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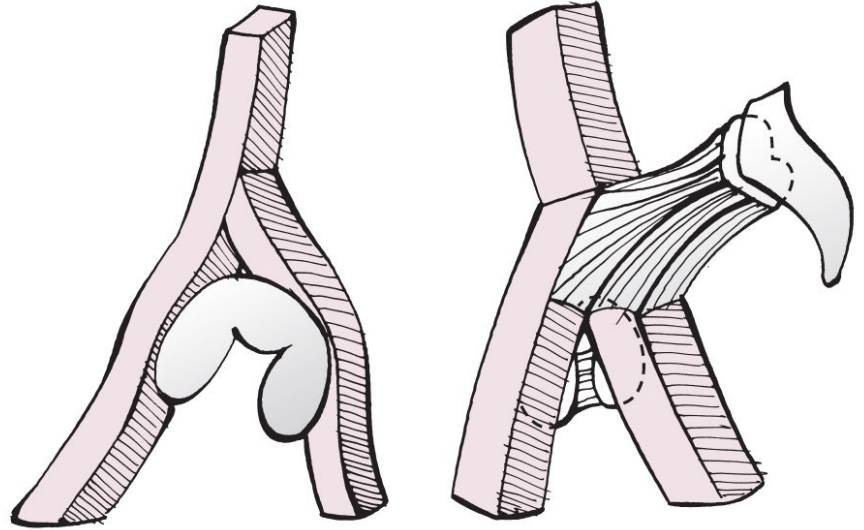
# Acetabulum Fractures w/ Dr. Leslie

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# Anatomy

- Articular surface supported between limbs of inverted Y
  - Letournel- Two limbs: anterior column (iliopectineal), posterior column (ilioischial)
  - A&P walls are part of the columns
  - Eval: AP, + obliques
- Columns are connected to Si articulation by bony strut



**FIGURE 47-7** The acetabulum is supported by two columns in the shape on an inverted "Y." These are in turn linked to the sacrum by the sciatic buttress.

# Mechanism of Injury

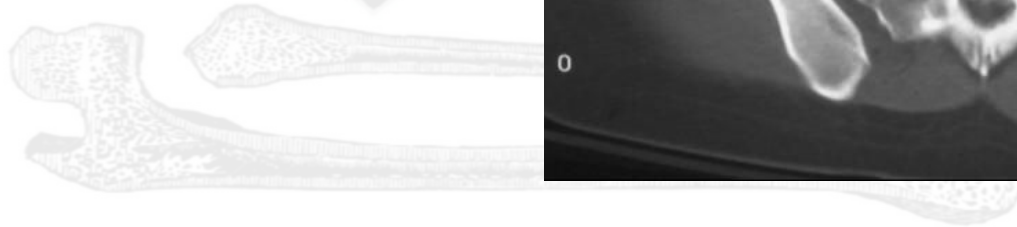
- Young- high energy- MVC, peds v MCS
- Elderly- fall



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# Associated Injuries

- Pelvic ring disruption
- PCL injuries (due to flexed knee)
- NV injury- superior gluteal a, sciatic nerve



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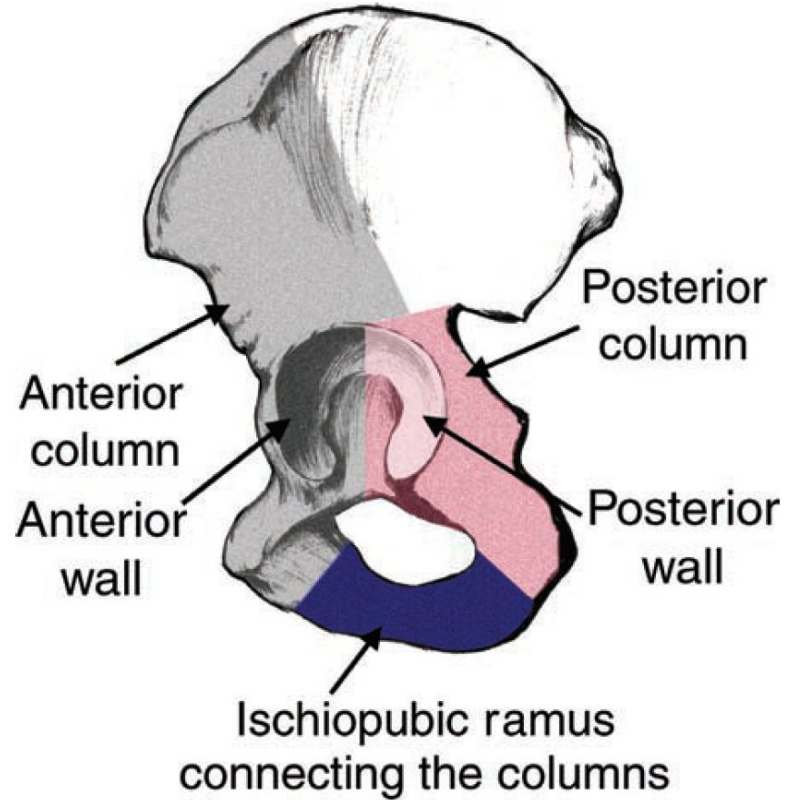
# Physical Exam

