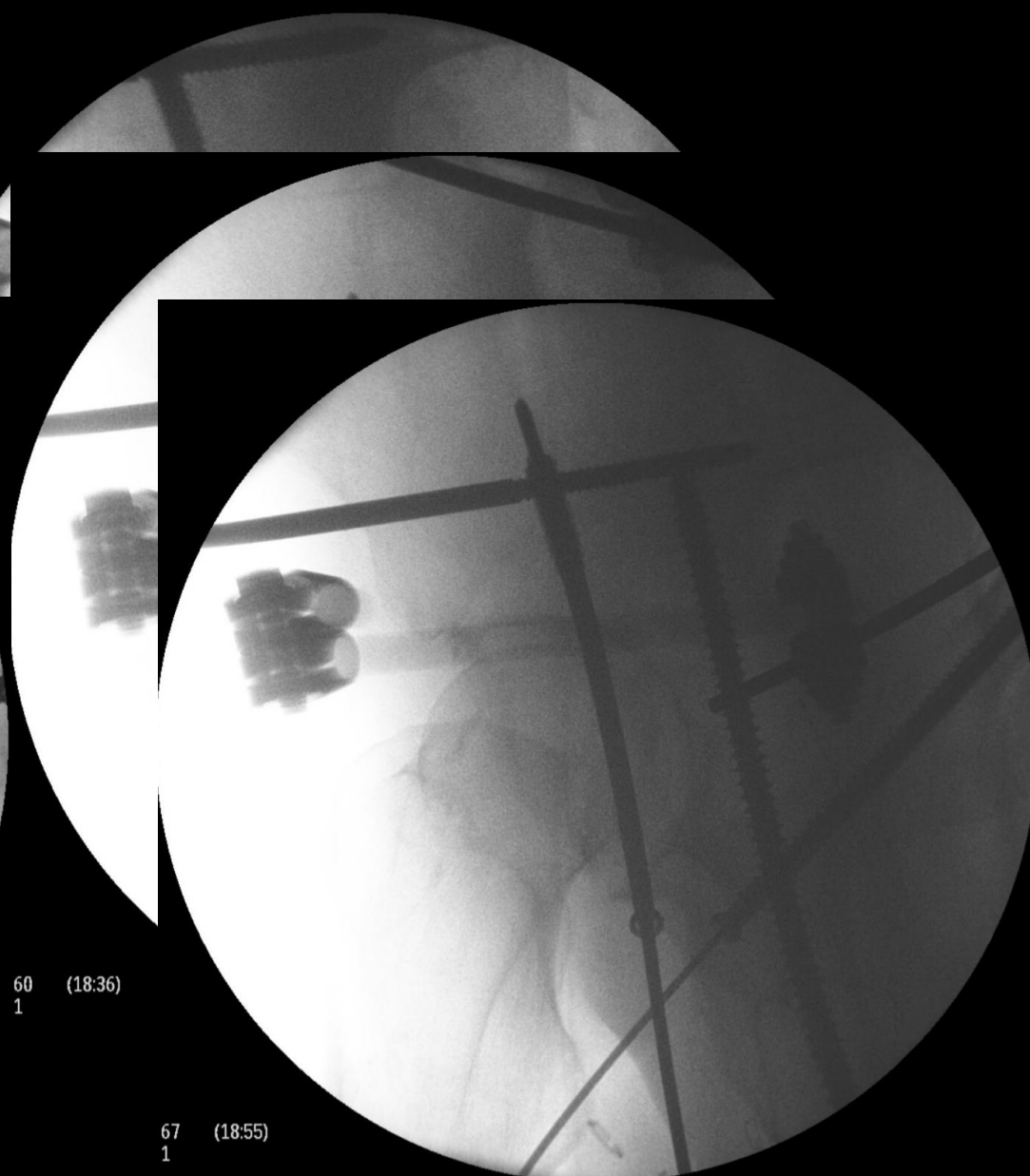


Iliac Oblique

Posterior Column

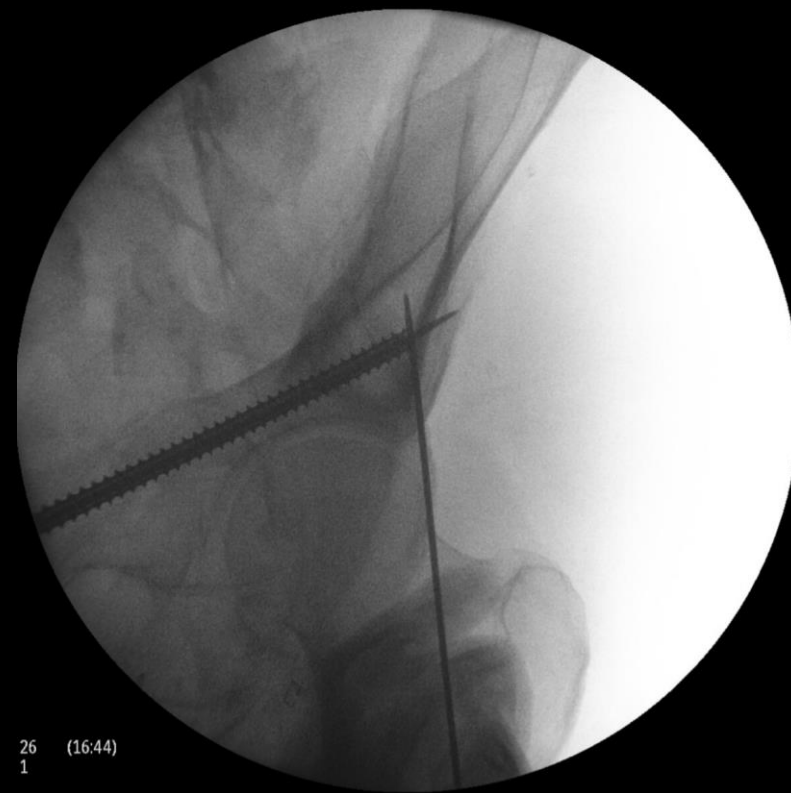
