Posterior wall fracture

Scenario 1….

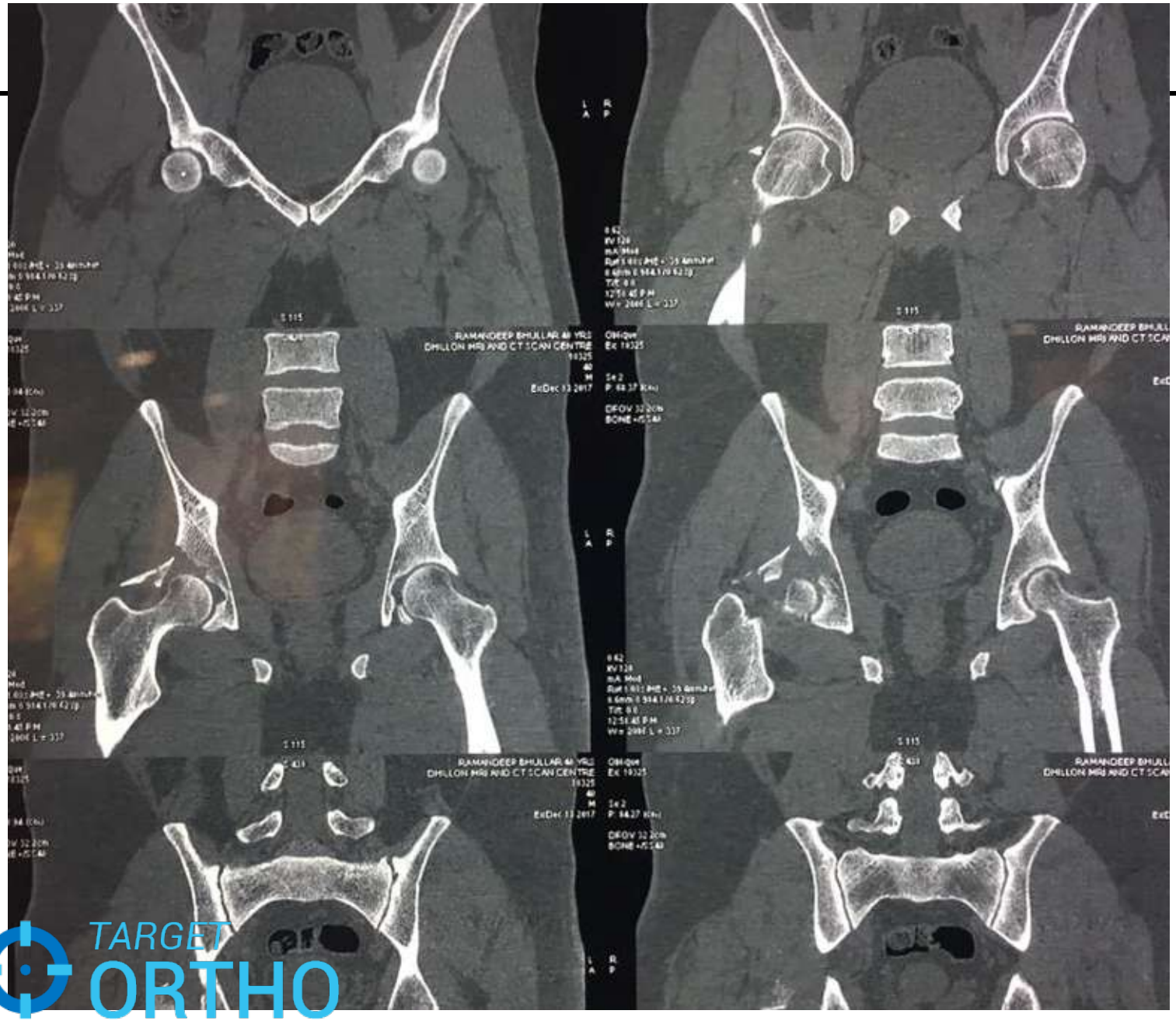
How many attempts?

Scenario 1….

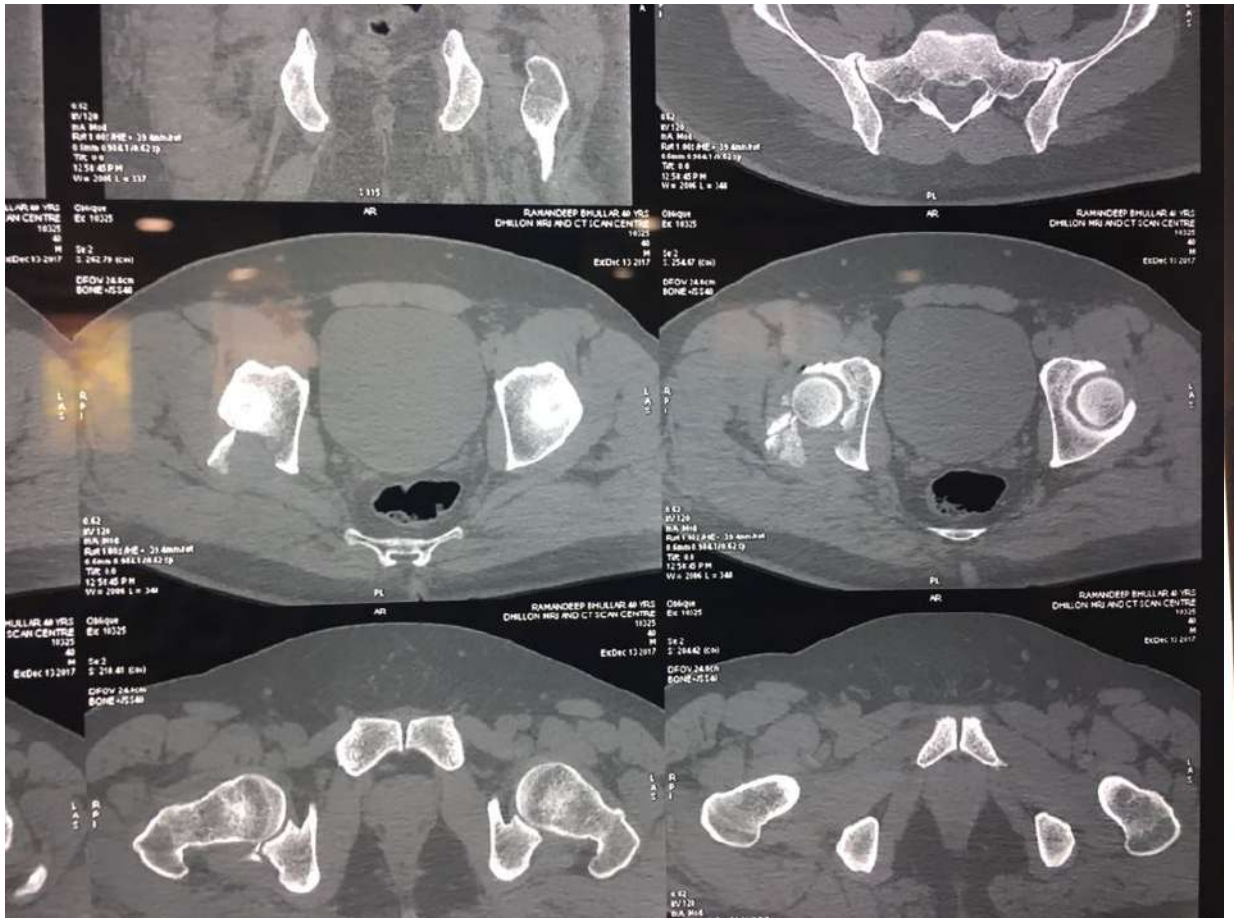
Q.Can it be managed conservatively?

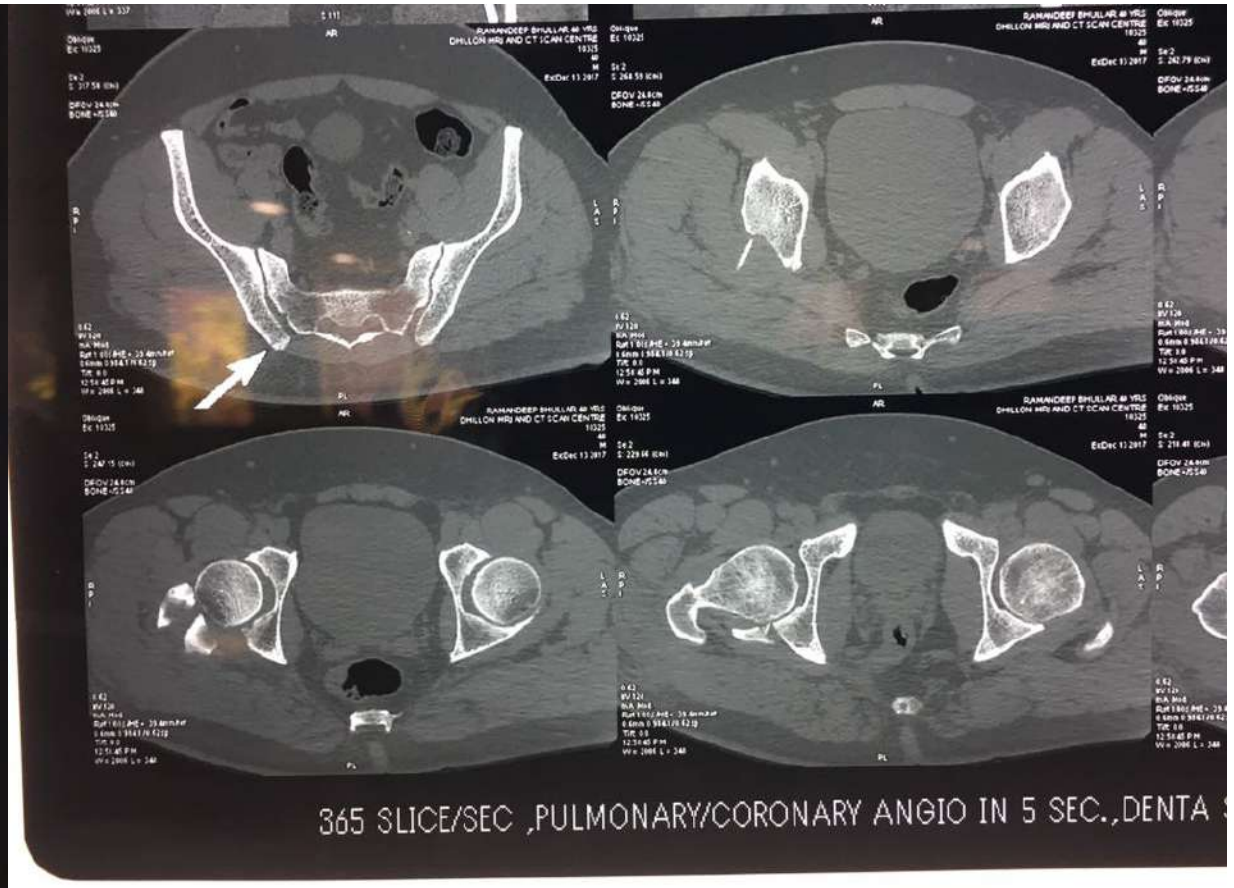
CASE

Can it be managed conservatively?

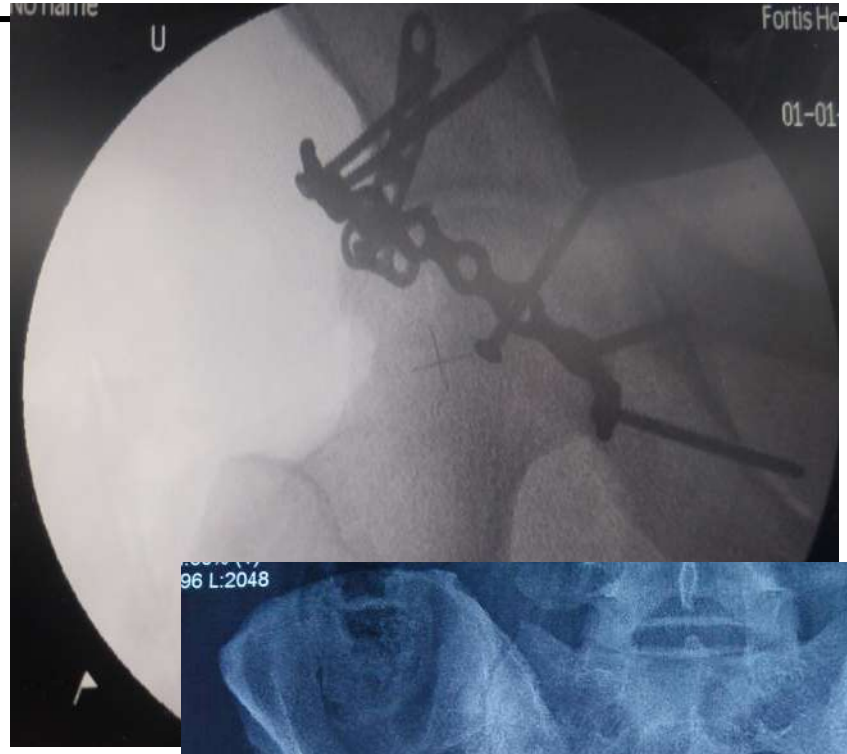


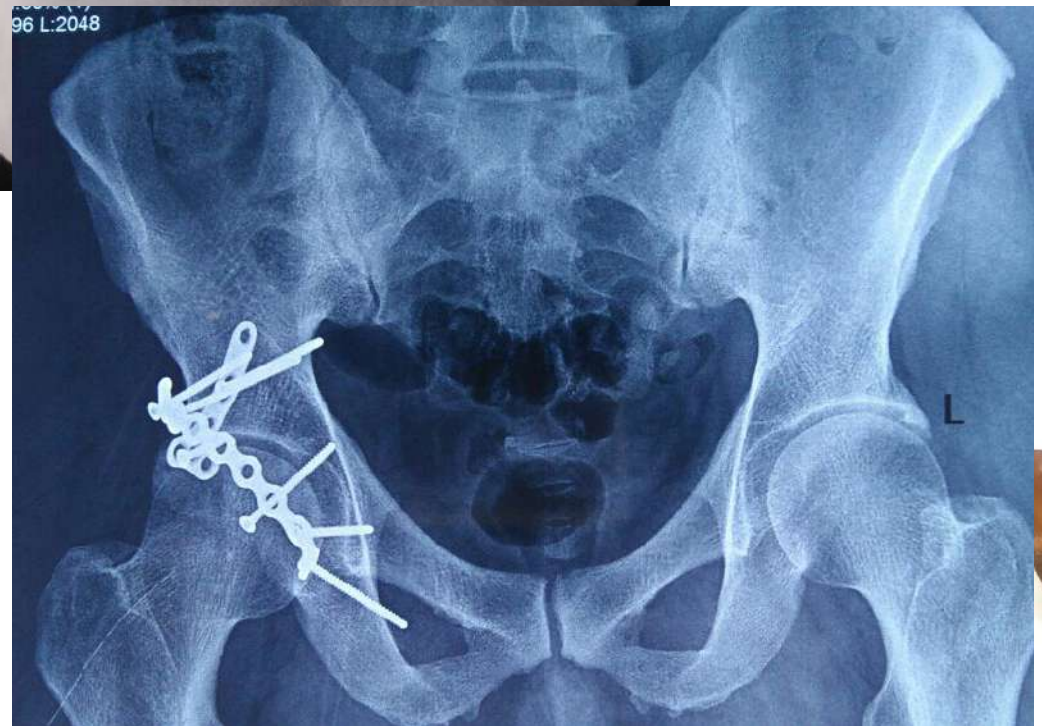
Can it be managed conservatively?