- ATLS
- MSK exam:
  - Hip shortening
  - If dislocated- hip flexed, adducted, IR sometimes
- Local closed degloving injuries- Morel- Lavalle lesion
- Sciatic n injury- ankle plantar/dorsiflexion + big toes flexion/extension



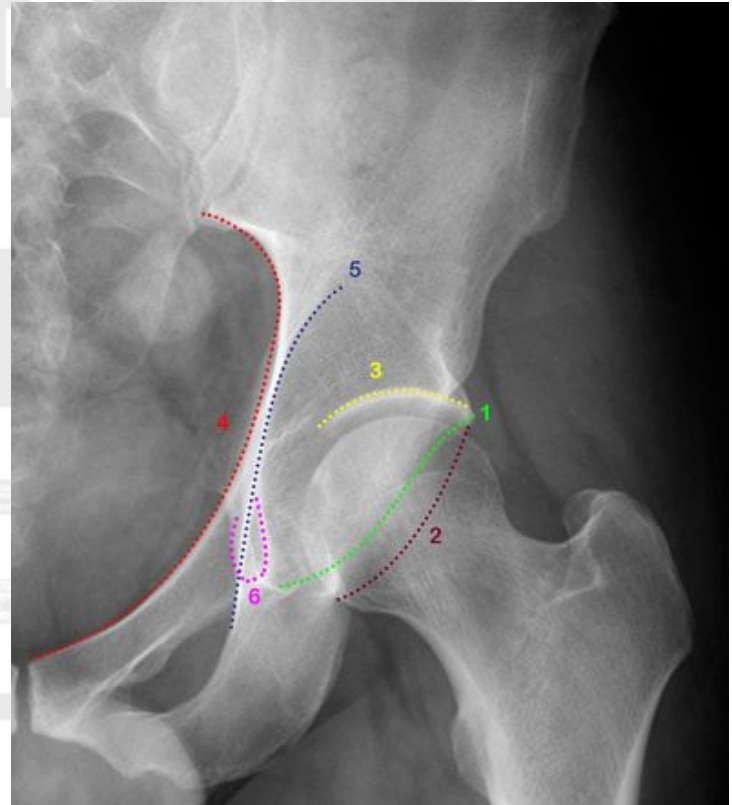
# Imaging

- Xrays
  - AP pelvis
  - Judet views
- CT Scan



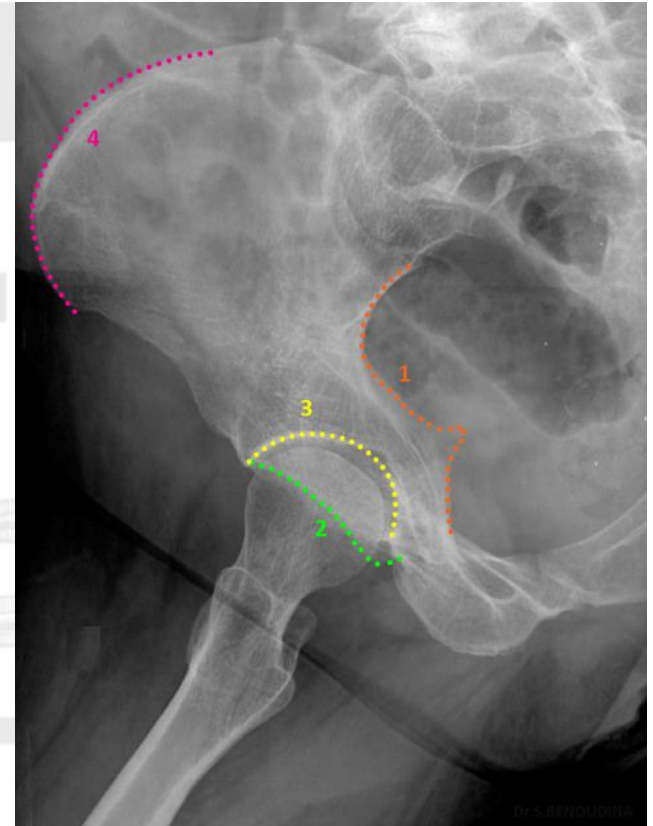
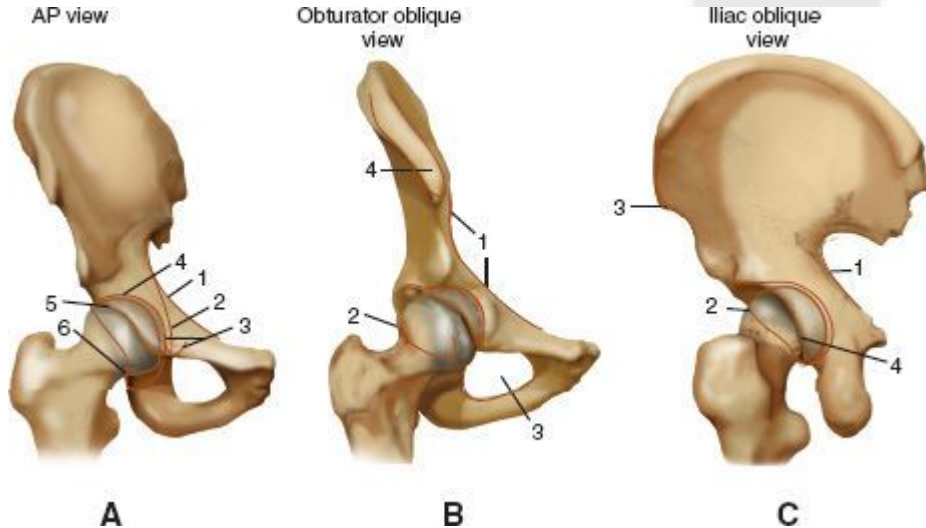
# Evaluating Xrays- AP

- Iliopectineal line
- Ilioischial line- formed by beam to posterior portion of quadrilateral surface
- U or teardrop- consists of medial/lateral limb