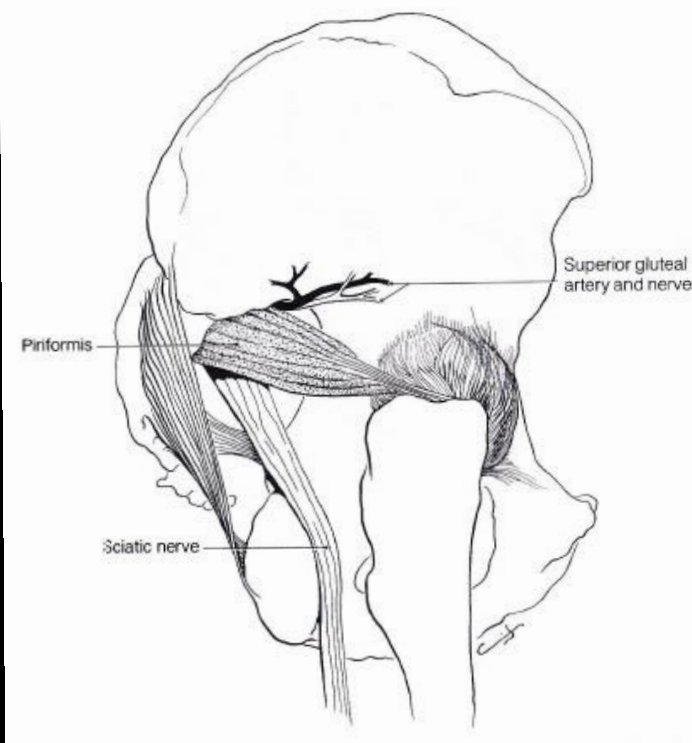
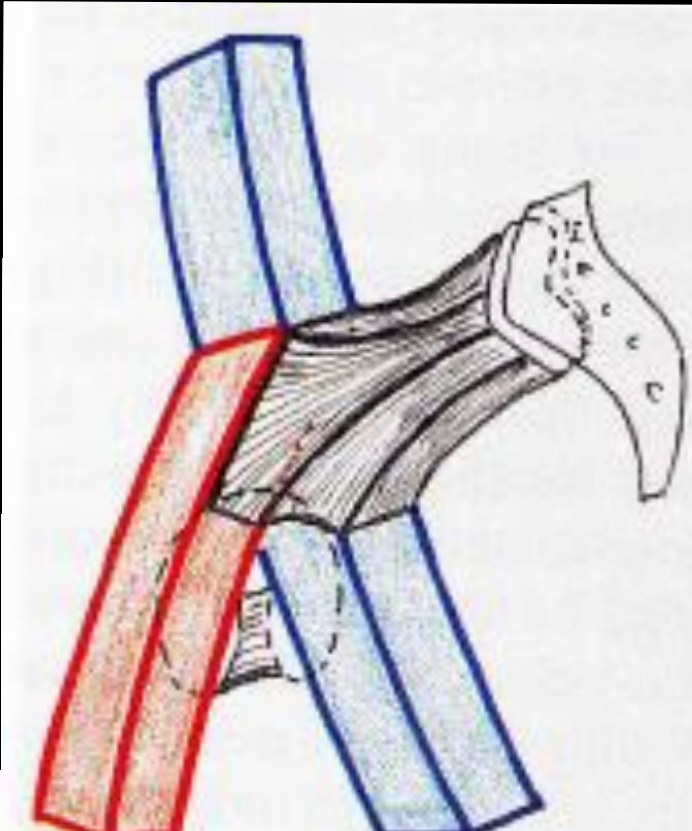


