AORECON

Step by Step Guide
How to template the Hip

LUSTIG Sébastien MD, PhD, Prof *

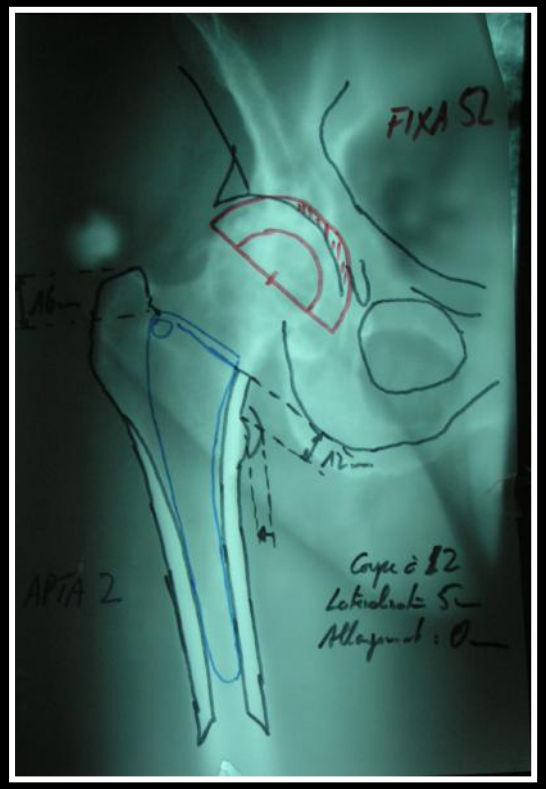
Albert Trillat Center – LYON - FRANCE

Definition

« ... »

The process of anticipating the size and position of implants prior to surgery

« ... »



Crucial

- allows surgeon to anticipate potential difficulties to reproduce hip biomechanics
- minimizes limb length discrepancy

Accuracy

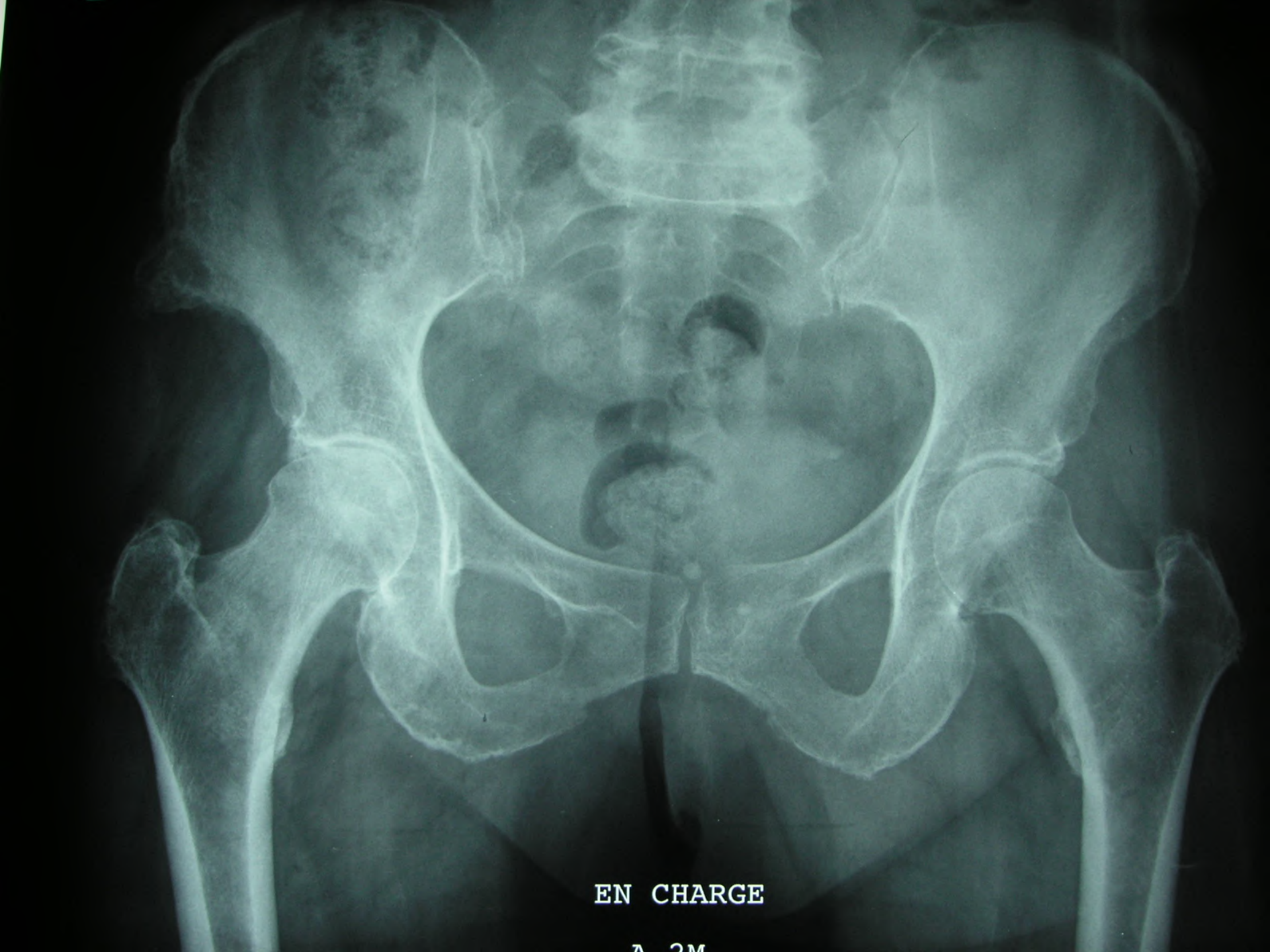
- 52-98% accurate +/- one size
- related to experience and practice

1st Step – Obtain appropriate radiographs

1. AP pelvis.
   - centered over pubic symphysis
2. AP hip.
   - taken with 10-15 degrees of internal rotation
     - places femoral neck parallel to cassette
     - external rotation on radiographs will
       - falsely decrease offset
       - create valgus appearing femoral neck
       - falsely decrease femoral canal diameter
3. Frog lateral hip.