  - Lateral limb- inferior aspect of anterior wall/ acetabulum
  - Medial limb- formed by obturator canal + anteriorinferior portion of quadrilateral surface
  - Dissociation of teardrop- indicated rotation of hemipelvis or fx of quadrilateral surface



# Evaluating Iliac Oblique

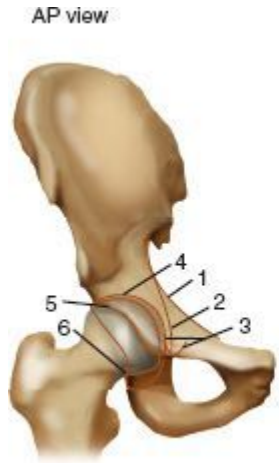
- Injured pelvis 45 degrees away from xray
- Shows iliac wing in largest dimensions
- Eval posterior column





# Evaluating obturator oblique

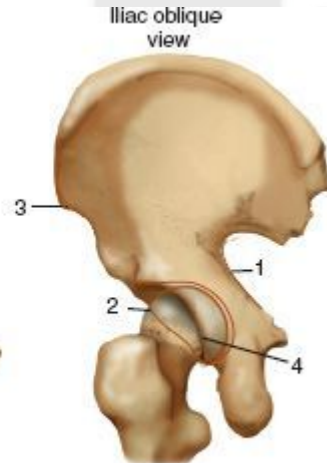
- Affected side is up
- Obturator foramen in the largest dimension