AP



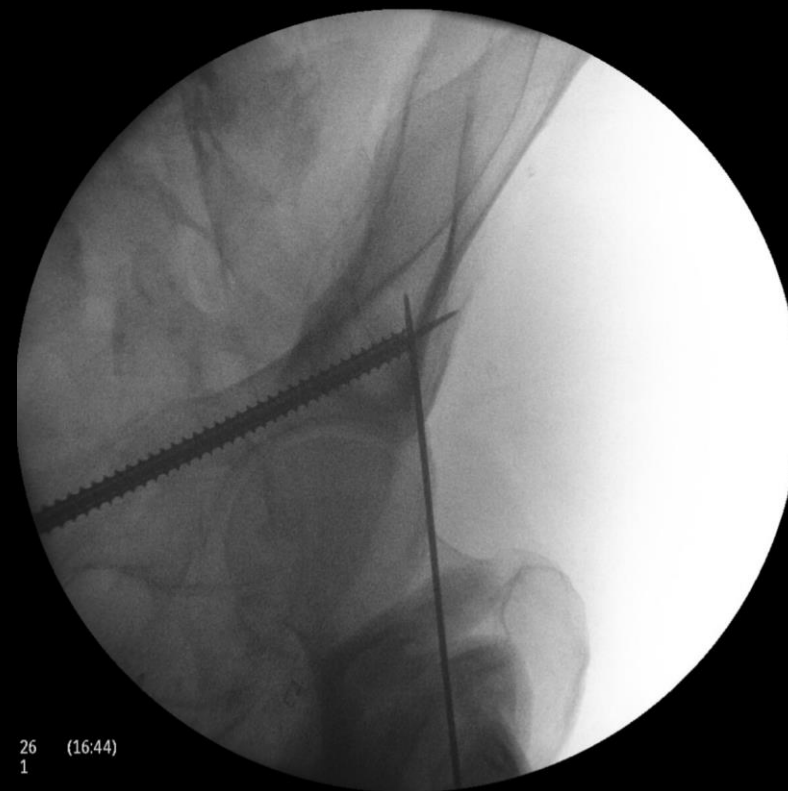
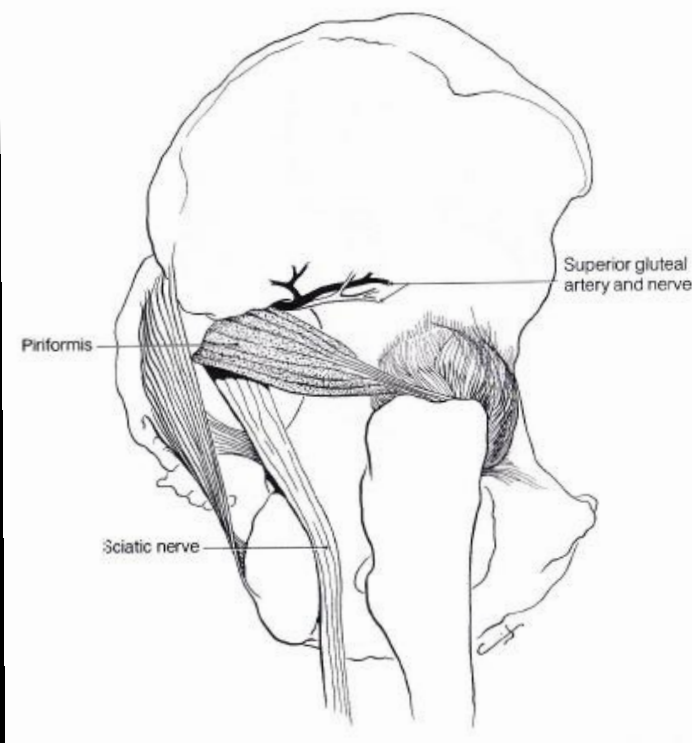