Magnification

- 20% is standard
- most templates account for this
- magnification markers are helpful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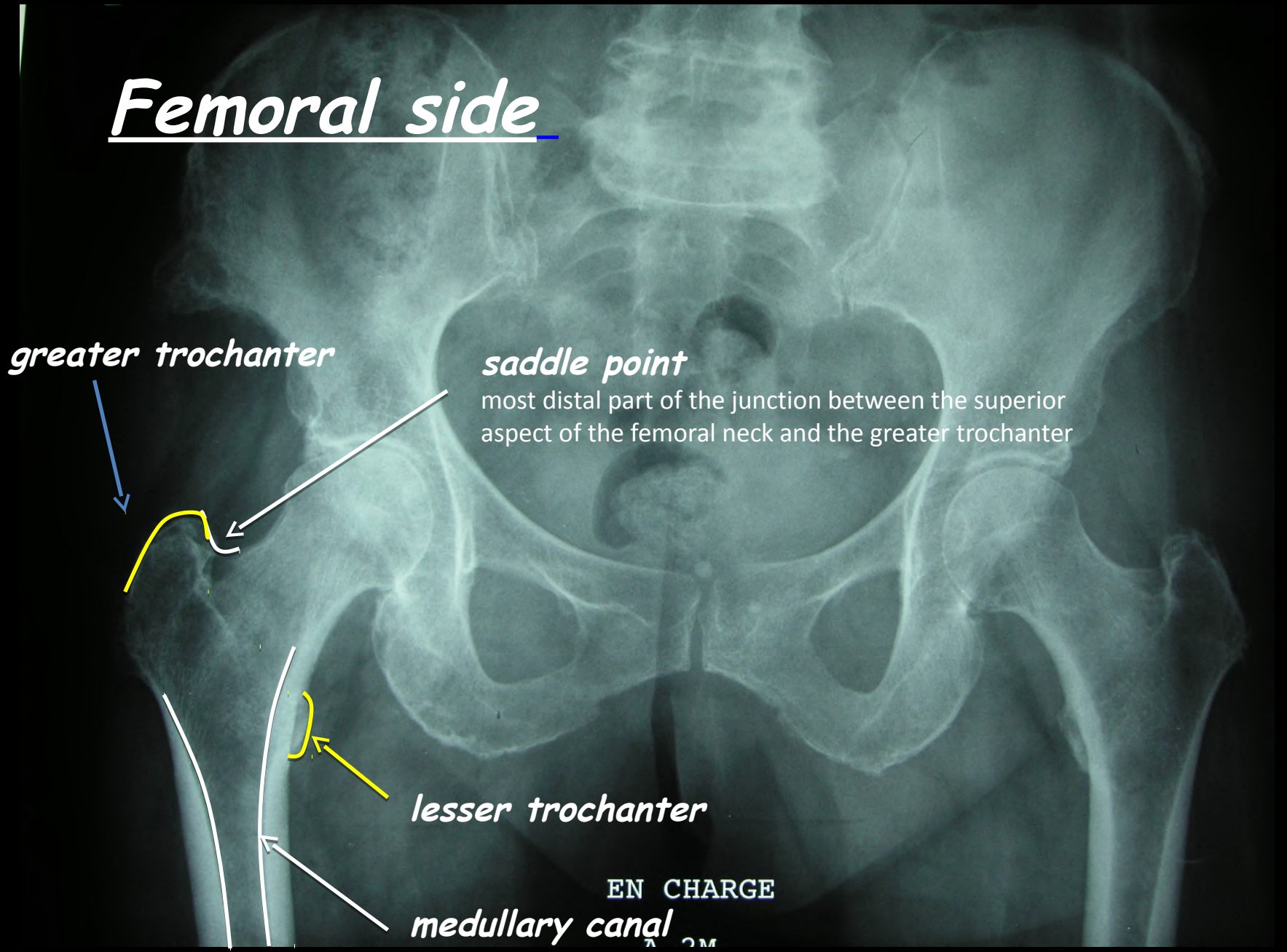
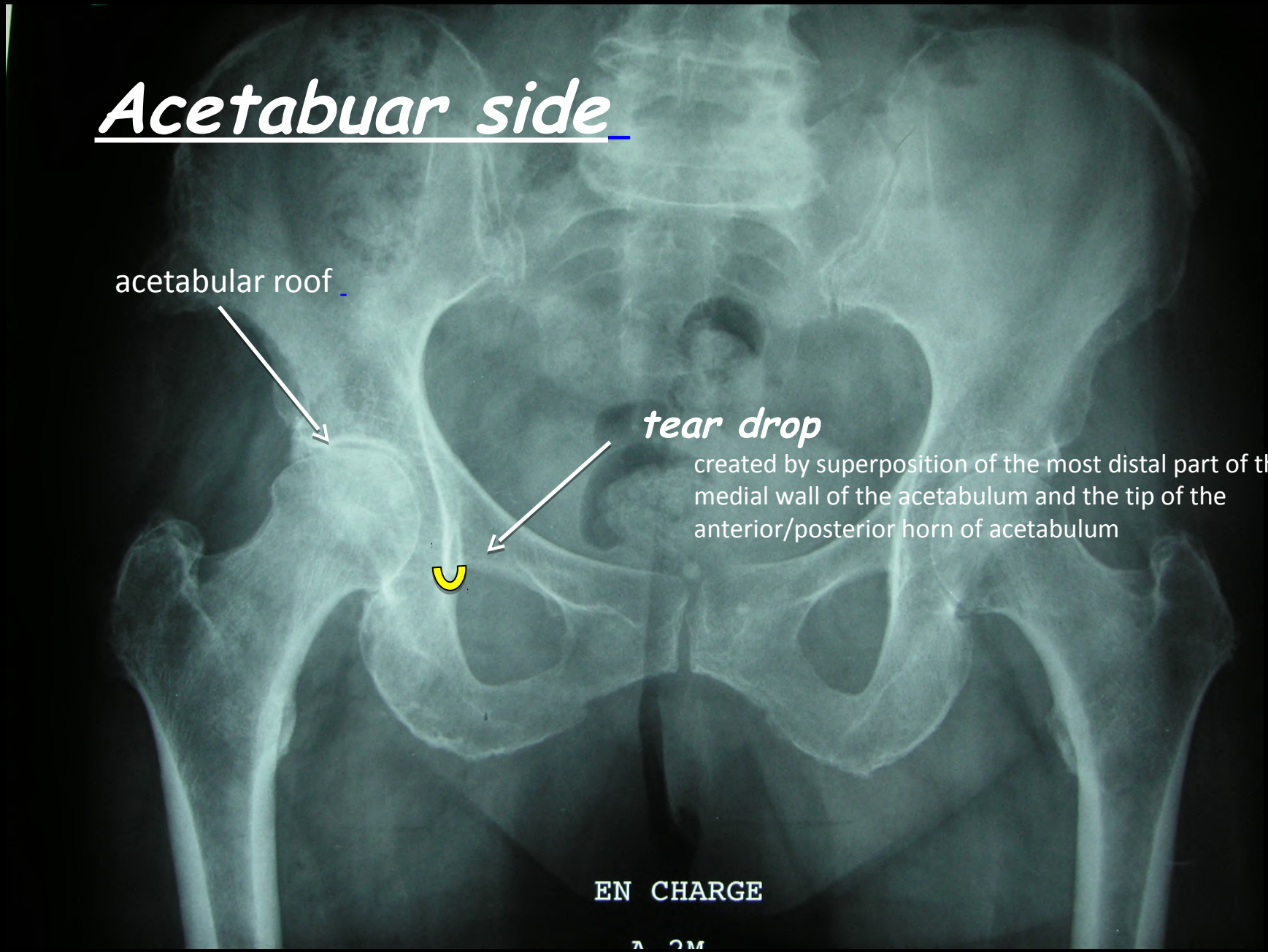
A 2M