Can it be managed conservatively?



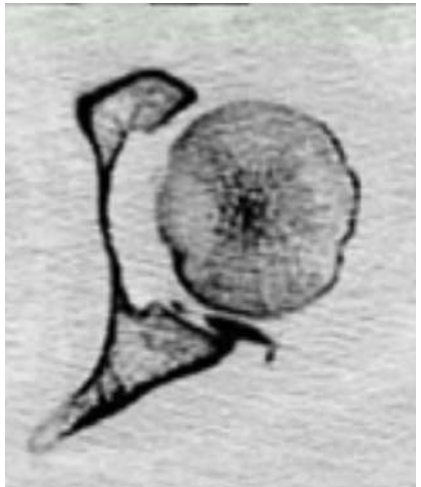


Two factors:

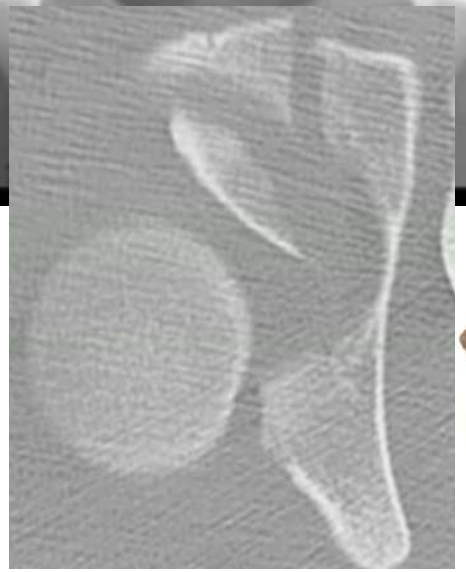
1.congruency

2.stability

1. congruency



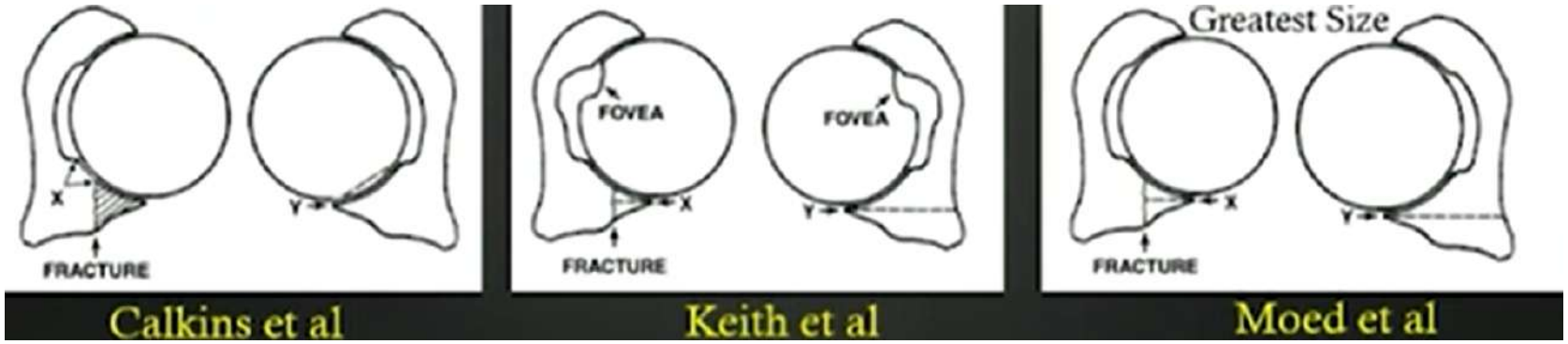
1. congruency



2. STABILITY

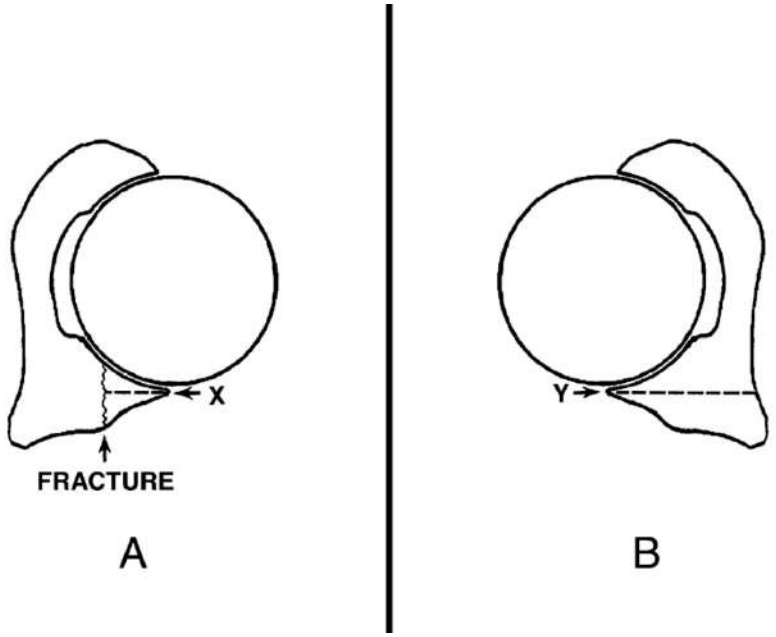
- **CAN CT BE HELPFUL IN PREDICTING STABILITY**?

- Number of different ways to measure wall size

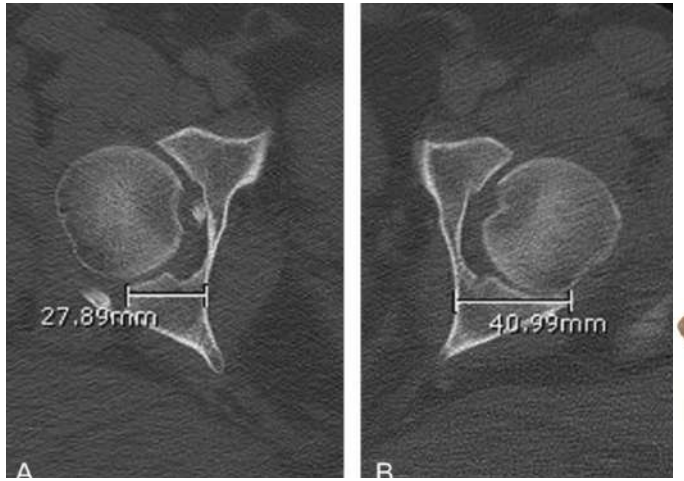


2. stability

- CAN CT BE HELPFUL IN PREDICTING STABILITY?