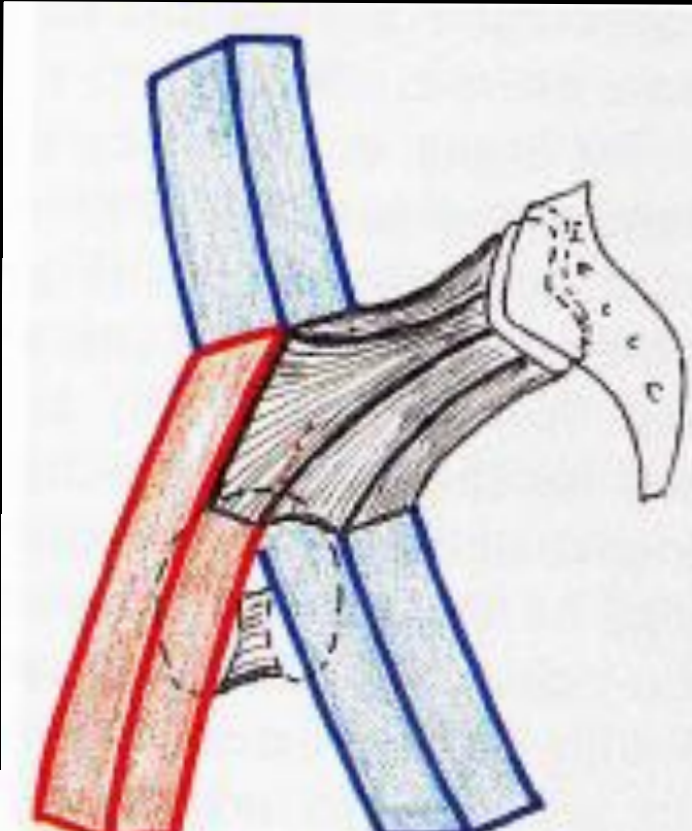
Iliac Oblique