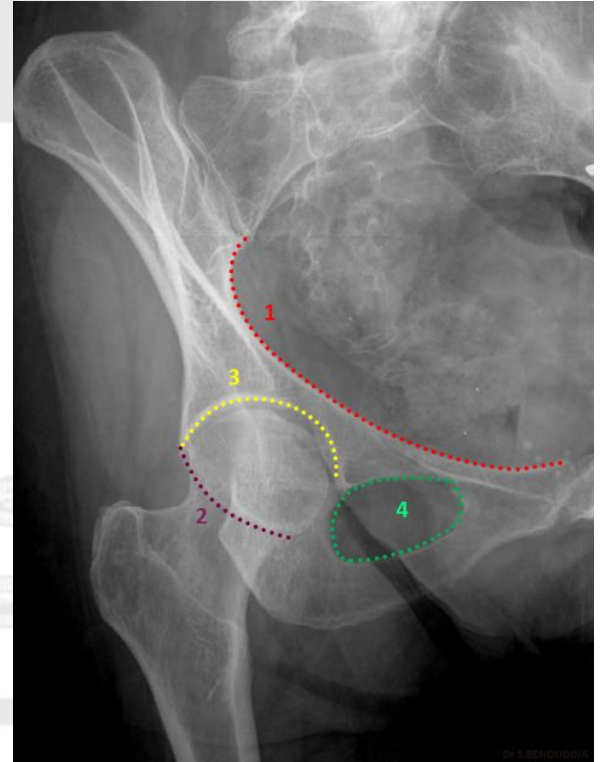
A



B

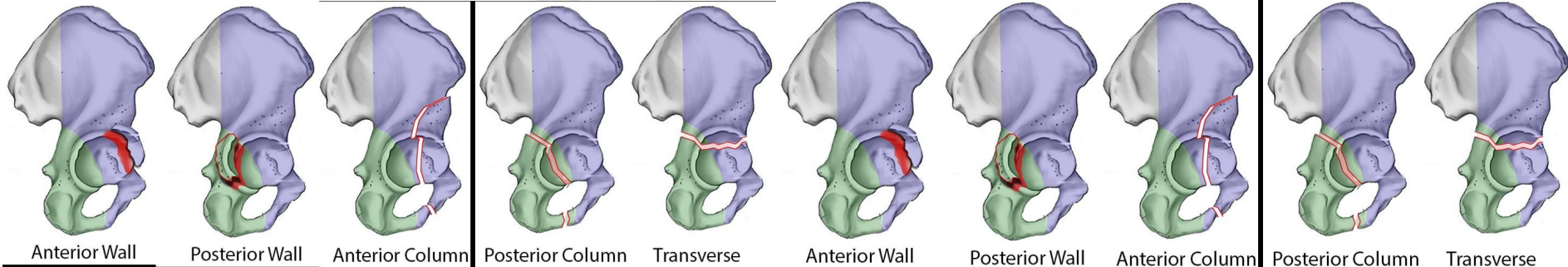


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# Classification

- Judet and Letournel
- 5 elementary and 5 associated
- Elementary
  - Fx that separate all or part of a single column
  - anterior/posterior column separates the entire column from intact innominate
- Associated patterns
  - Combination of elementary patterns or elementary patterns w/ additional fx component



# Posterior wall

- Most common
- Views- AP + obturator oblique



# Posterior Column

- Detachment of entire ischio acetabular segment from innominate bone
- Iliopectineal line is preserved
- Iliac oblique



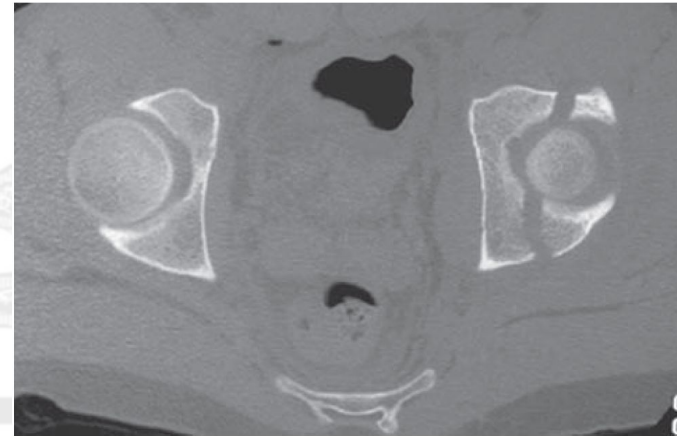
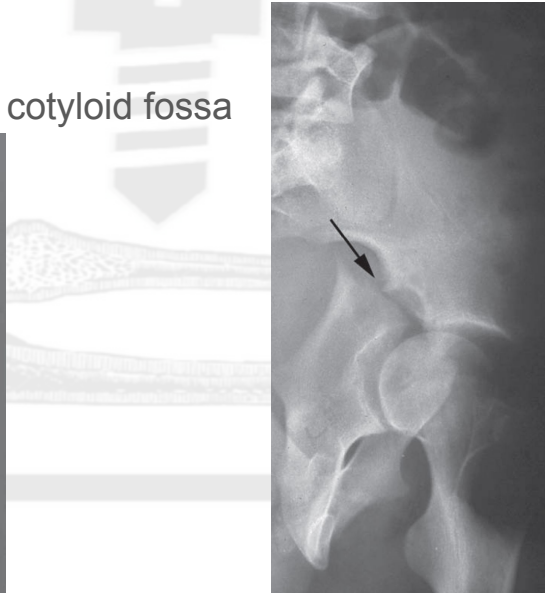
# Anterior Column