<20%:STABLE
20-50%:INDETERMINATE
>50% : UNSTABLE

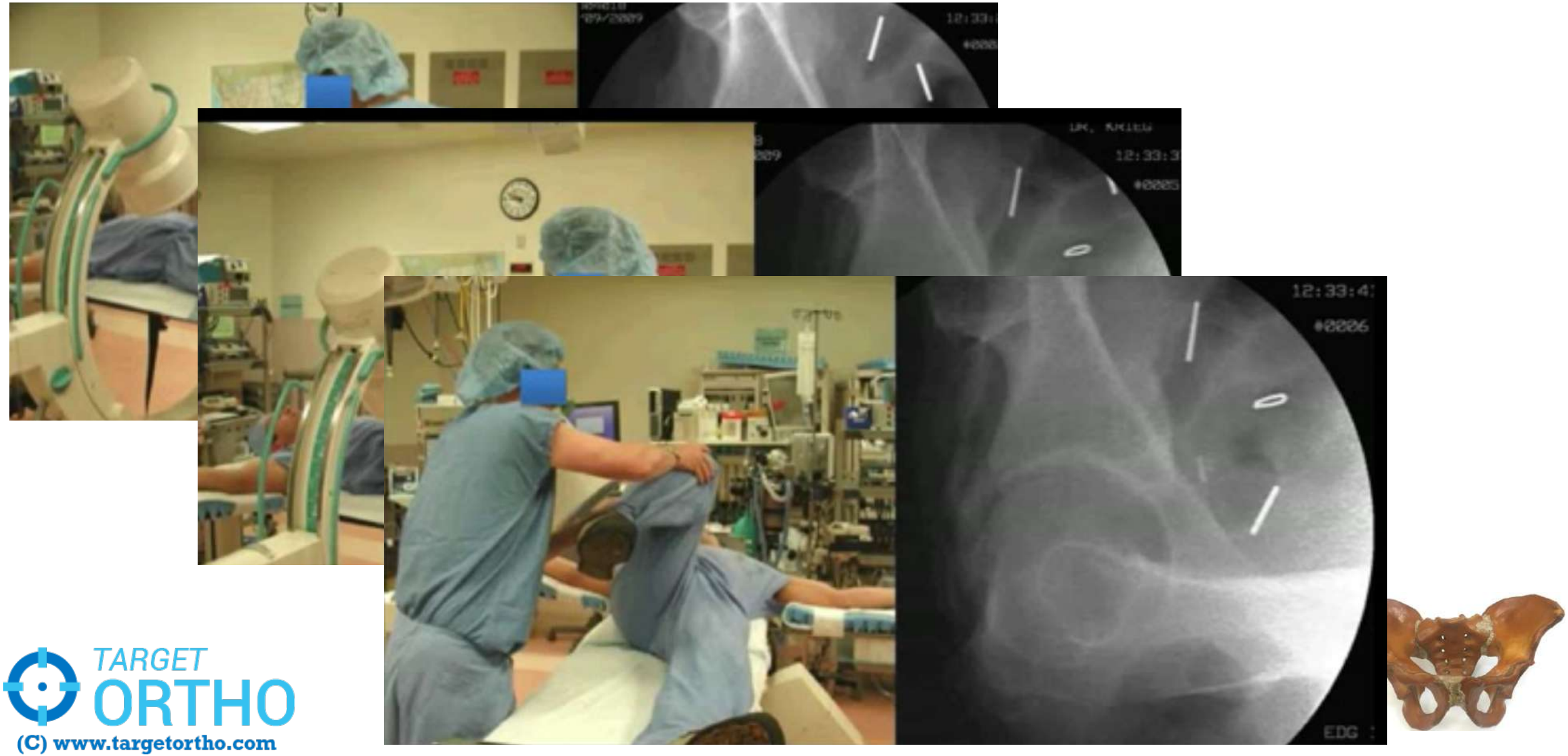


DYNAMIC FLUORO STRESS TESTING UNDER ANAESTHESIA

DYNAMIC FLUORO STRESS TESTING UNDER ANAESTHESIA

- C ARM IPSILATERAL
- OBTURATOR OBLIQUE
- FLEXION
- ADDUCTION
- INTERNAL ROTATION

STRESS EXAMINATION



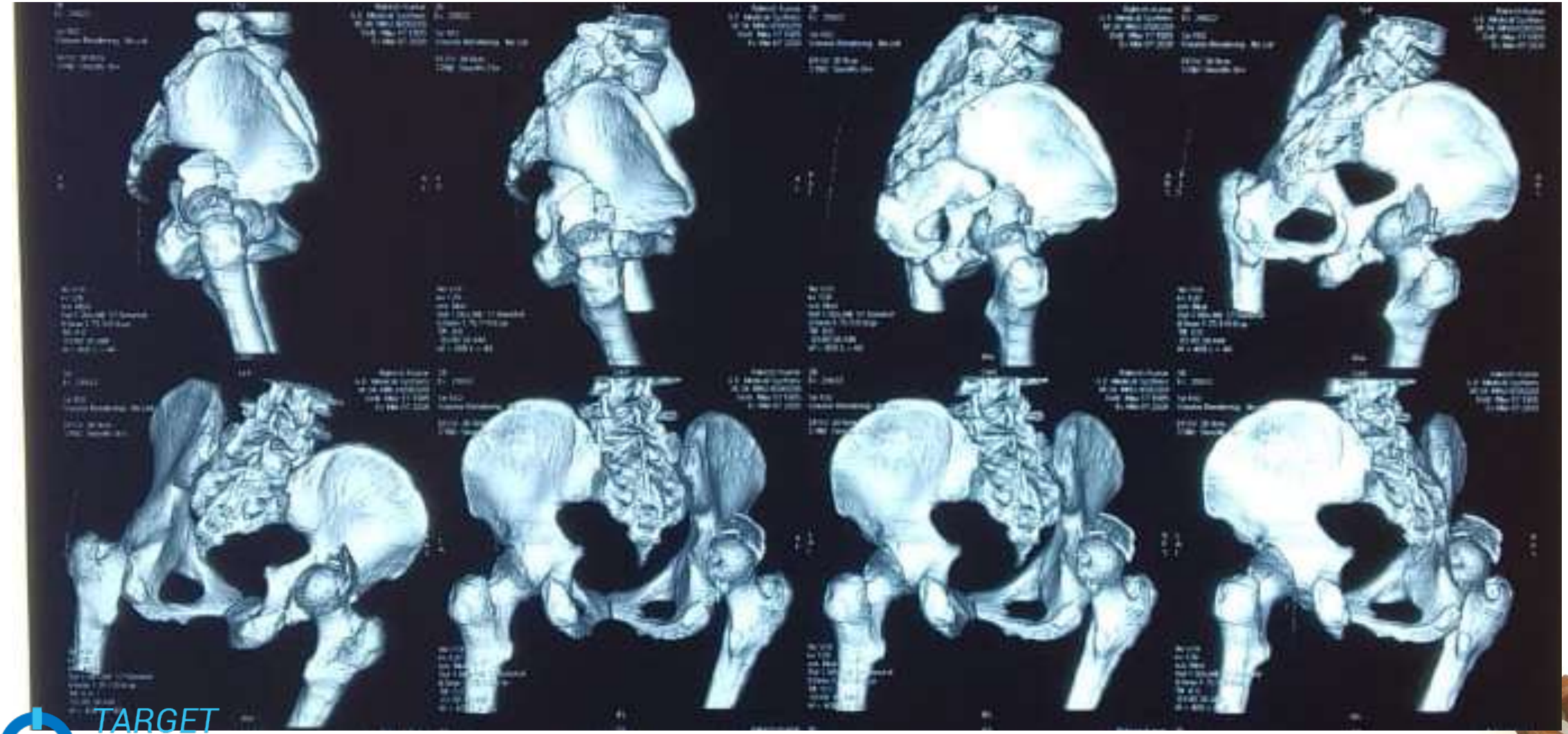
- JOT:2019

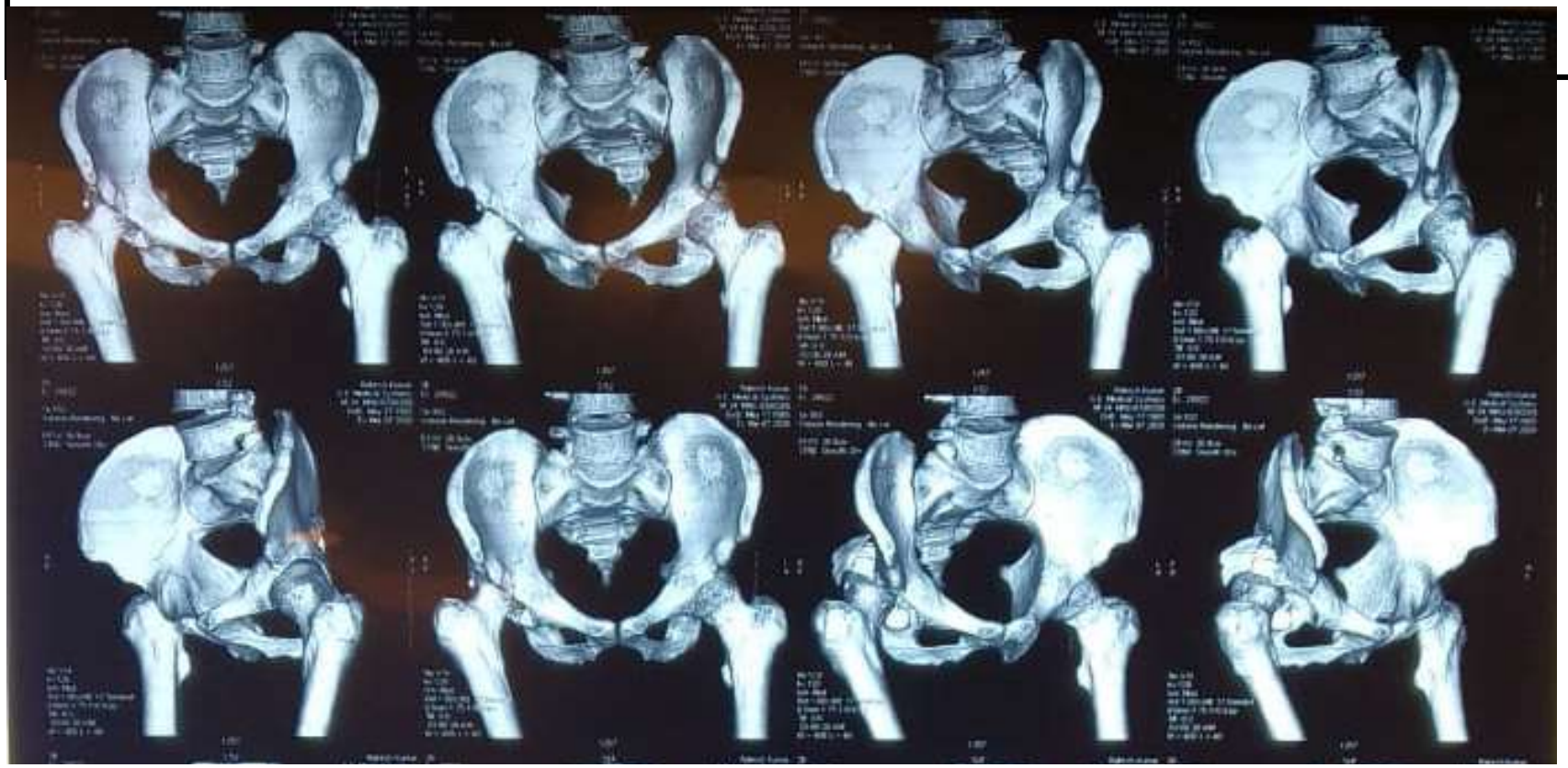
Examination Under Anesthesia for Evaluation of Hip Stability in Posterior Wall Acetabulum Fractures

Michael A. Yee, MD, Max E. Davis, MD, Aaron M. Perdue, MD, and Mark E. Hake, MD

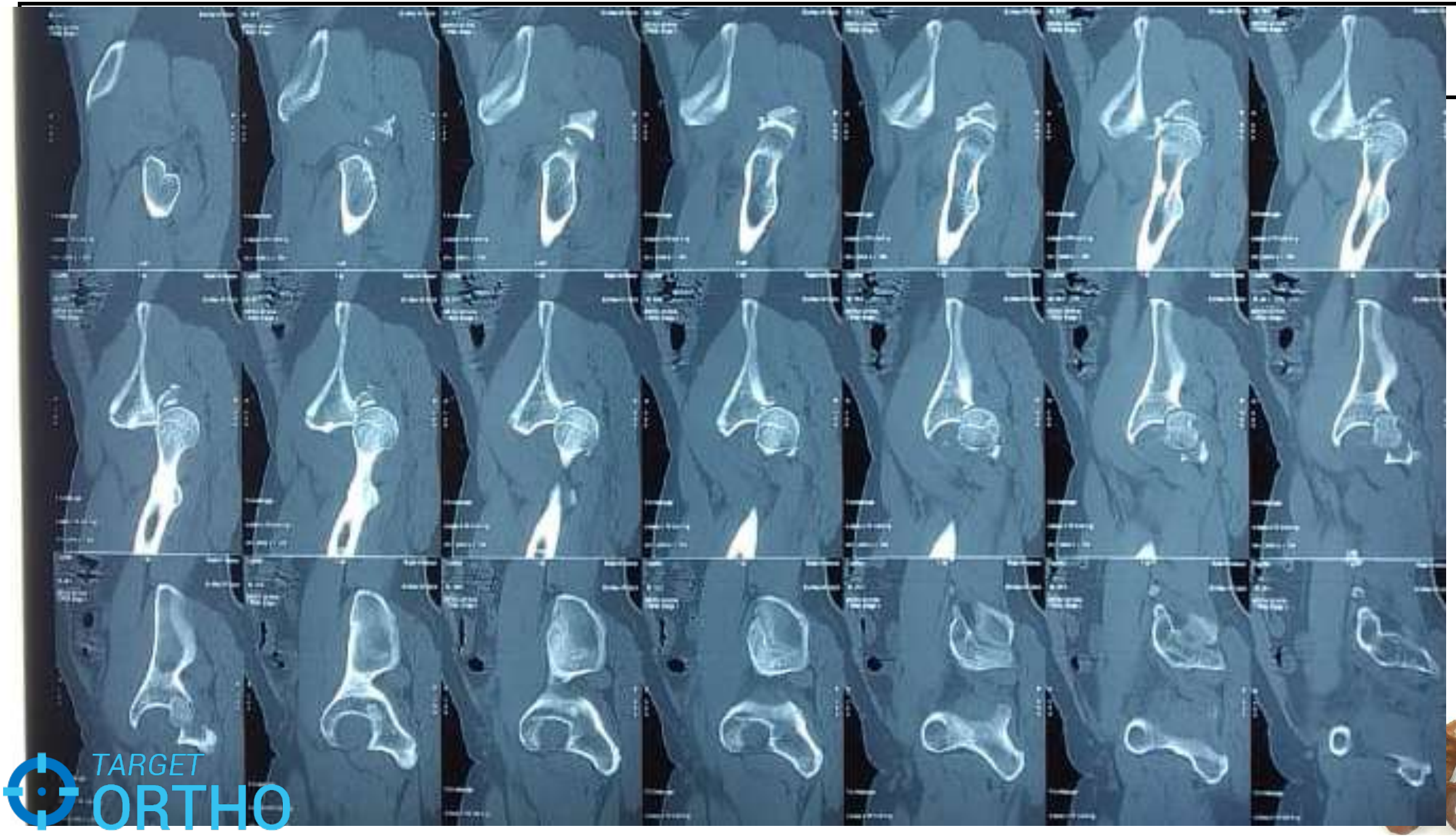
Scenario 2:

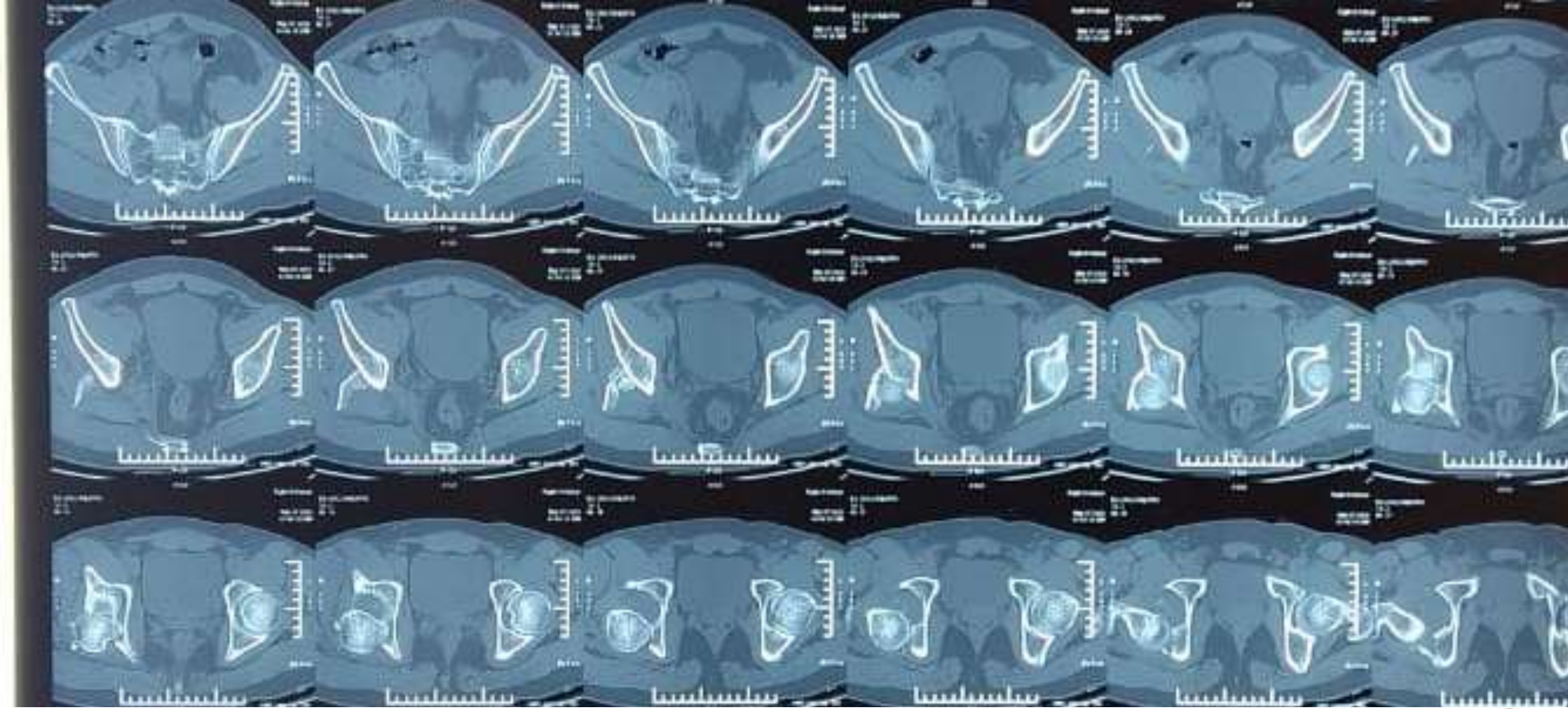
Ct done from outside?





WHAT WE WANT TO SEE ON CT CUTS?