Sciatic Buttress

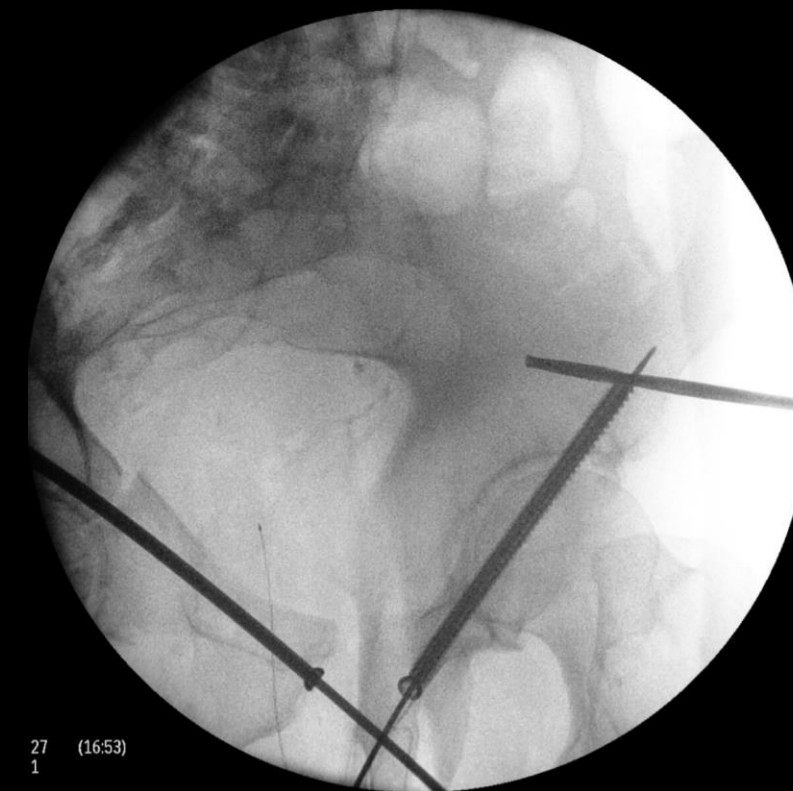


Outlet Obturator

Sciatic Buttress