Radiographic landmarks

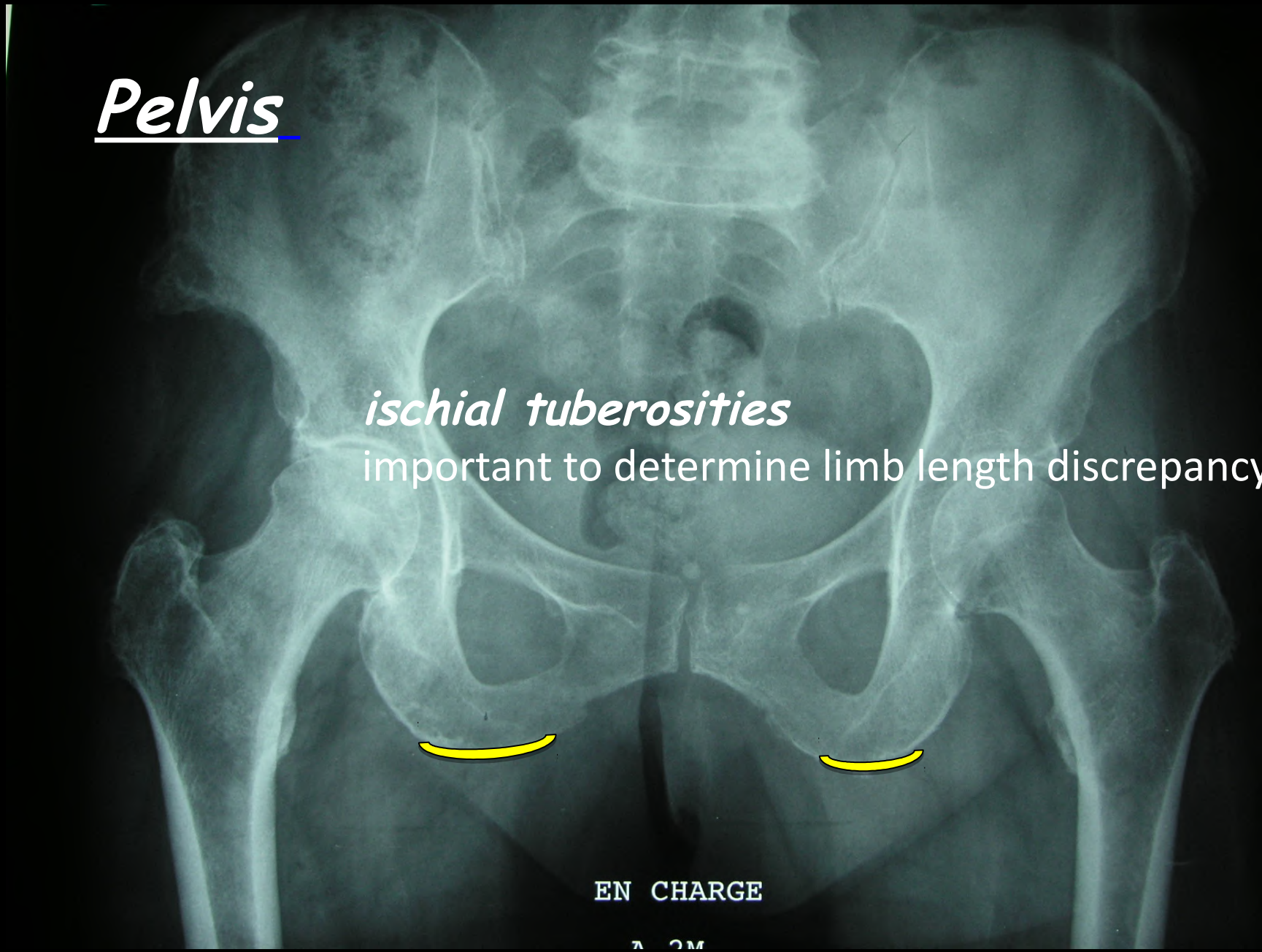
Femoral side



Acetabuar side



Pelvis



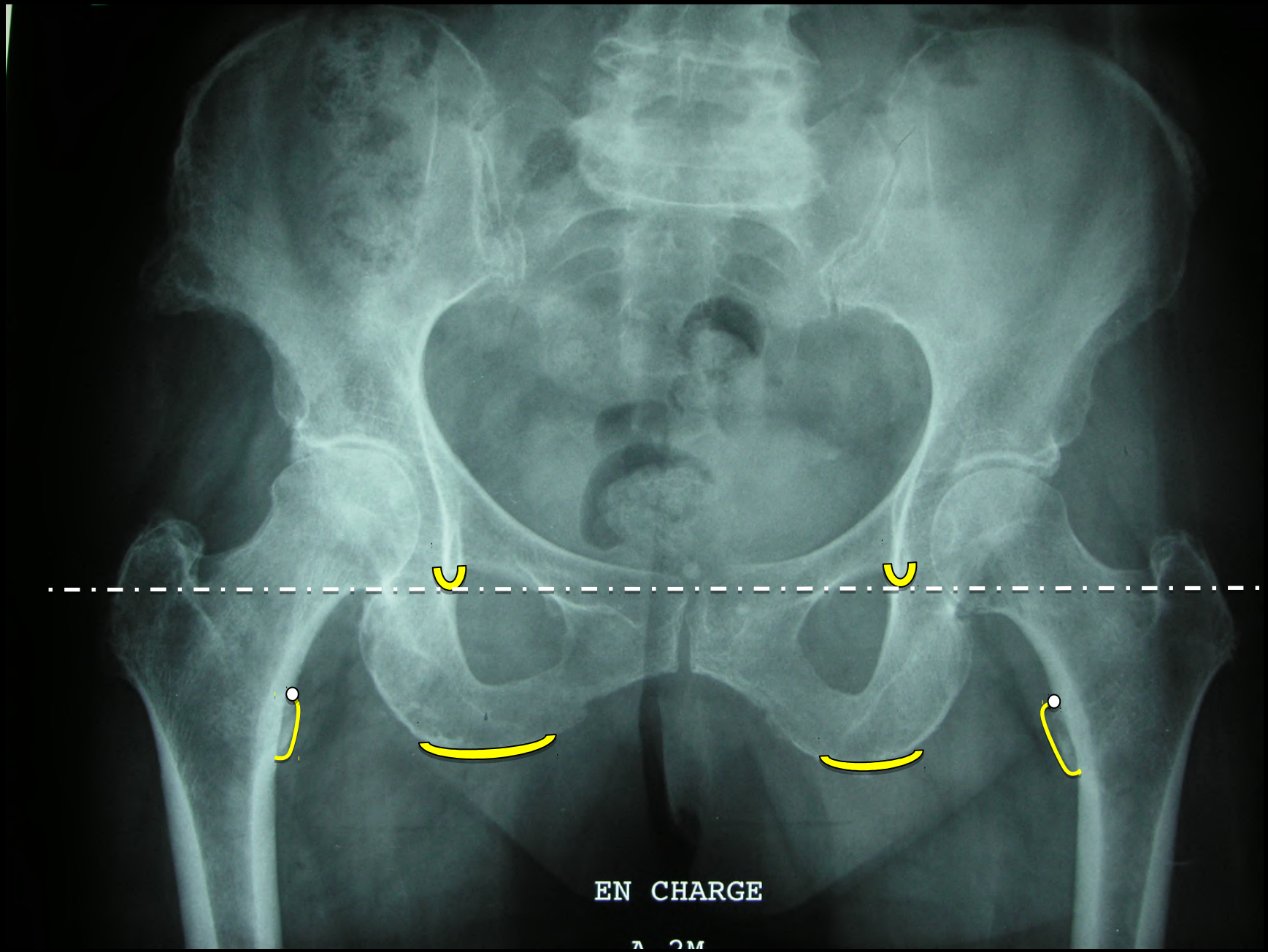
ischial tuberosities

important to determine limb length discrepancy

Establish limb length discrepancy