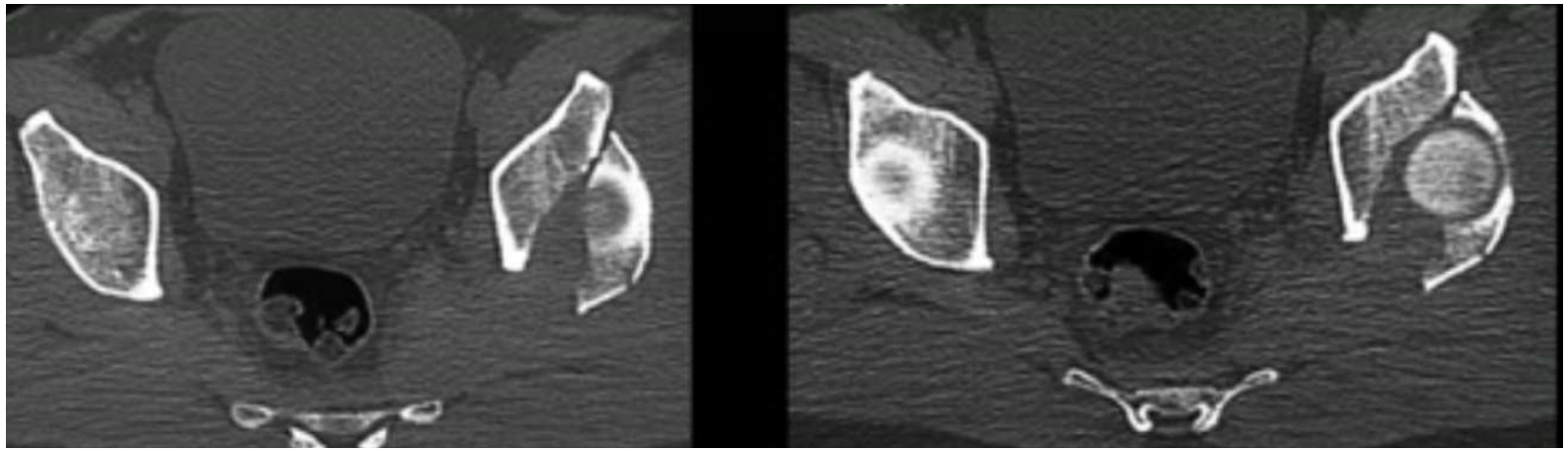


Axial cuts: *4 THINGS*

1. HOW MUCH NEAR TO THE DOME.
2. IS IT COMMINUTED.
3. ANY INTRARTICULAR FRAGMENTS.
4. ANY MARGINAL IMPACTION

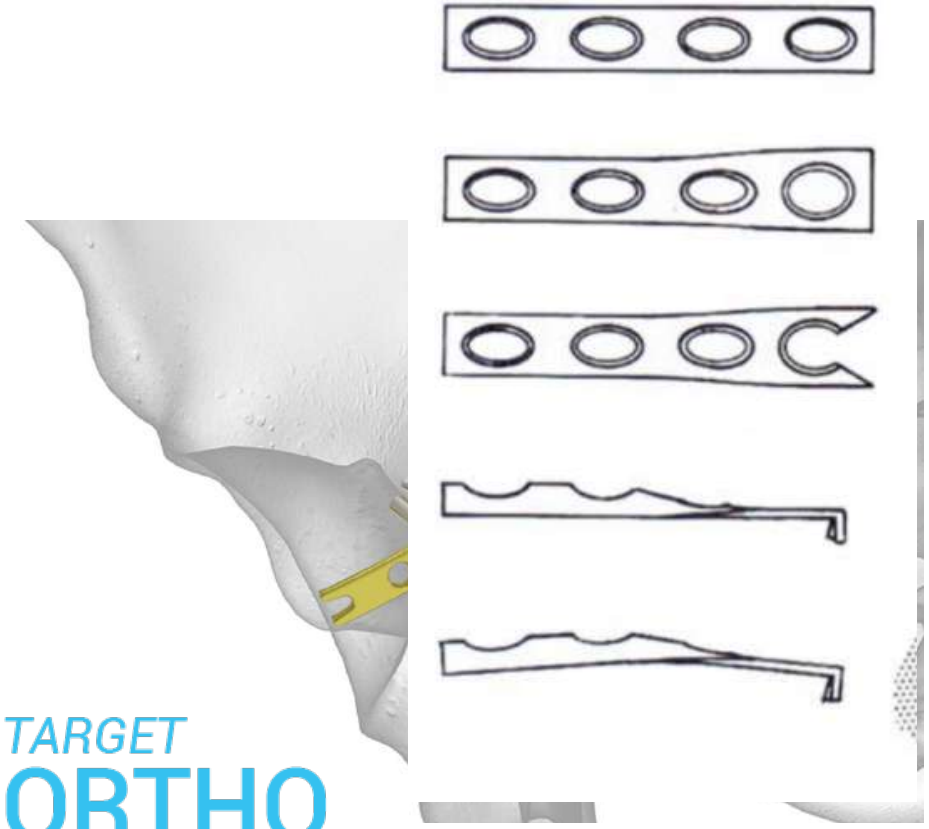
1.HOW MUCH NEAR TO THE DOME.

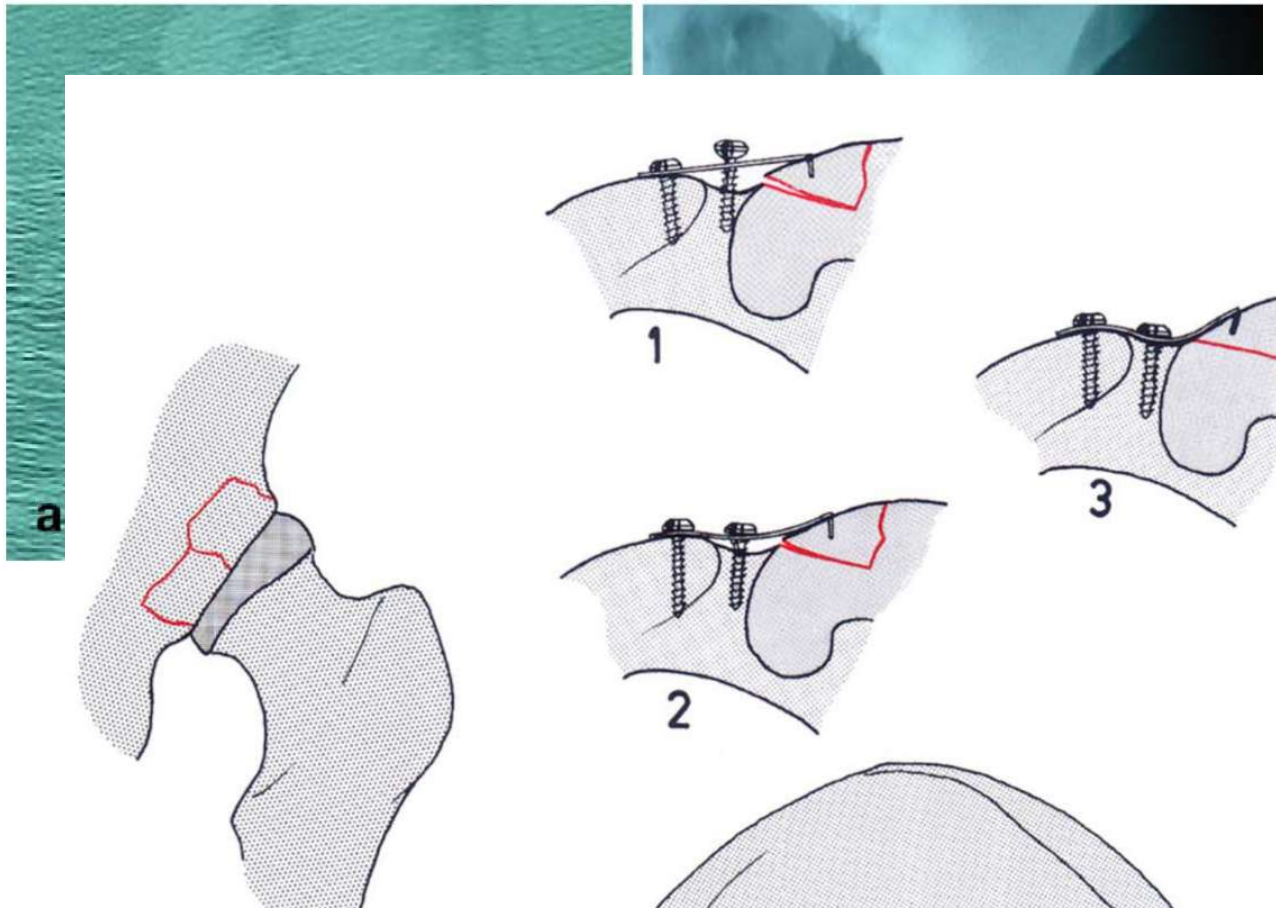
- POSTEROSUPERIOR
- Highly unstable
- May require trochanteric flip osteotomy
- Lateral position



2.IS IT COMMINUTED.

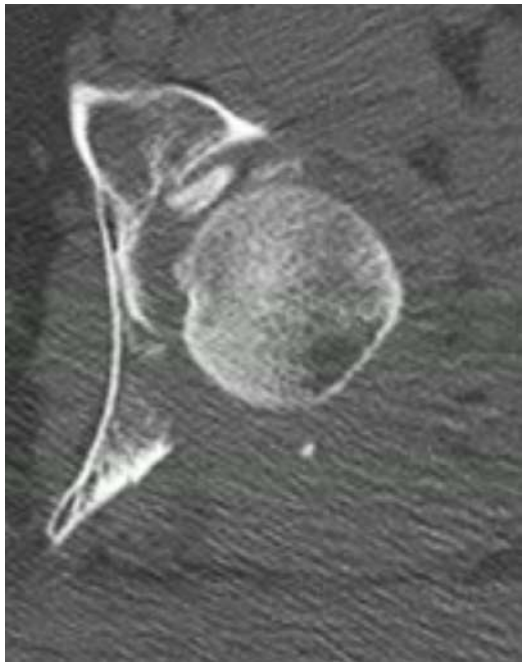
- Spring plates(synthes)
- Allis t plate





3. ANY INTRARTICULAR FRAGMENTS

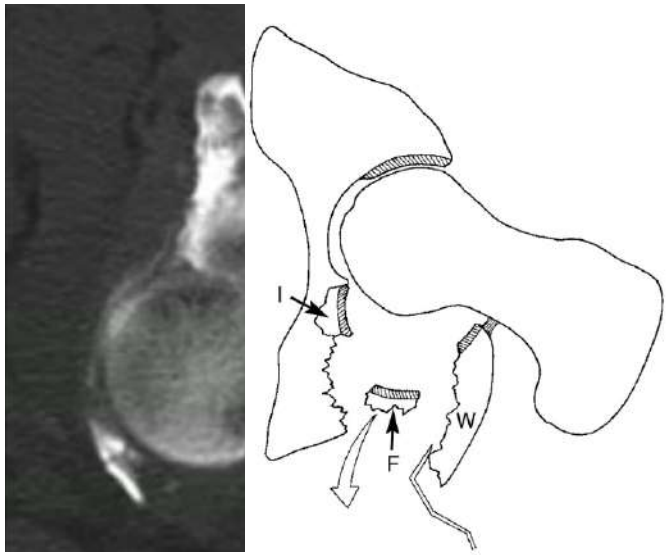
- HOW MANY?
- HOW BIG?
- WHERE?