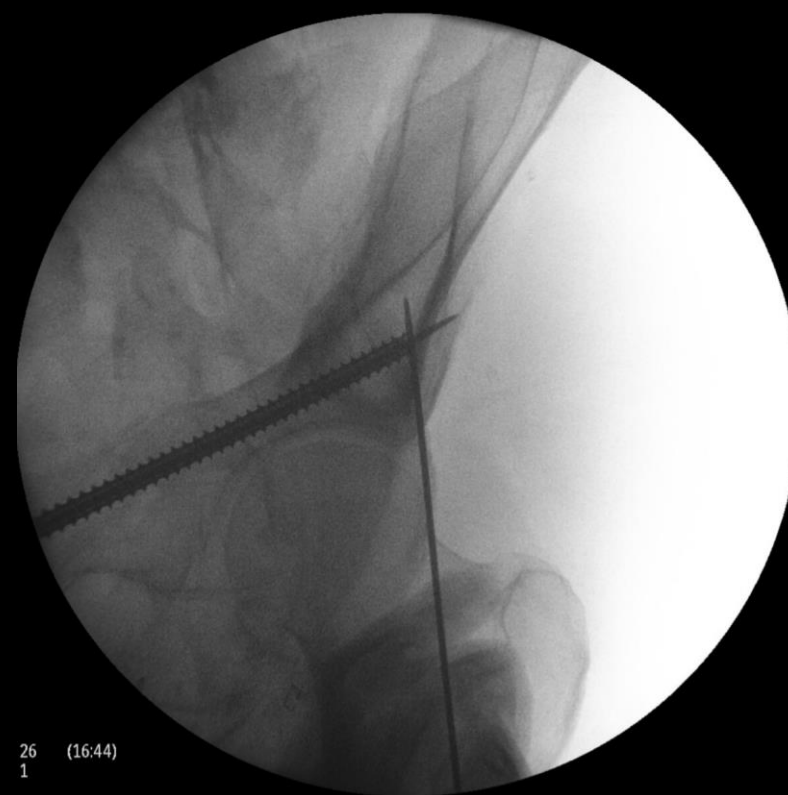
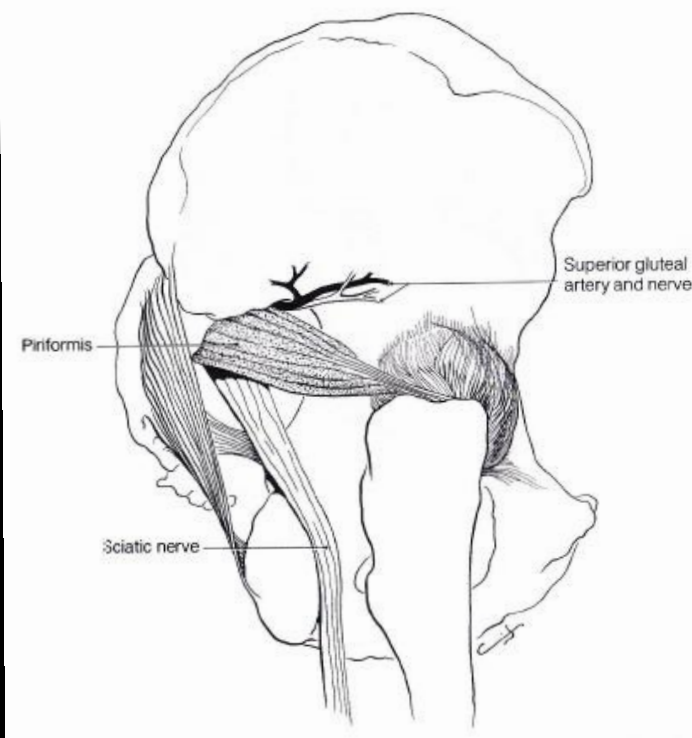
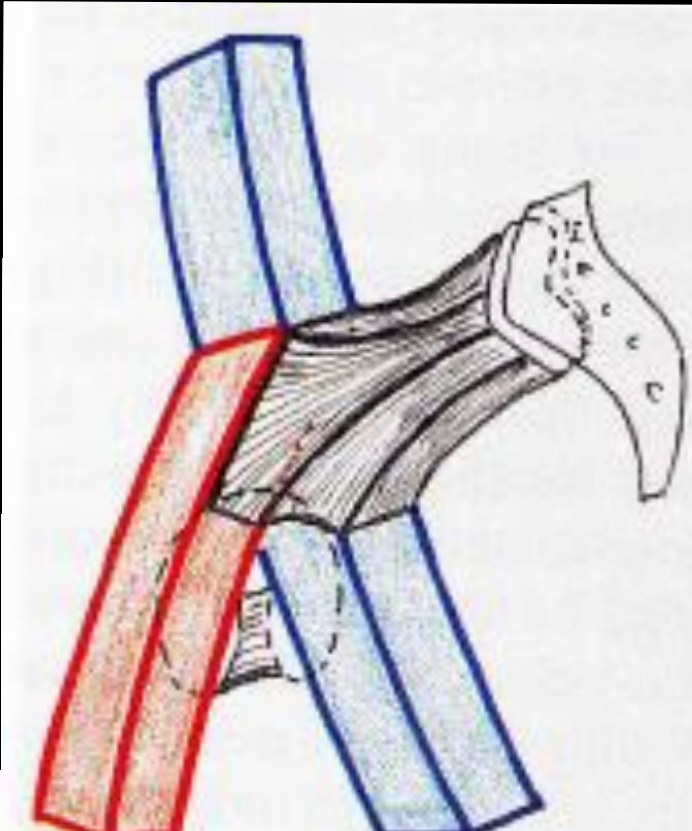