- Separates anterior border of innominate bone from intact ilium
- Type- named by location where fx exits anterior aspect of bone
  - High anterior- exit at iliac crest
  - Intermediate-
  - Low- below AIIS
  - Very low- exits at iliopectineal eminence



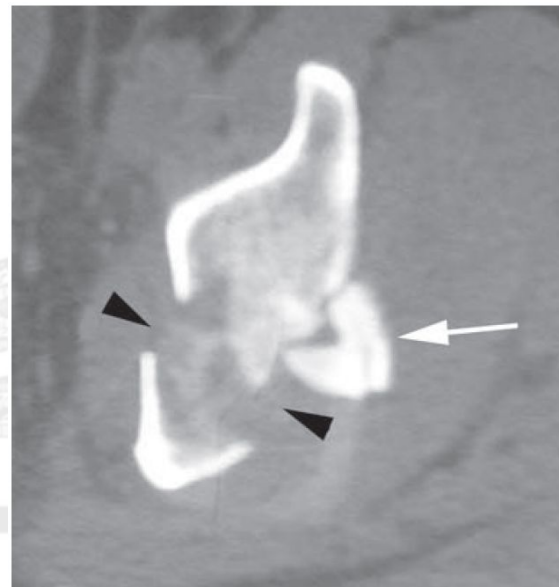
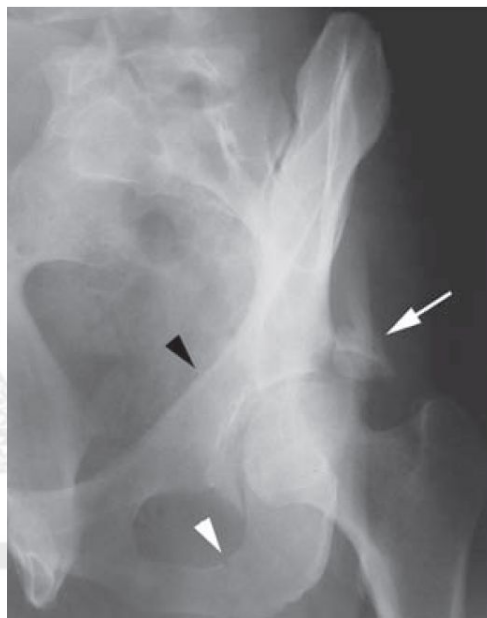
# Transverse

- Innominate bone separated into two pieces
  - Upper fragment attached to ilium
  - Lower fragment rotates about symphysis
- Divided into where it crosses articular surface
  - Transtectal
  - Jextafextal
  - Infratectal - crosses cotyloid fossa