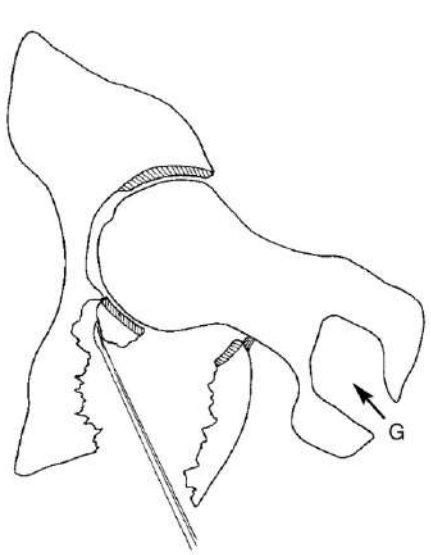


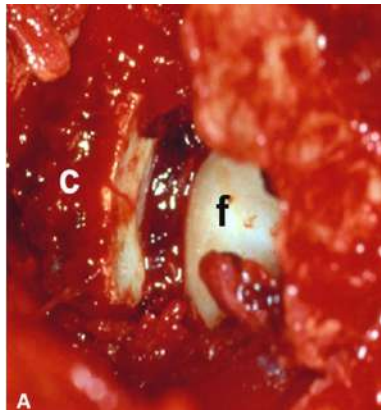
4.ANY MARGINAL IMPACTION

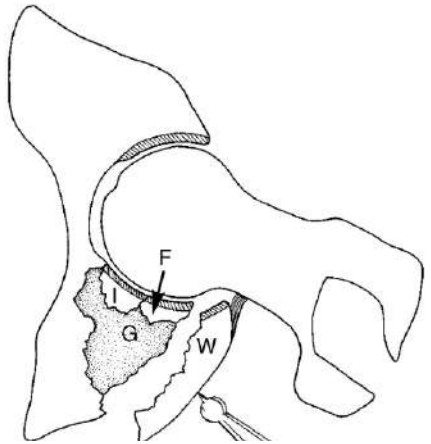
mini frag screws

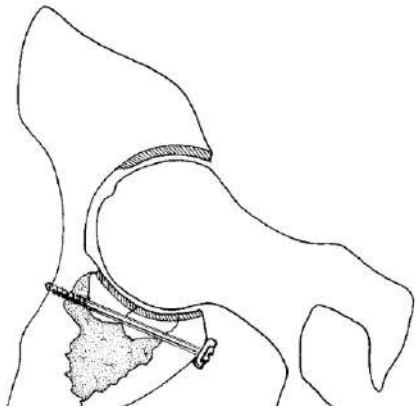
Graft from gt



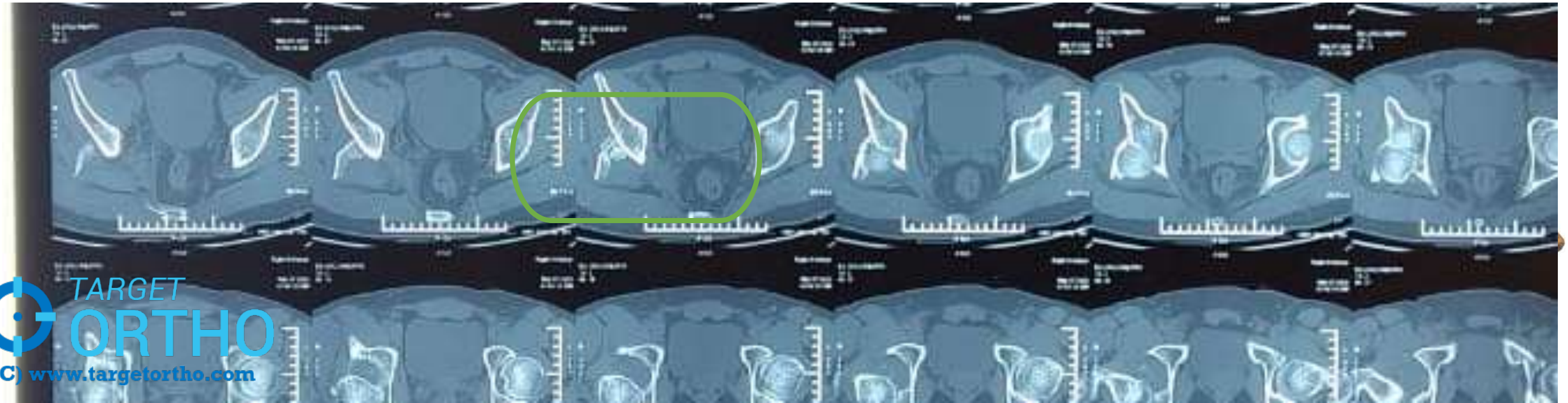








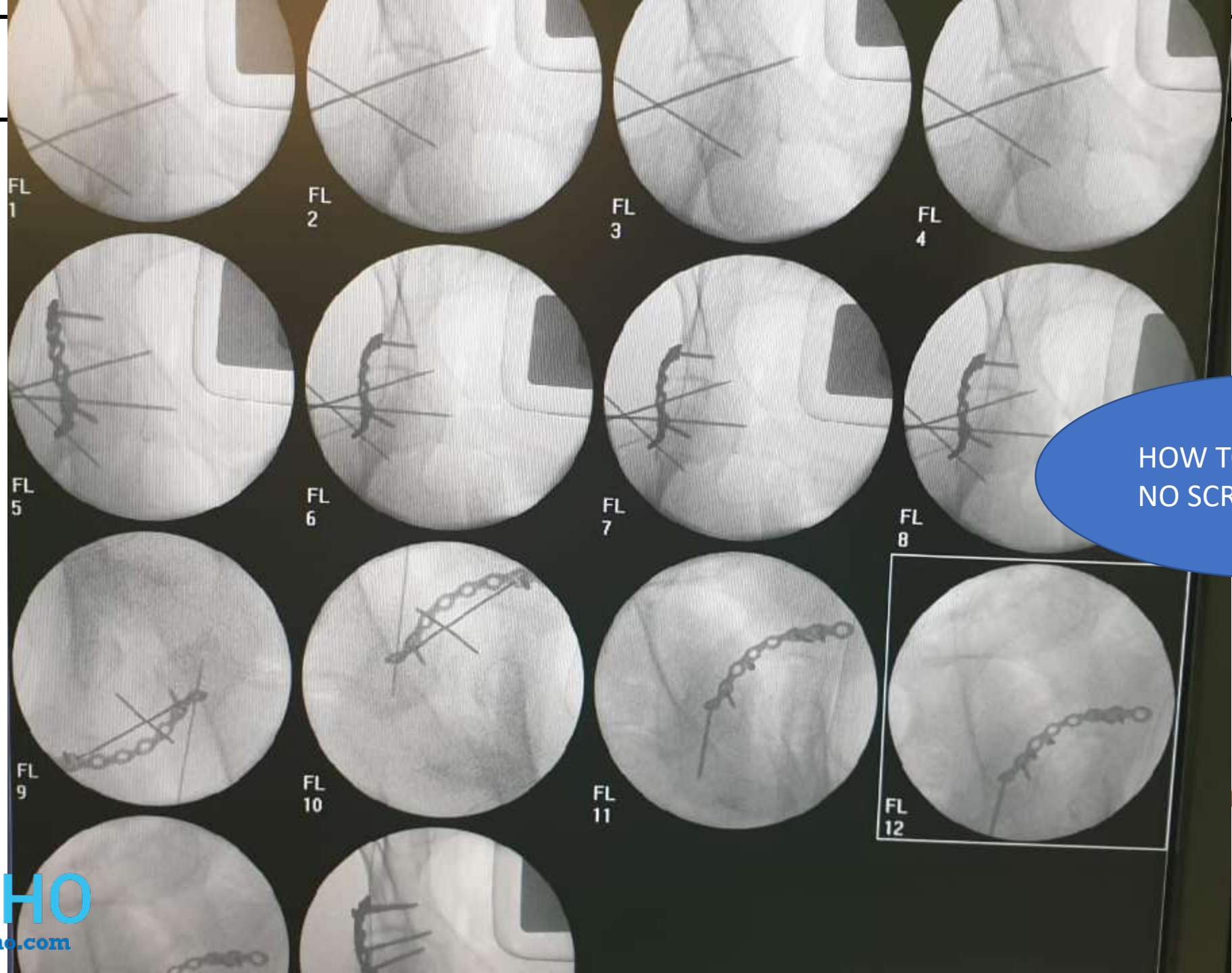
Scenario 2:



Q. Approach

- Q. PRONE OR LATERAL

- Q. ANY INDICATION OR CONTRAINDICATION OF PRONE



HOW TO CHECK THAT NO SCREW IS INSIDE?

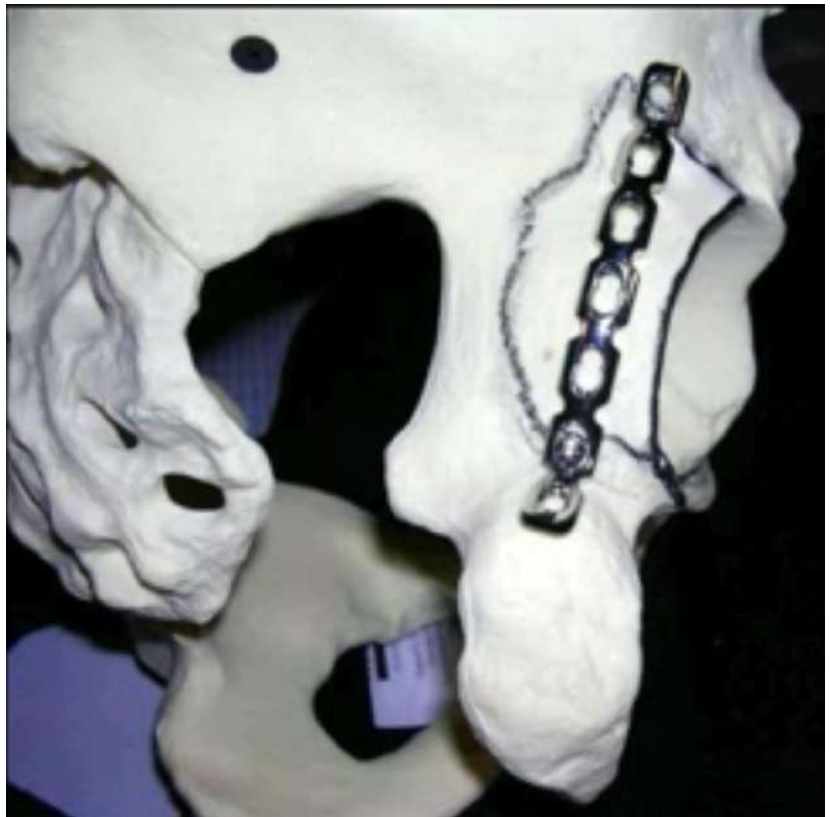
Learning point

- **INTAOPERATIVE FLUOROSCOPY**
- END ON VIEW

- Q… DO U CONTOUR THE PLATE PREOP?

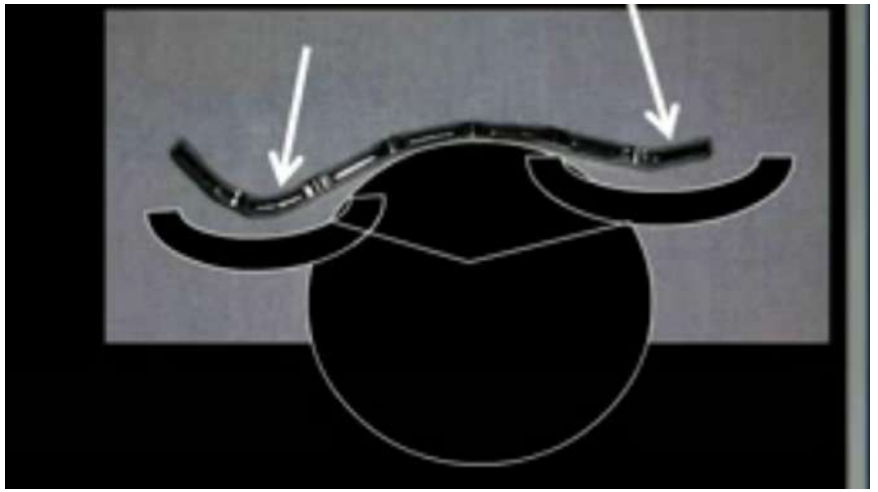
Learning point

- WALL FRAGMENTS HELD WITH INTERFRAGMENT SCREWS AND BUTRESS PLATE
- PLATE UNDERCONTOURED SLIGHTLY
- PLATE ON FRAGMENT AND CLOSE TO YHE RIM



Learning point: undercontouring

- TRIPLE PLYER: LOAD IT
- SCREWS: CONTOUR IT
- SUPPORT REDUCTION



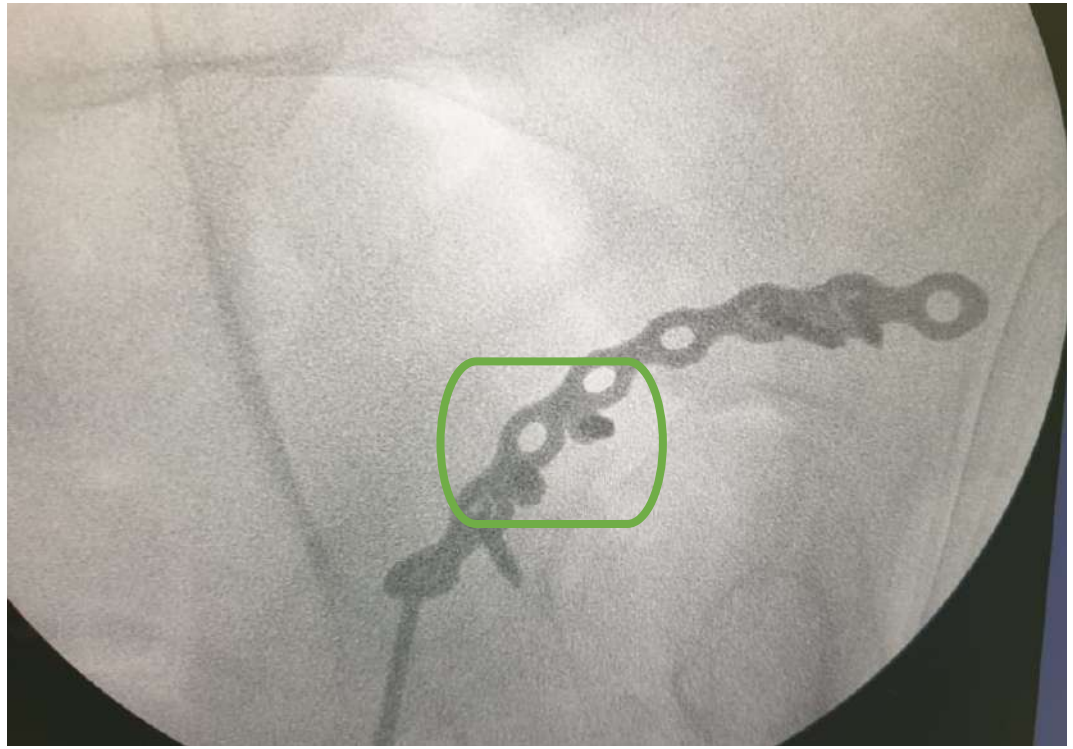
- Q…LAG SCREW : THRU PLATE OR INDEPENDENT?