Steps

- On AP pelvis, draw horizontal line connecting the teardrops
  - ensure the line extends beyond the medial femoral cortices bilaterally
- Mark the top (proximal-most point) of both lesser trochanters on the AP pelvis radiograph
- Measure the distance between the teardrop line and the line drawn at the most proximal aspect of the lesser trochanters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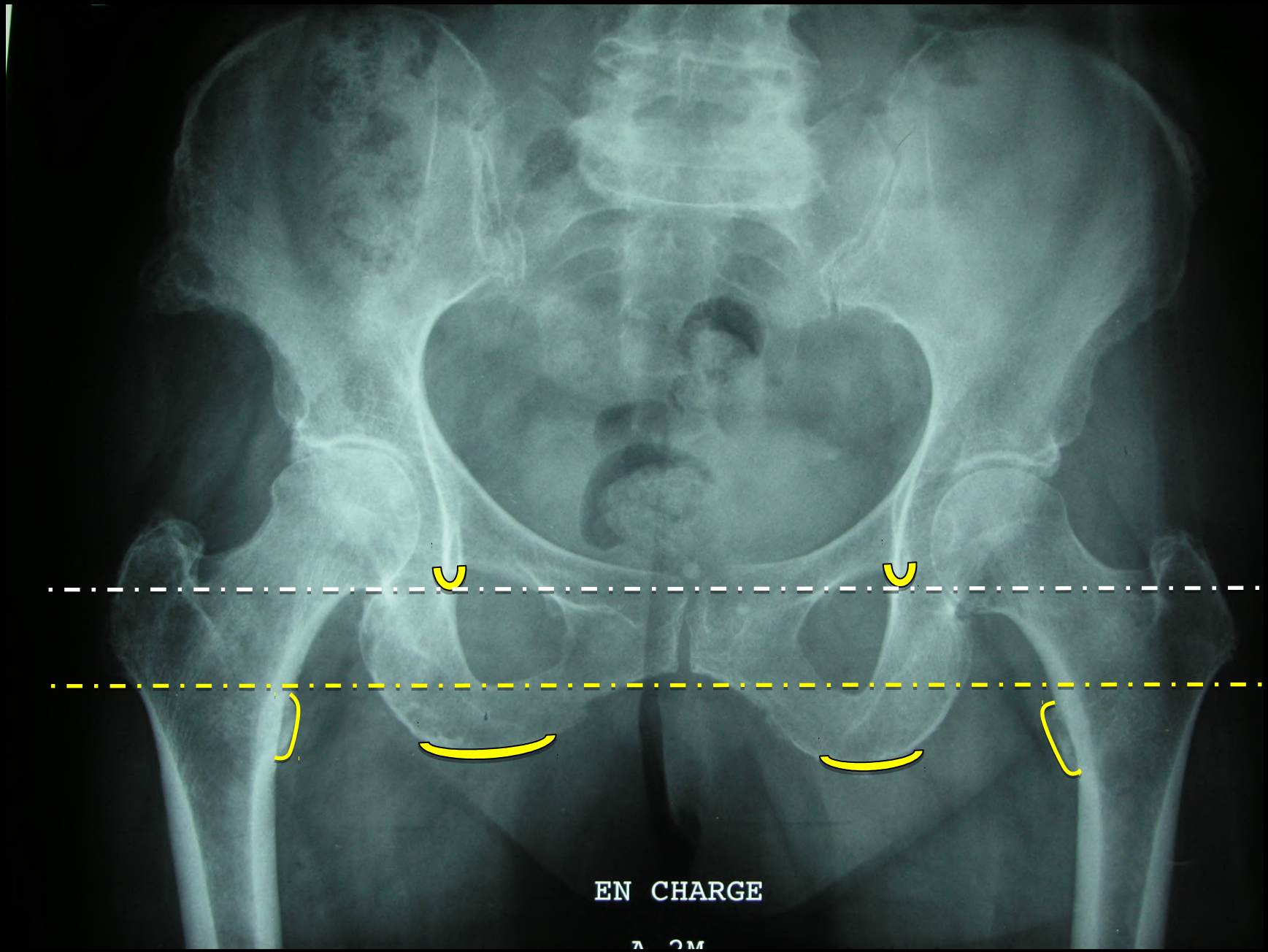