# Associated- PW/PC

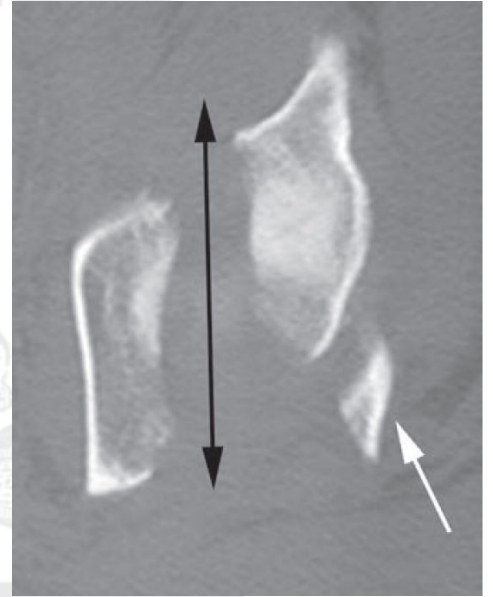
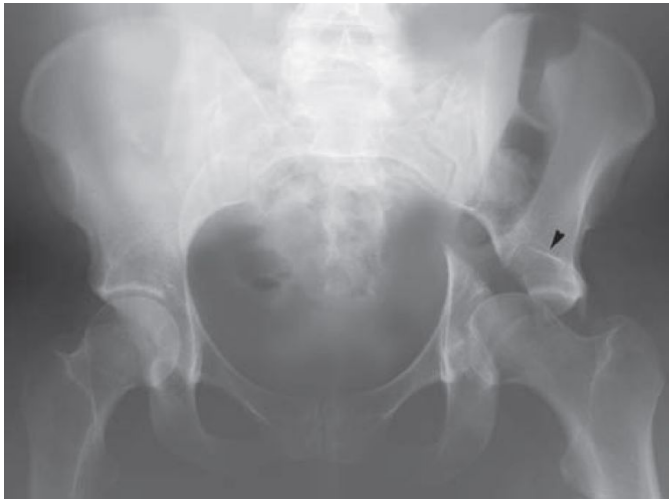
- Hip can be dislocated w/ posterior wall fragment





# T-PW

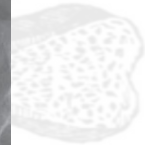
- Femoral head dislocation is common- may be medial / posterior





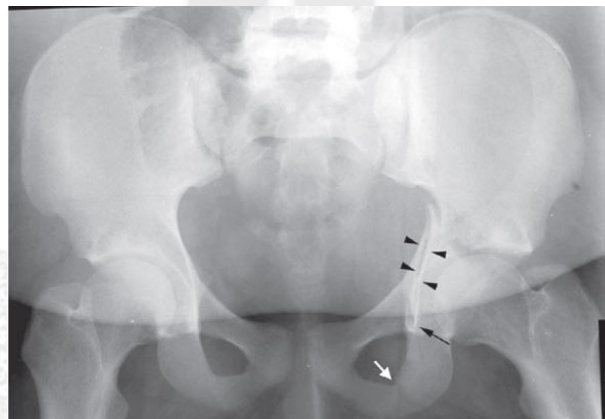
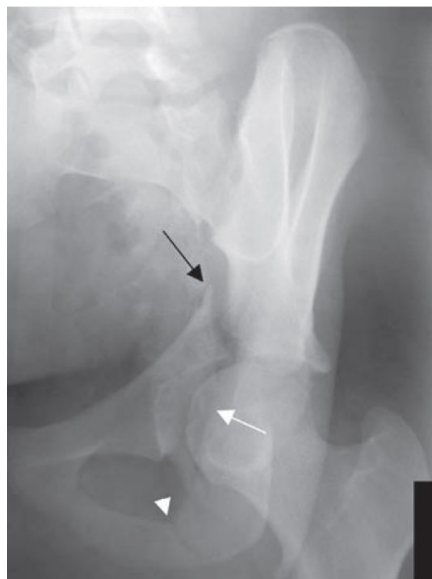
# AC/ Posterior hemitransverse

- Impaction of medial acetabulum roof- “gull sign”- poor prognostic sign



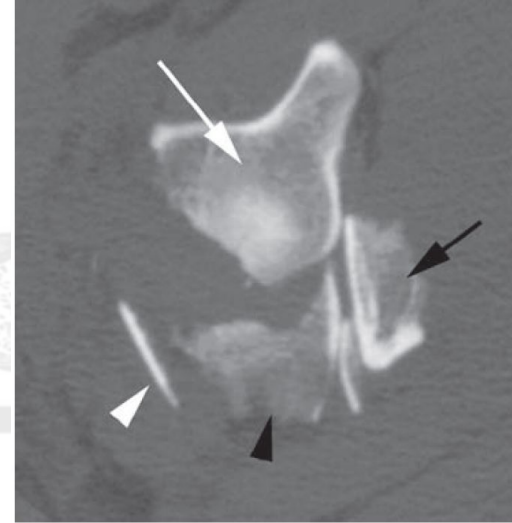
# T shaped

- Transverse fx w/ assoc inferior vertical fx line
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# Both Column

- Acetabulum completely disconnected from axial skeleton
- Spur sign- seen on obturator oblique (external cortex of most caudal portion of intact ilium)
  - Typically seen due to femoral head medialization



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# Resources, Thank you Dr. Leslie

- Rockwood & Green's Fractures in Adults