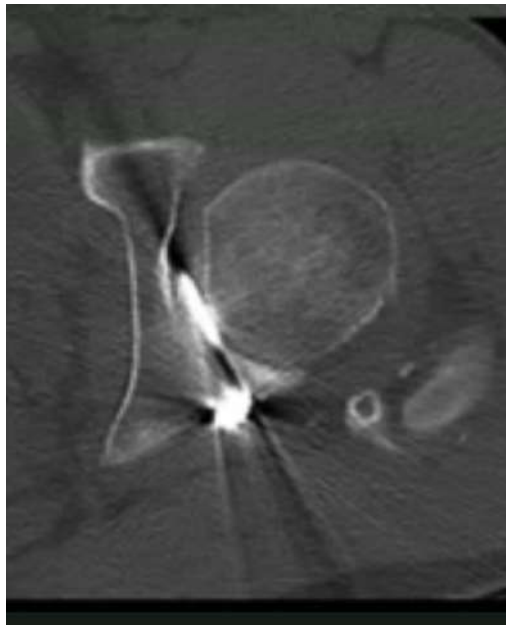
Learning point:LAG SCREW FIXATION

- THRU PLATE
- INDEPENDENT

PLAN BASED ON PLATE LOCATION

- AVOID JOINT
- NEVER SOLO



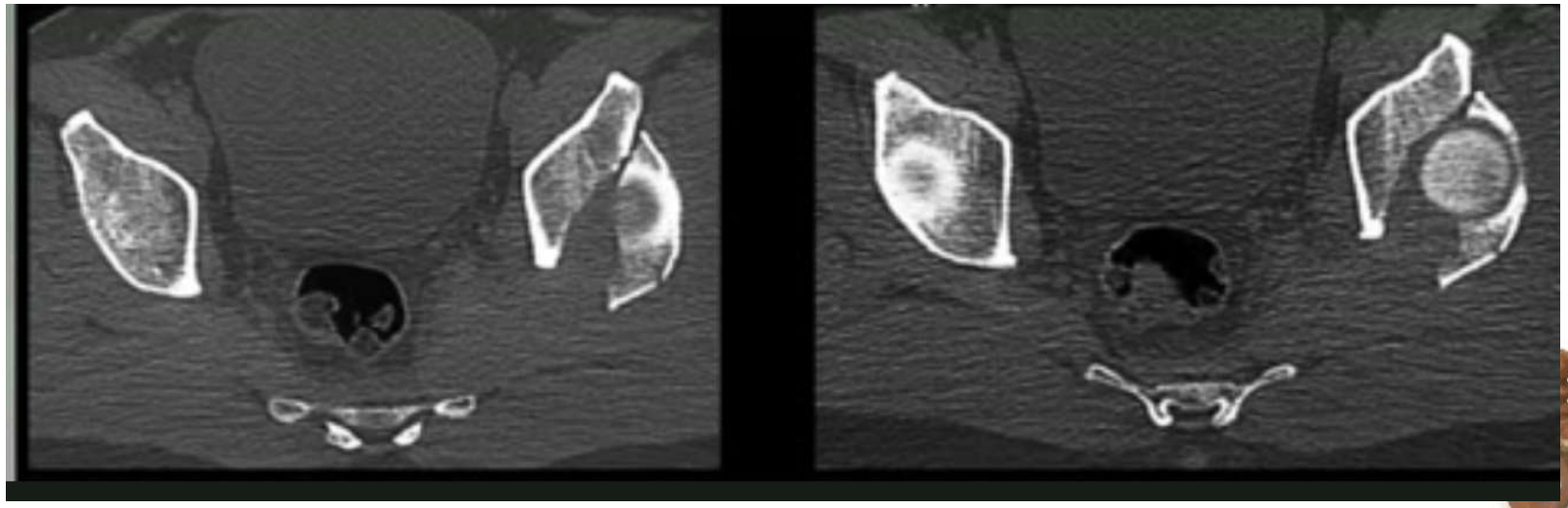


LAST SCENARIO

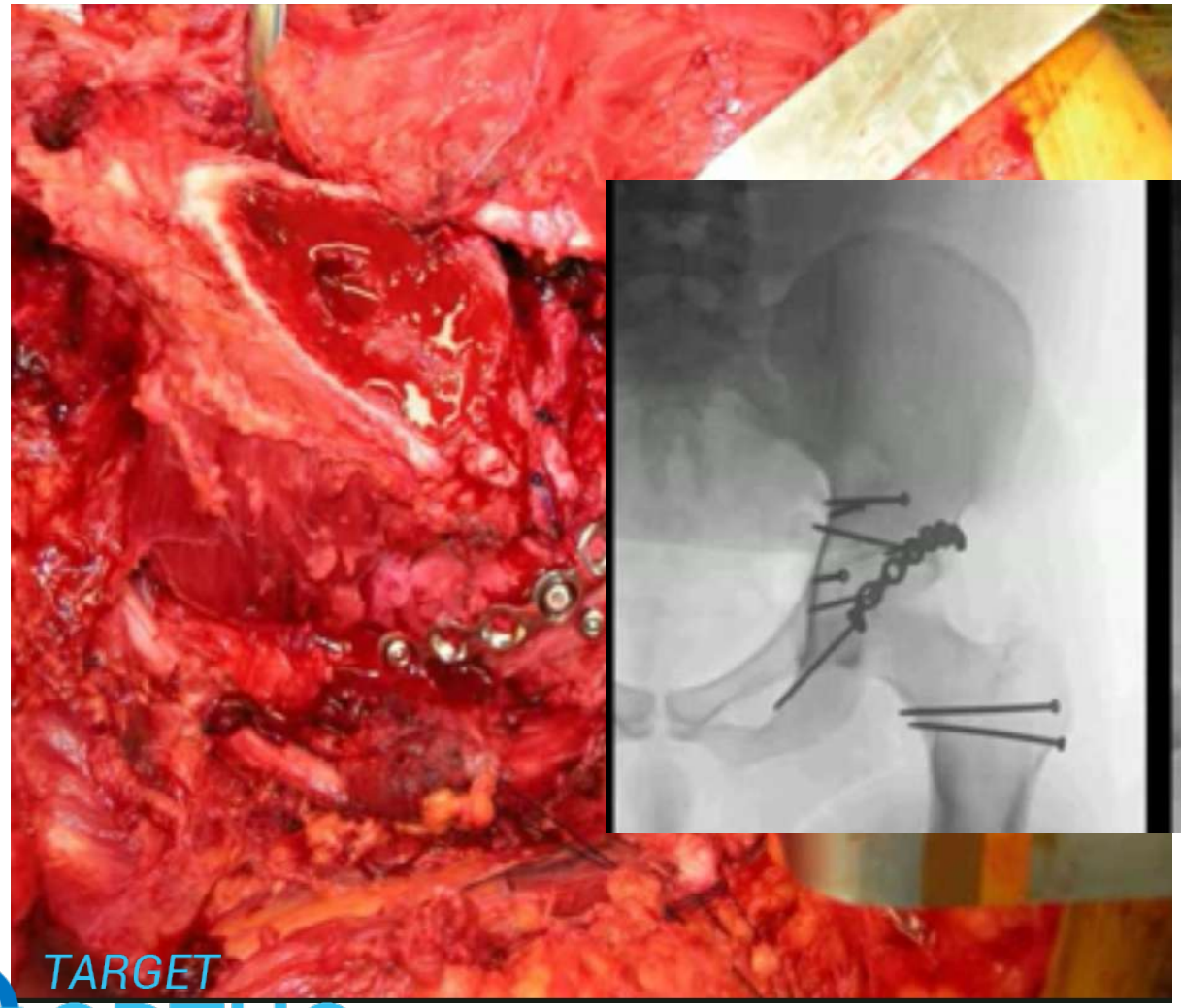
- Q. WHEN U DO FLIP OSTEOTOMY.

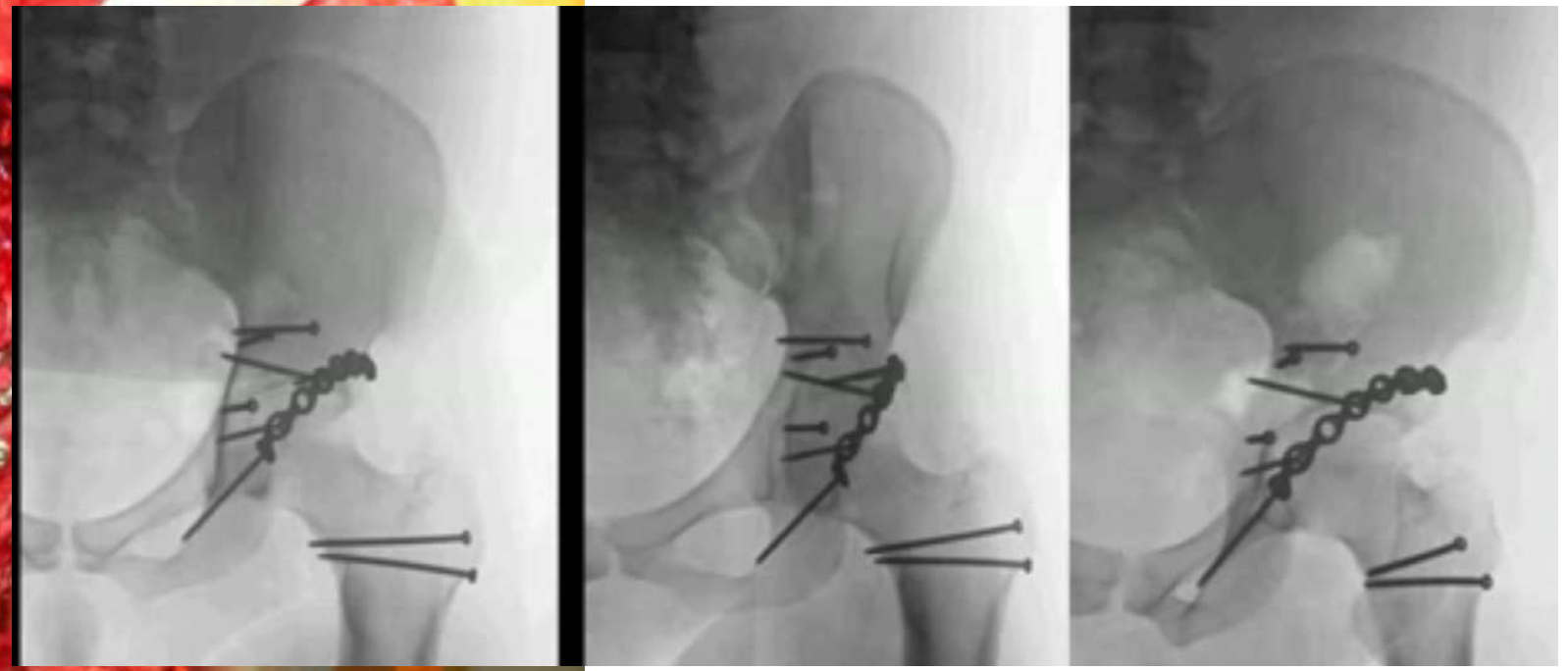
- .