Outlet Obturator



Inlet Obturator

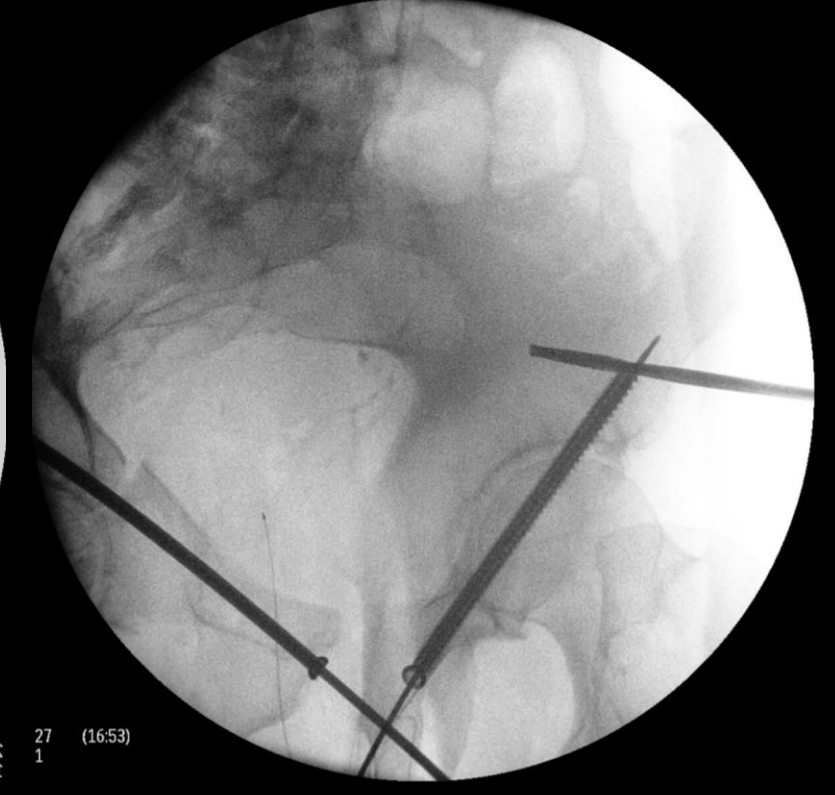
Sciatic Buttress



Outlet Obturator

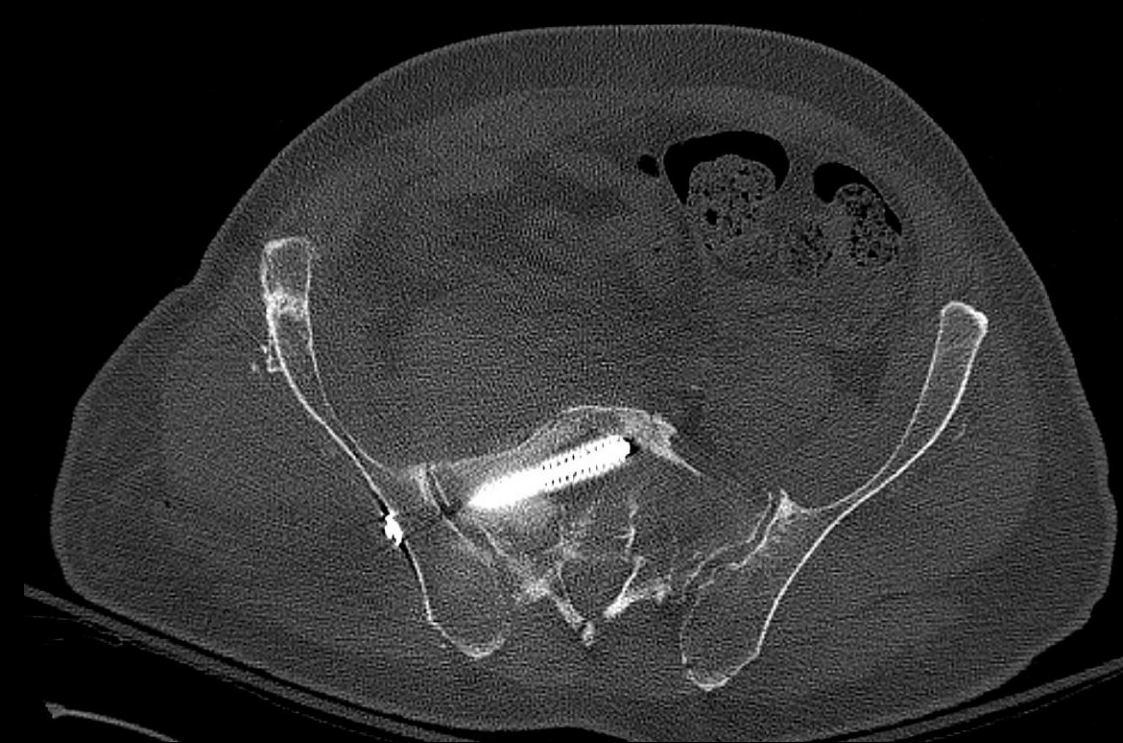
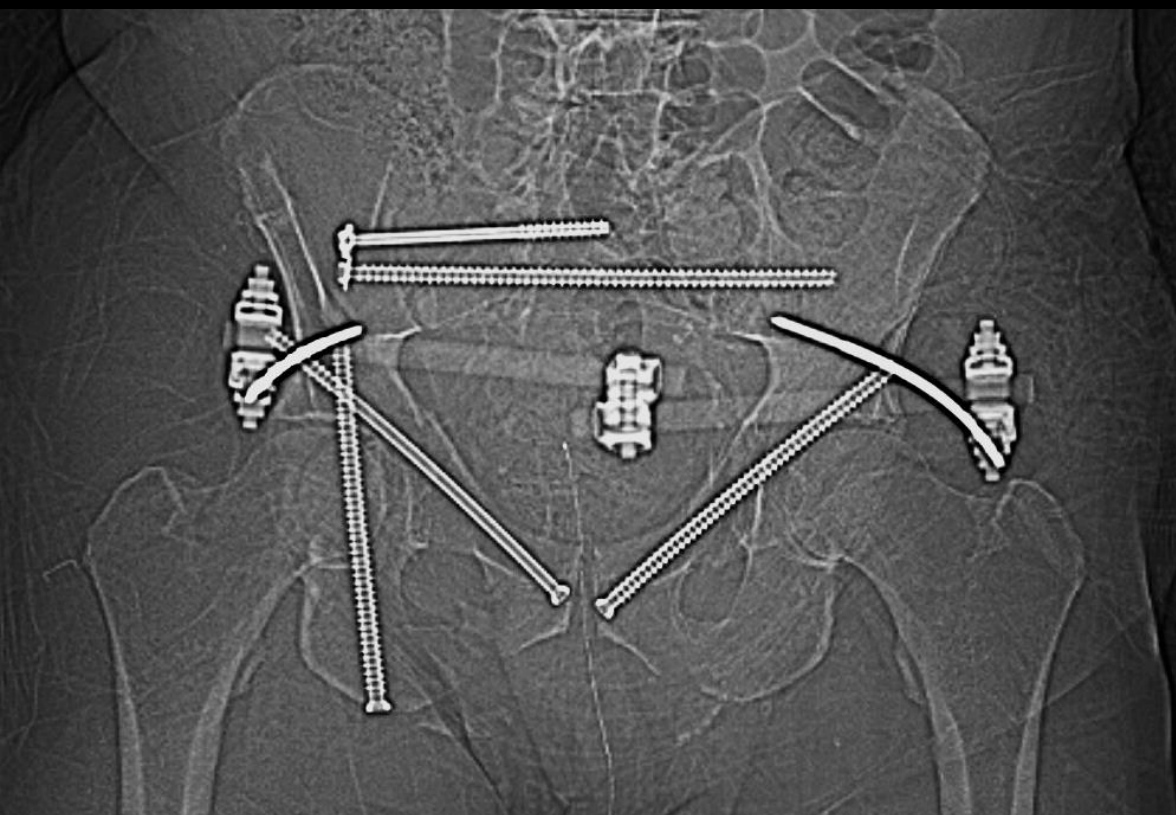


Inlet Obturator



Iliac Oblique

#moderatelyOK



Take Home Points

- 3 pre-requisites (anatomy, indications, reduction techniques) to being safe

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- 3 osseous corridors (AC, PC, SB)
- 5 fluoroscopic views (AP, Inlet, Iliac Oblique, Inlet Obturator, Out Obturator)

Take Home Points

- 3 pre-requisites (anatomy, indications, reduction techniques) to being safe
- 5 osseous corridors(AC, PC, SB)
- 5 fluoroscopic views (AP, Inlet, Iliac Oblique, Inlet Obturator, Out Obturator)
- #moderatelyOK . . . that's as good as you get!