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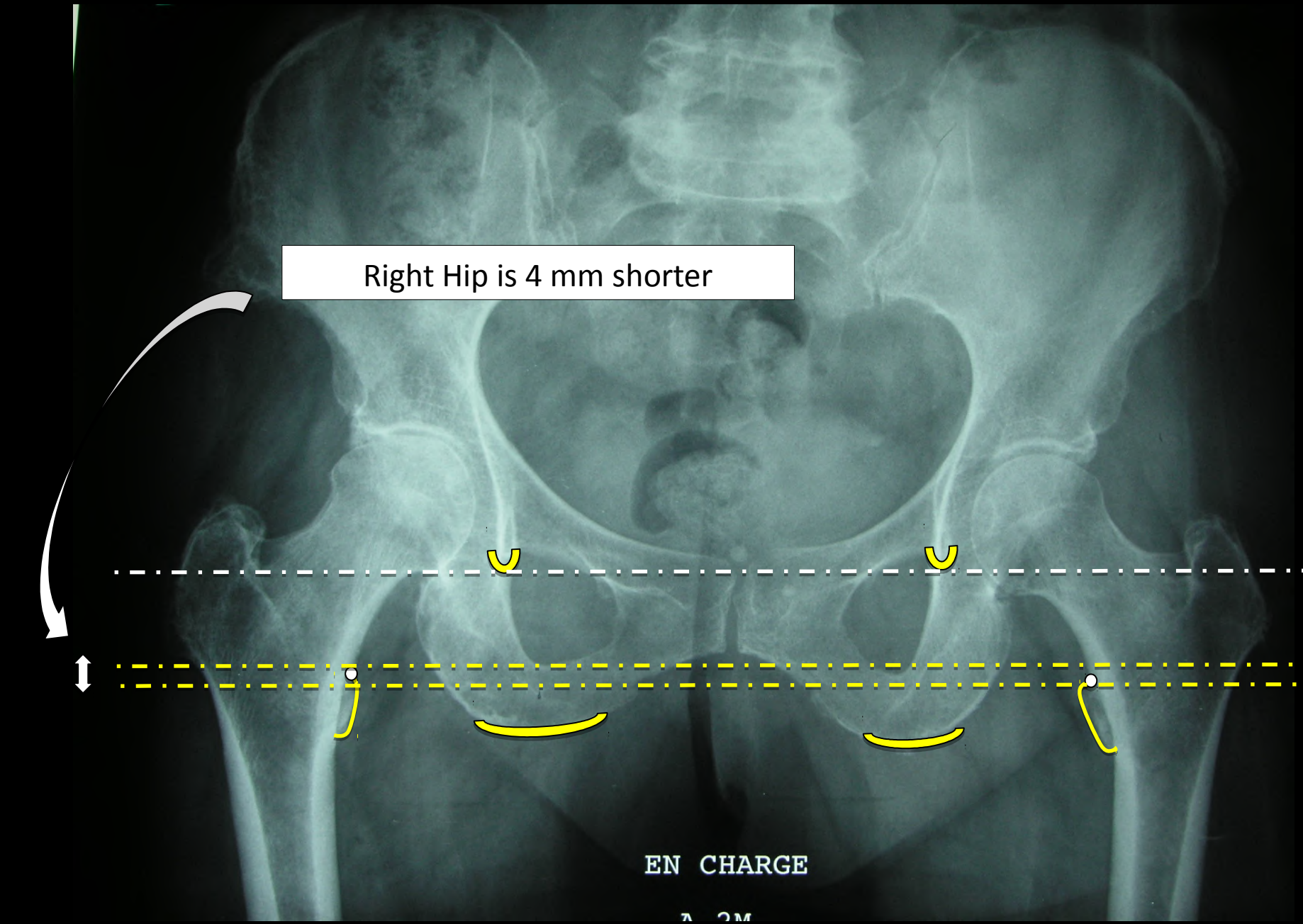
Right Hip is 4 mm shorter
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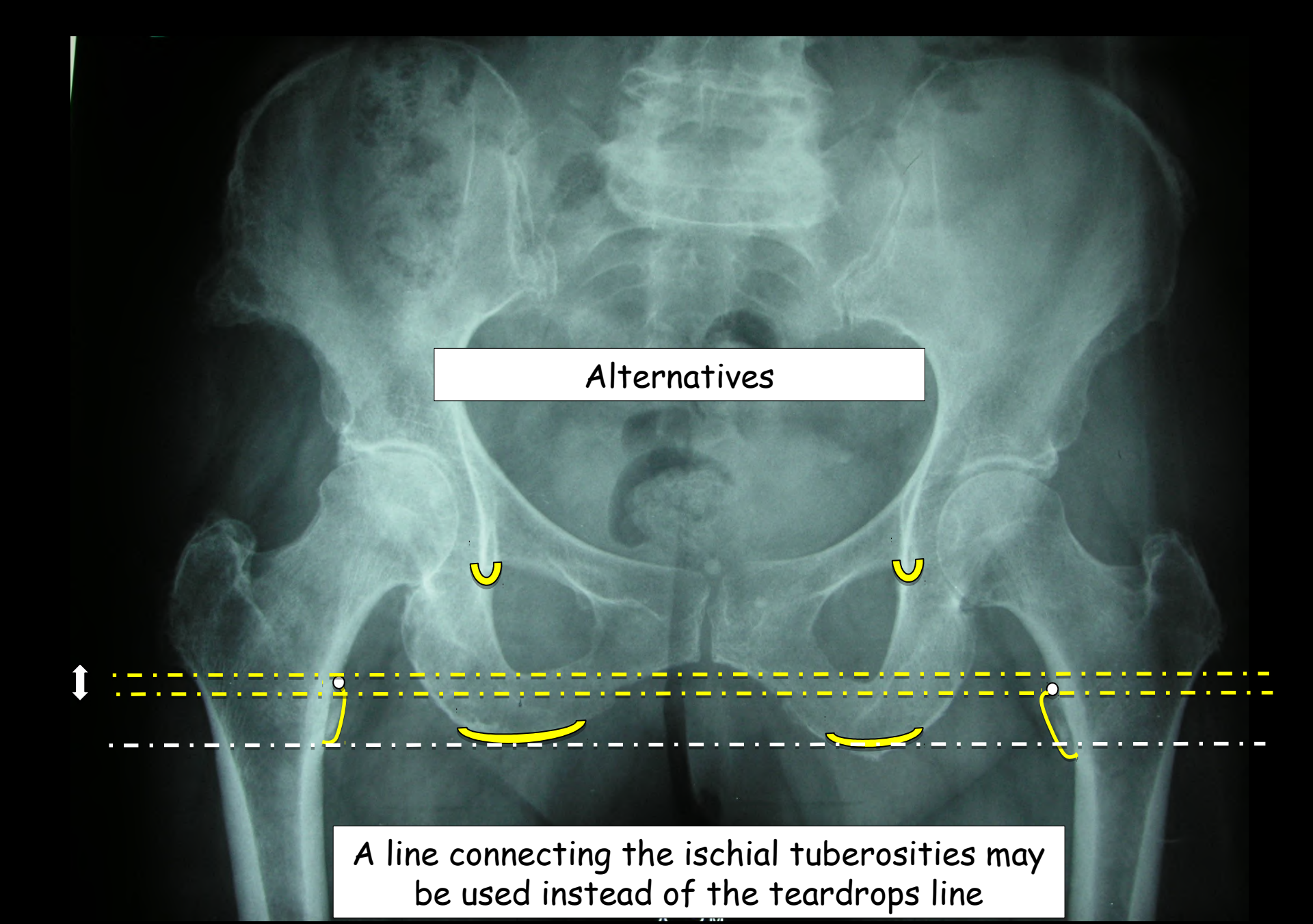
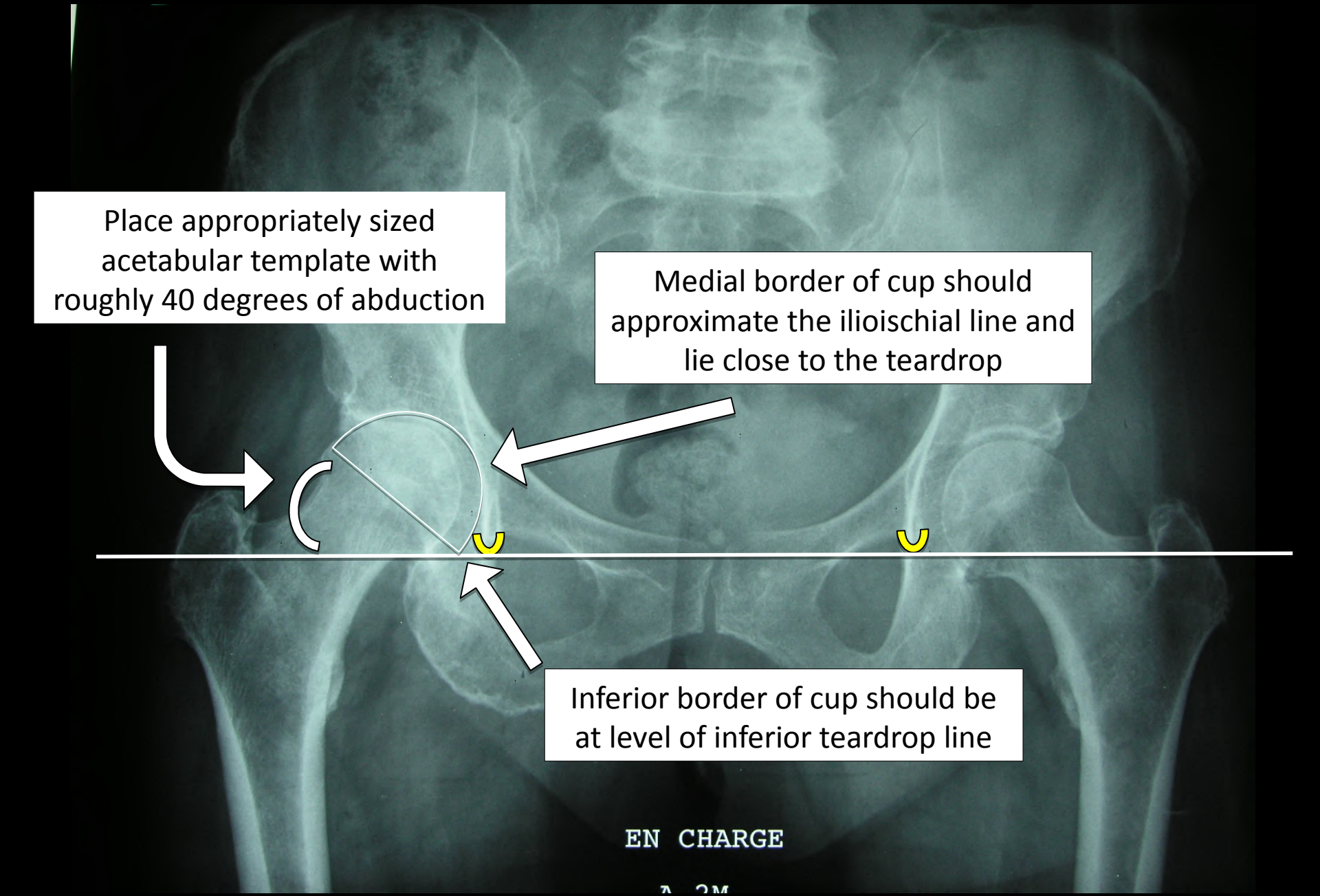