Trocantric flip

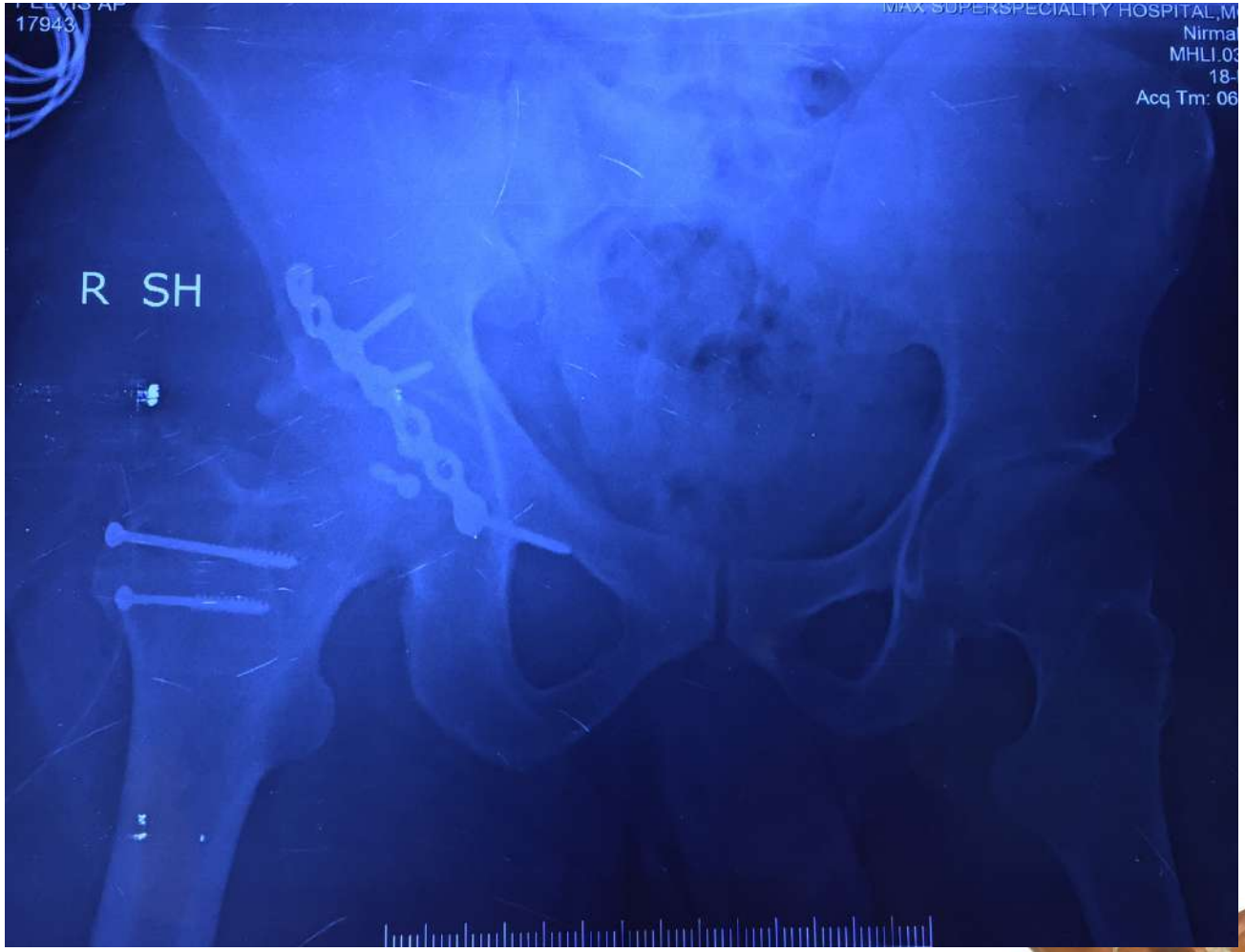


Trocantric flip





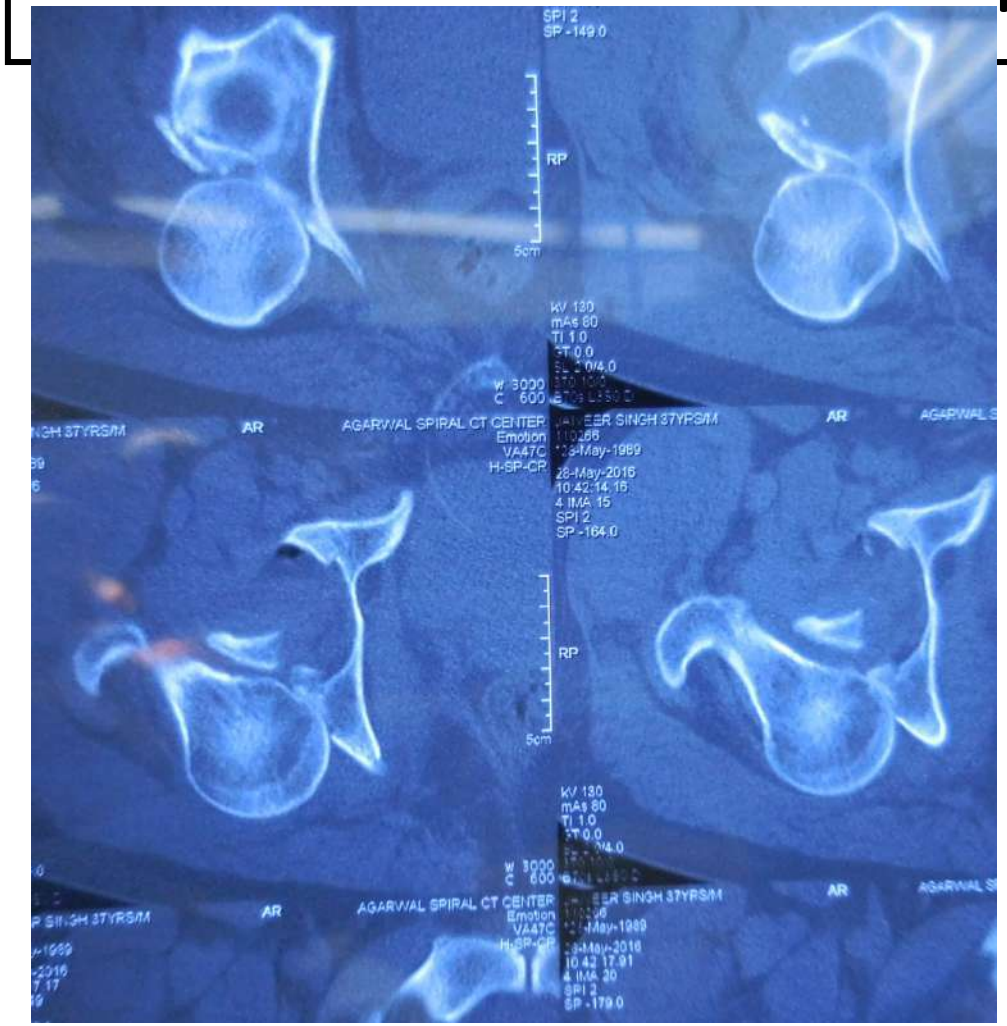
Trocantric flip

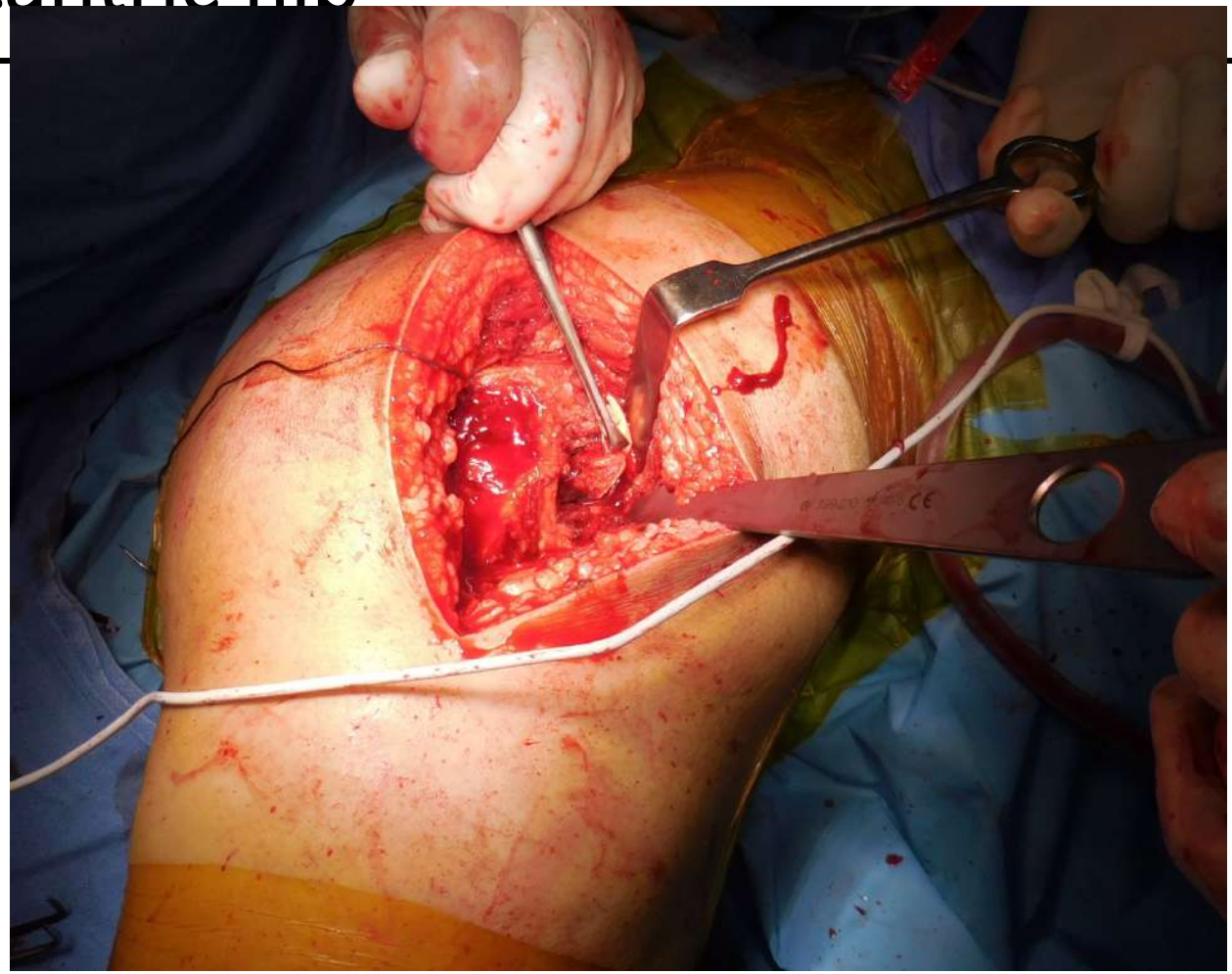


Trocantric flip

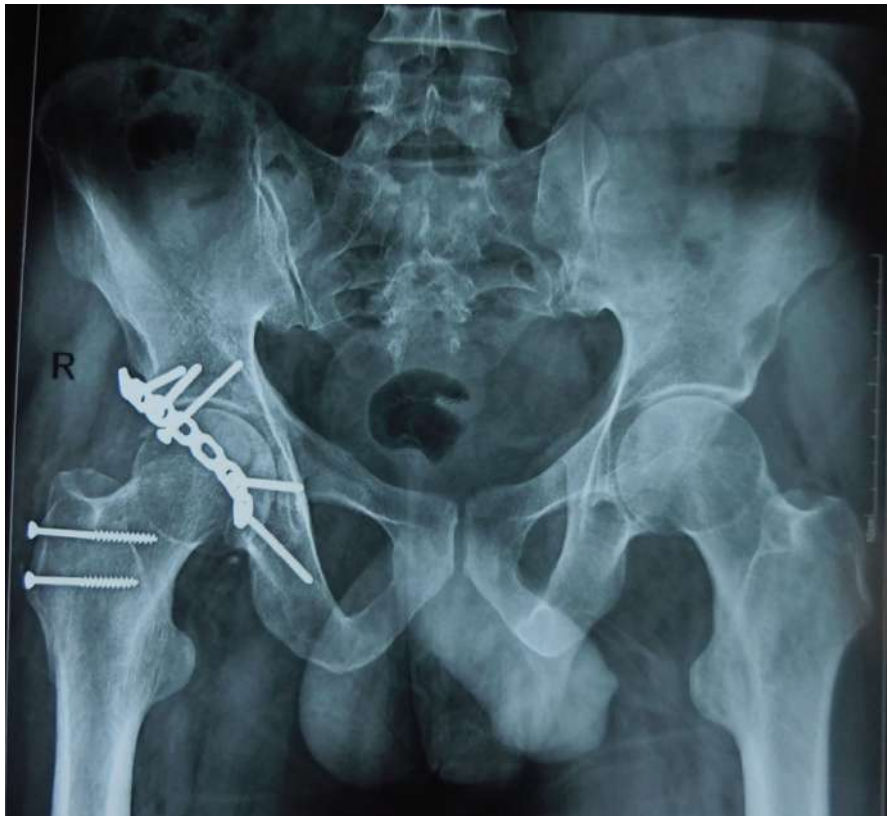
Trocantric flip

Trocantric flip





Trocantric flip



Q. HOW TO PREVENT HTO?

- Careful dissection
- Gentle retraction of abductors
- Careful dissection of gluteus minimus
- Excision of damaged muscle prior to closure

What can we do to minimize complications

- Reduce dislocation promptly
- Irreducible dislocation surgical urgency
- Appropriate timinig of surgery

  optimize patient

  avoid unnecessary delays
- Careful soft tissue technique and debridement of all necrotic tissue with attention to gluteus miimus

What can we do to minimize complications

- Preserve all attatchements to posterior wall fragments
- Preserve all fragments and cartilage
- Meticulous reduction of all fragments
- Reduce and augment impaction
- Stable fixation with screws and buttress plates

Access: Kocher-Langenbeck

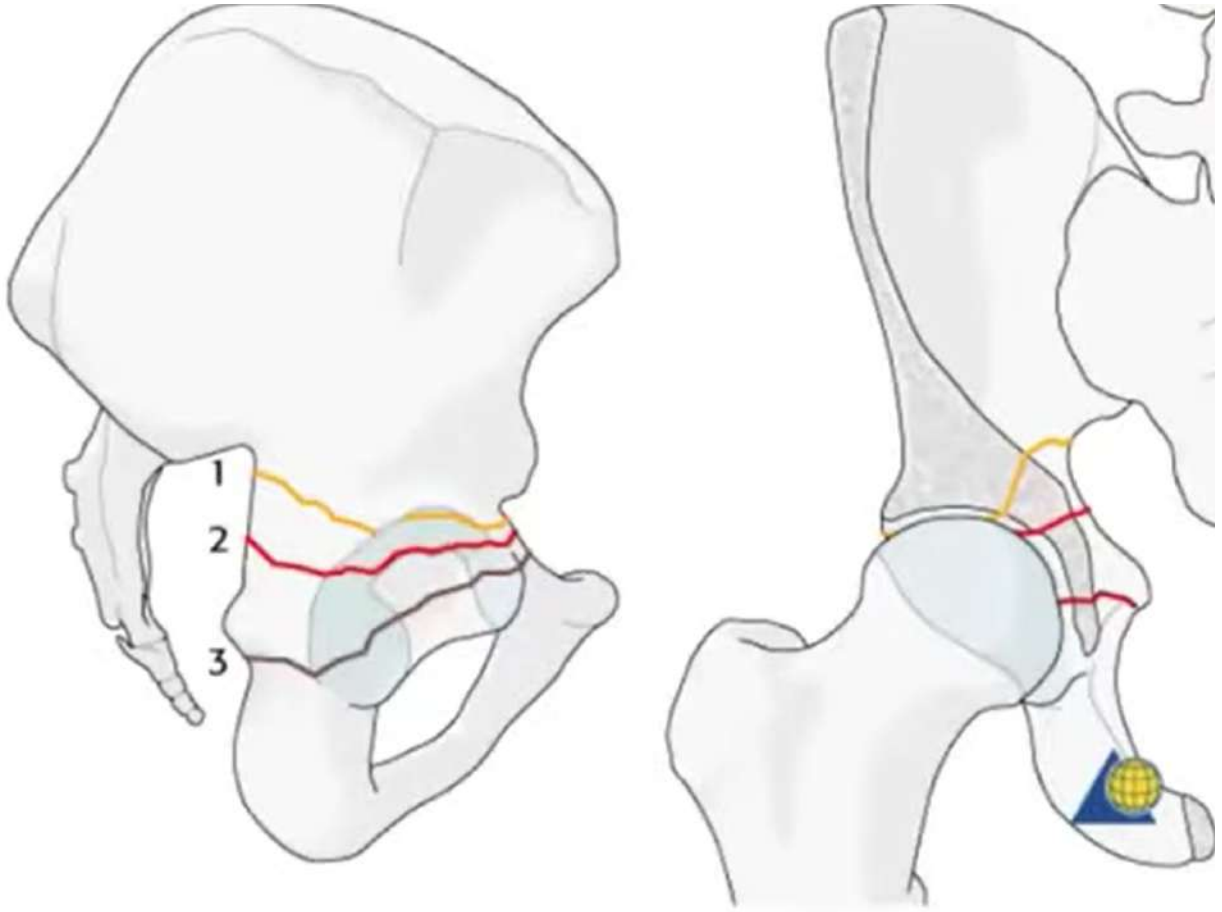
- Entire Posterior Column
- Greater and Lesser Sciatic Notches
- Ischial Spine
- Retro-Acetabular Surface
- Ischial Tuberosity
- Ischio-Pubic Ramus

Subtypes

1 Transtectal

2 juxtatectal

3 Infratectal



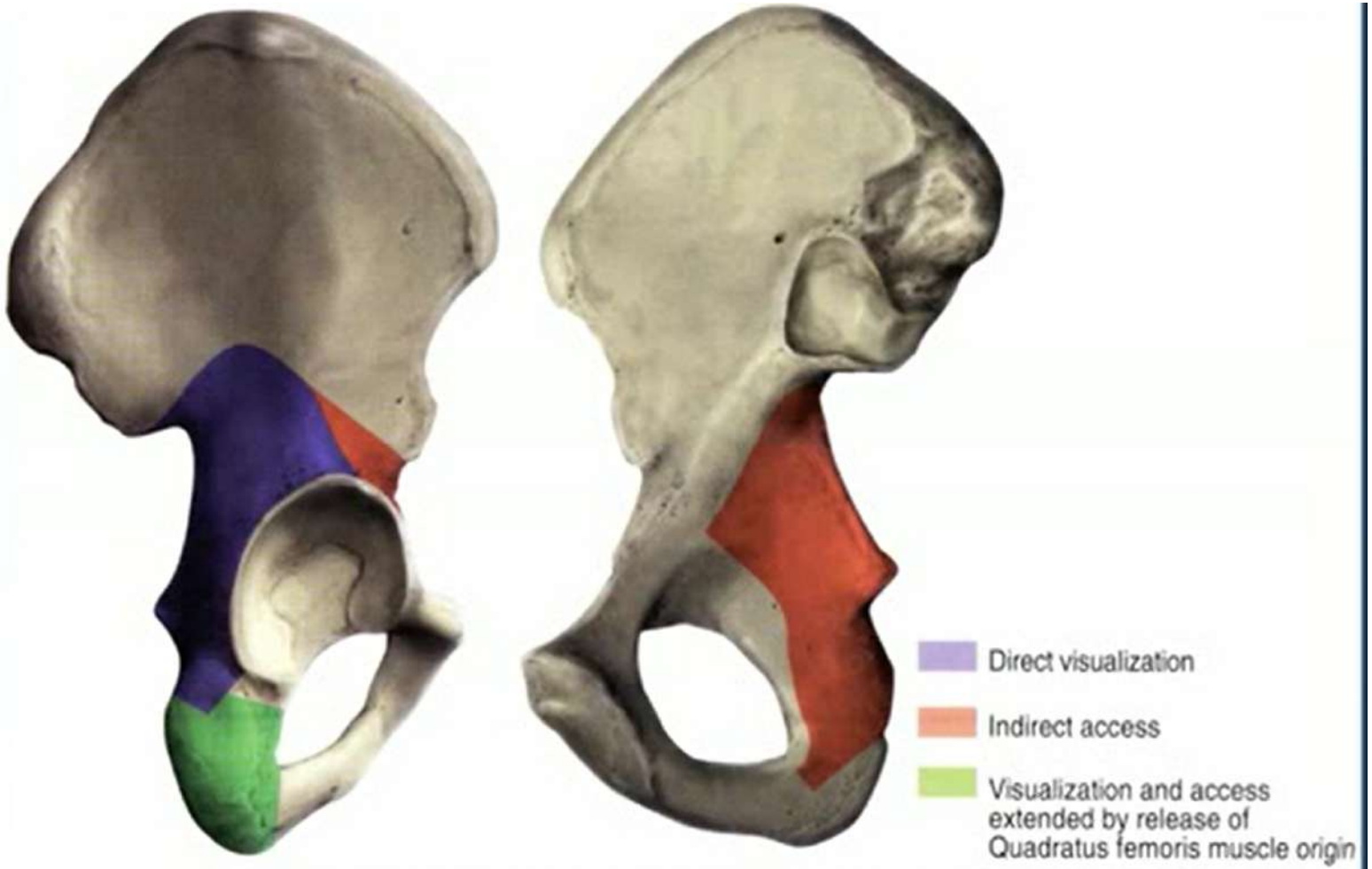


Figure 1. A, B: Access provided by the Kocher–Langenbeck approach.