Alternatives
A line connecting the ischial tuberosities may be used instead of the teardrops line

Template the acetabulum


Place appropriately sized acetabular template with roughly 40 degrees of abduction
Medial border of cup should approximate the ilioischial line and lie close to the teardrop
Inferior border of cup should be at level of inferior teardrop line
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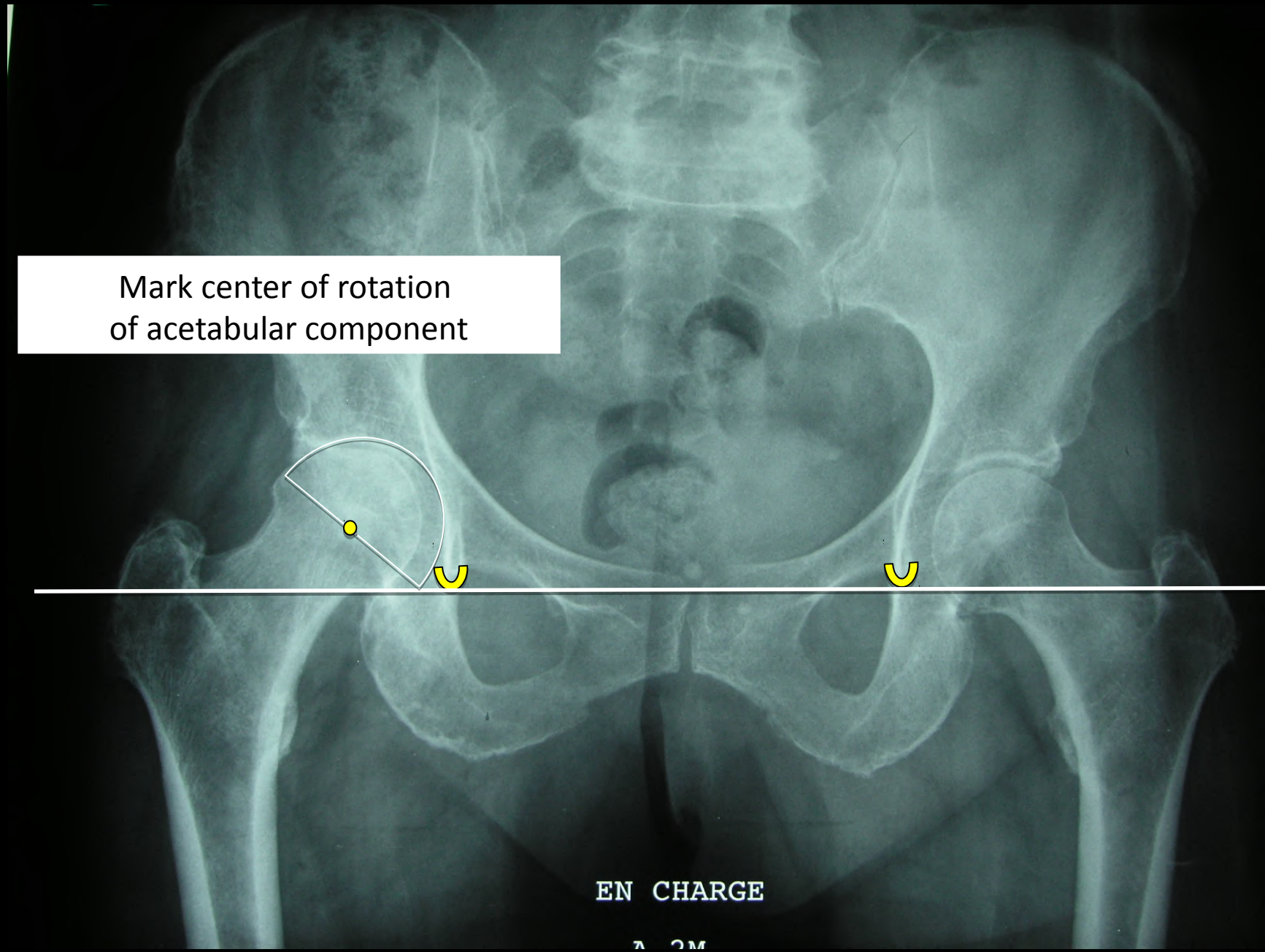
Mark center of rotation
of acetabular component
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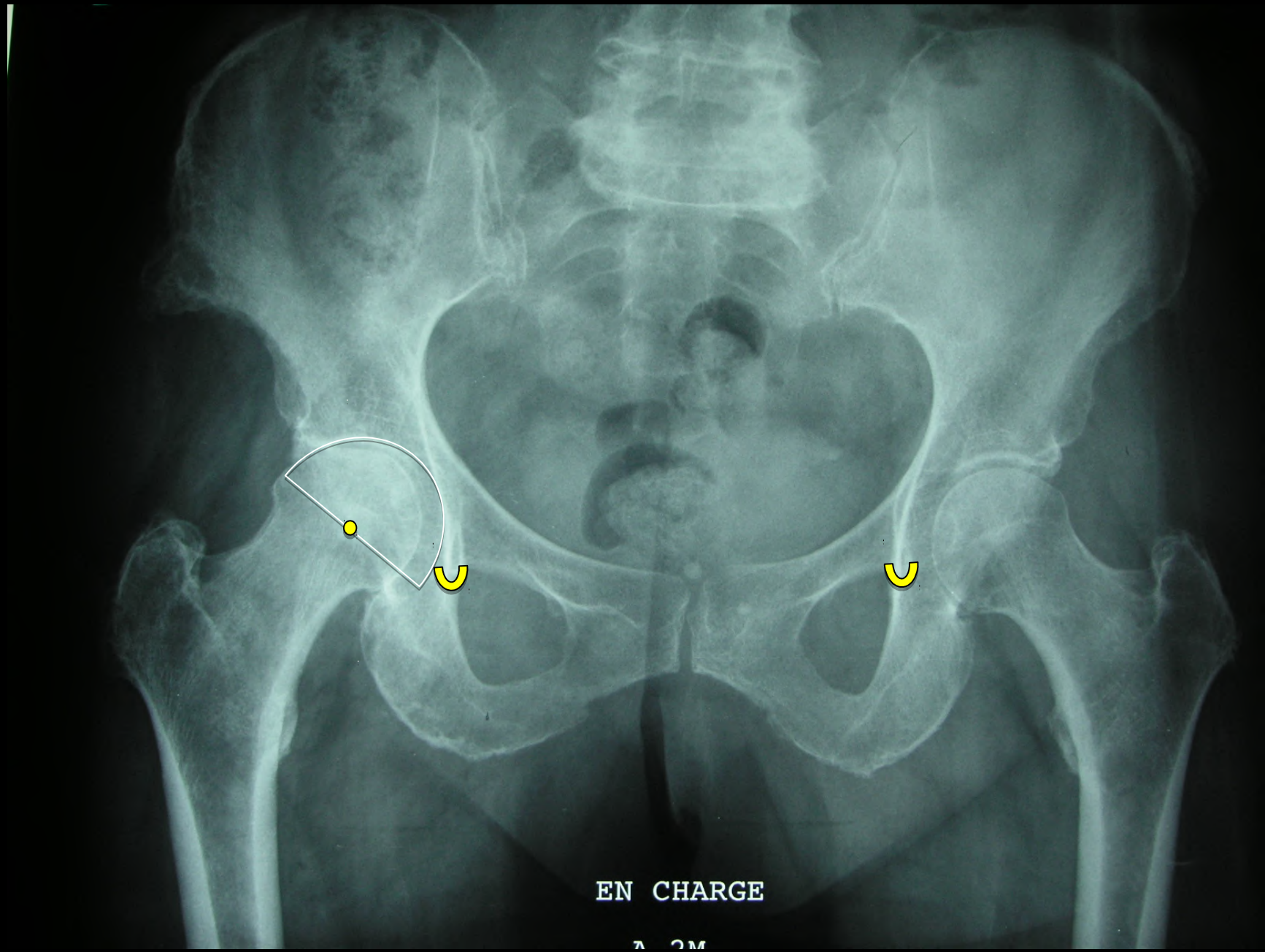
HILOCK
β = 0°
HILOCK Cup
60
45
65