Kocher Langenbeck Appraoch: Indications in Acute Acetabular Fxs

- Posterior Wall Fractures
- Posterior Column Fractures
- Posterior Column / Posterior Wall Fractures
- Juxta-tectal / Infra-tectal Transverse or Transverse with Posterior Wall Fractures
- Some “T-type” Fractures

Prone Position

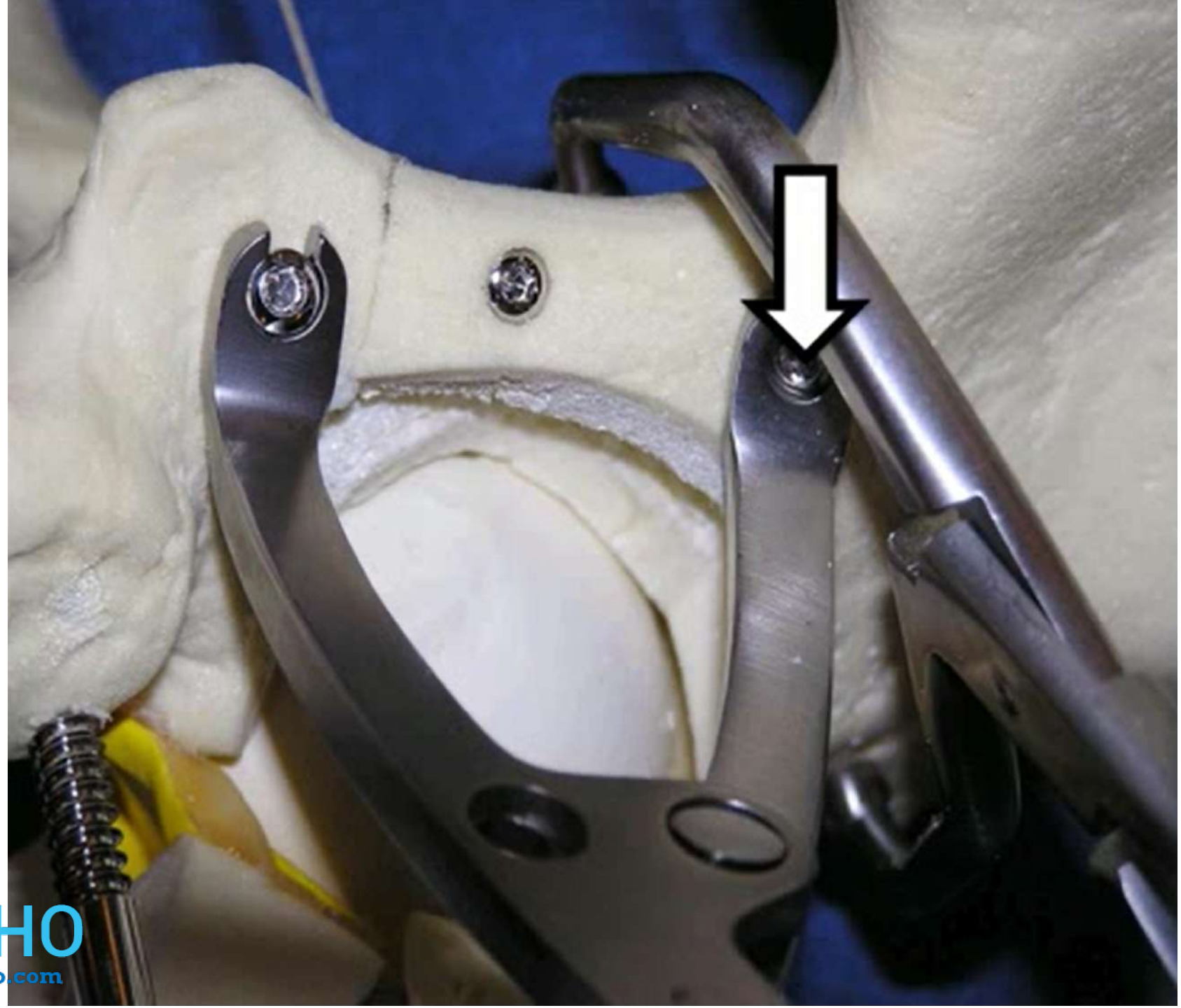
- Aids in Reduction of Ischiopubic Segment
- Facilitates Palpation of Quadrilateral Surface
- Allows Clamp Placement through Greater Sciatic Notch

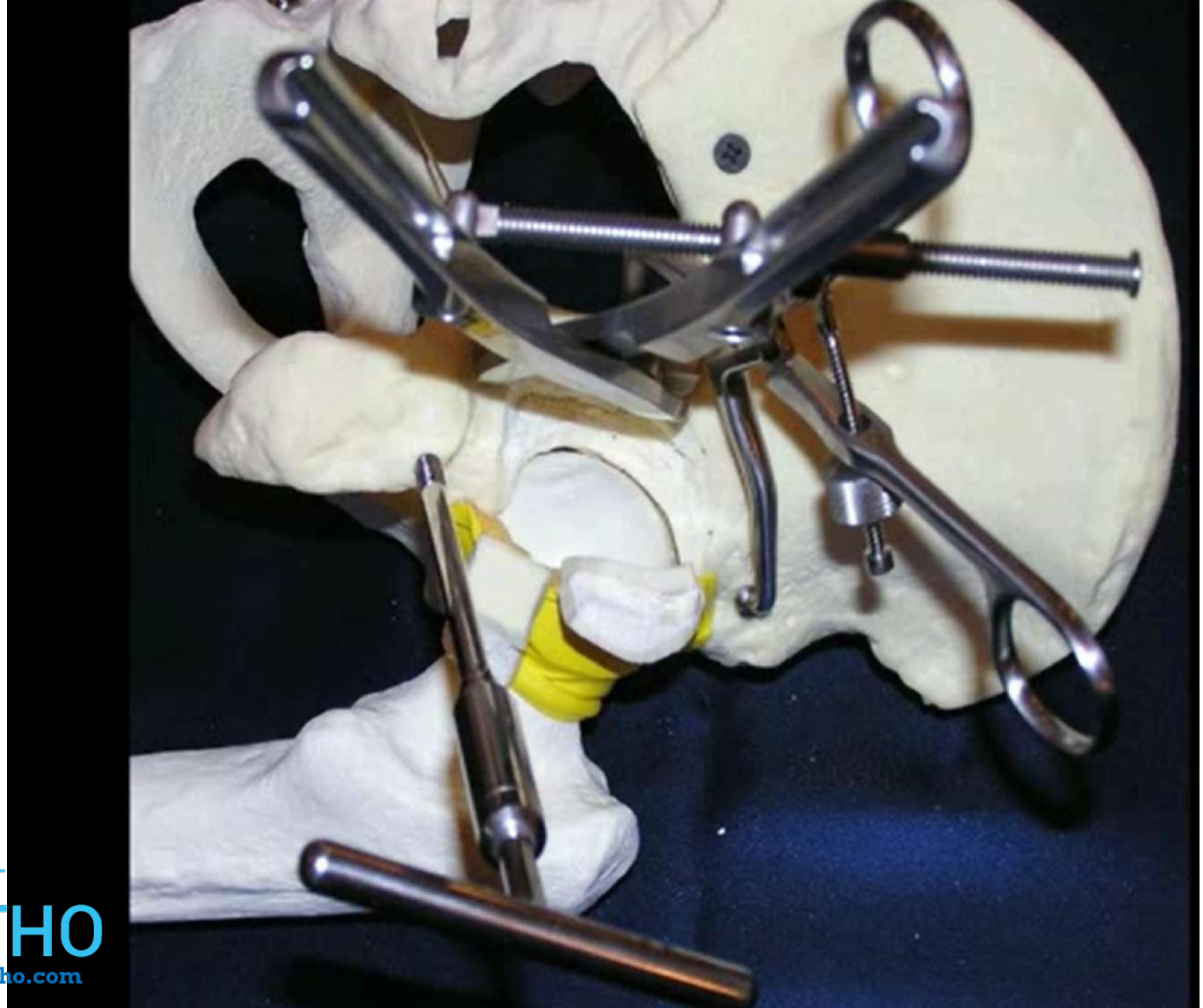
Reduction Aids: KocherLangenbeck Approach TRANSVERSE FRACTURES

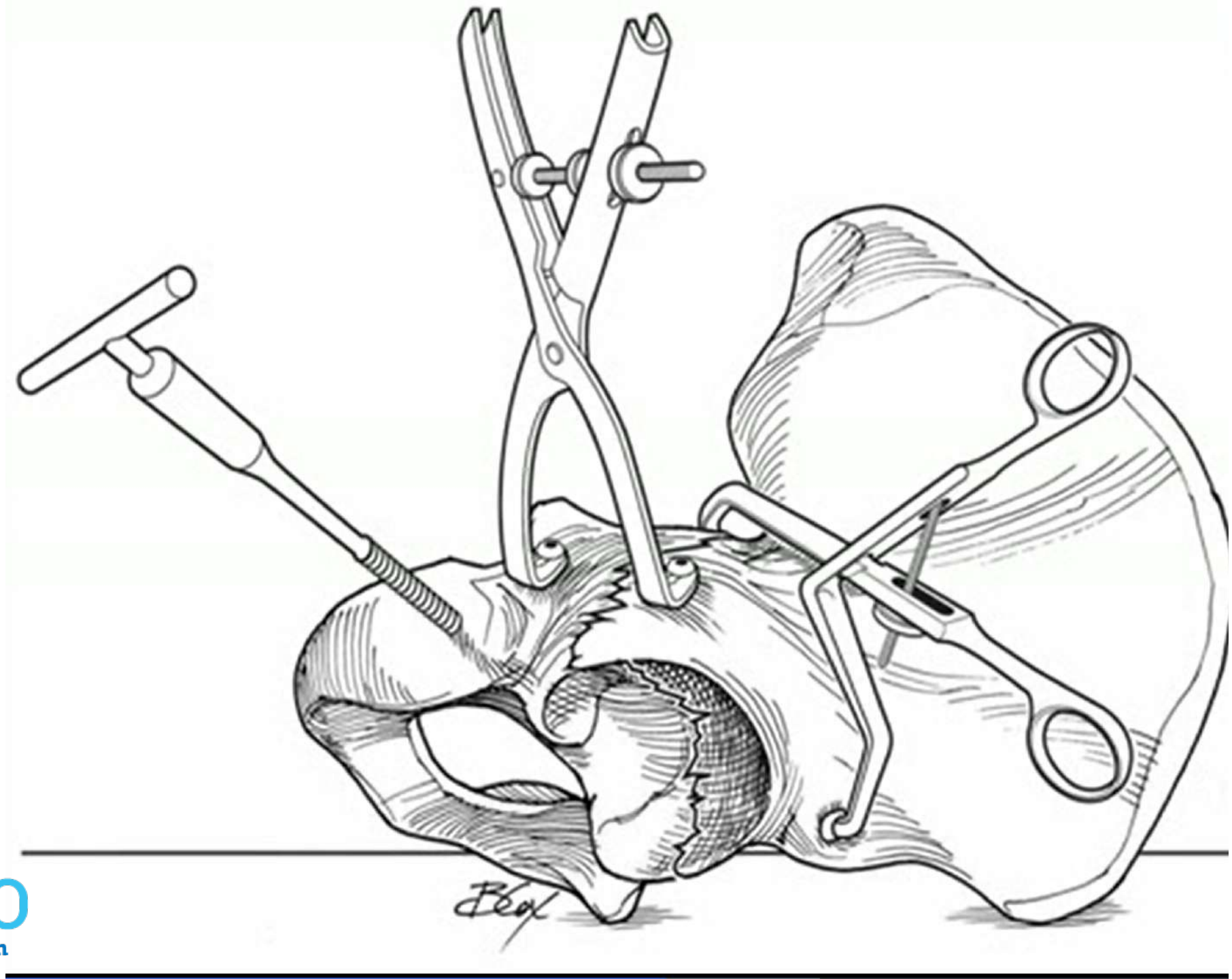
- Distal Femoral Traction
- Distraction of Hip Joint
- Ischial Tuberosity Schantz Pin

Reduction Aids: KocherLangenbeck Approach TRANSVERSE FRACTURES

- Distal Femoral Traction
- Distraction of Hip Joint
- Ischial Tuberosity Schantz Pin
- Angled Jaw Clamp through Greater Sciatic Notch (Weber Clamp)
- Farabeuf Clamp / Small Pelvic Reduction Clamp







TRANSVERSE WITH POSTERIOR WALL FRACTURE

FIRST ADDRESS THE TRANSVERSE COMPONENT,
THEN THE POSTERIOR WALL

FACTORS COMPLICATING TRANSVERSE FRACTURE REDUCTION

- TRANSTECTAL FRACTURE PATTERN
- SEPARATE OSSEOCHONDRAL ARTICULAR DOME FRAGMENT
- IPSILATERAL S.I. JOINT INJURY
- SYMPHYSIS INJURY OR CONTRALATERAL ANTERIOR RING INJURY

CONCLUSION

- KOCHER-LANGENBECK IS A WORKHORSE
- REDUCTION AND ASSESSMENT OF REDUCTION FACILITATED BY PRONE POSITION
- KNOWLEDGE OF VARIETY OF REDUCTION TECHNIQUES MANDATORY
- MULTIPLE CLAMPS HELPFUL