Template the femur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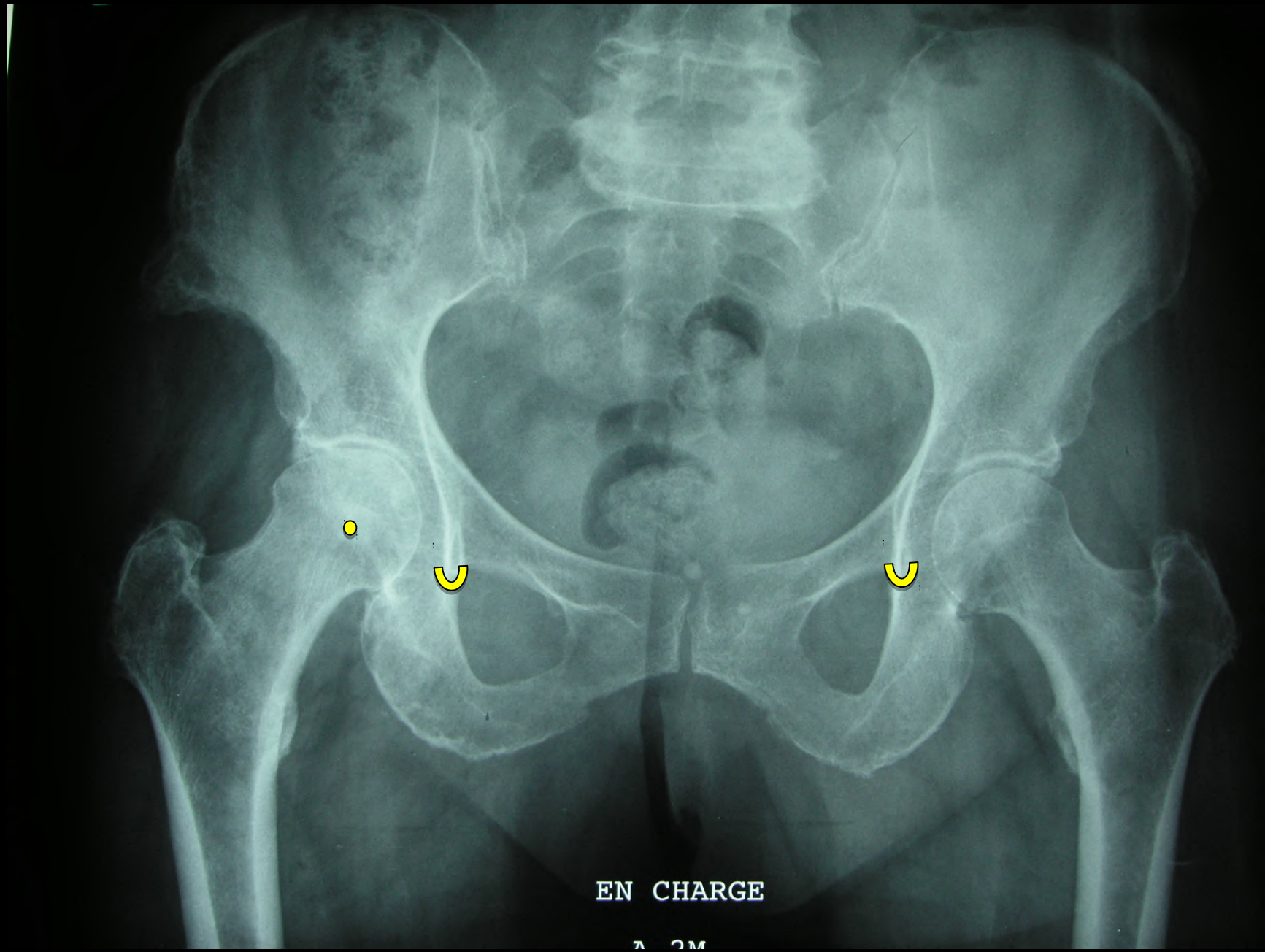
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1. choose an appropriate sized femoral implant to fill medullary canal
2. insertion depth is determined to optimize limb length inequality
    - placing the new femoral head center of rotation superior to the acetabular center of rotation will lengthen the limb
    - placing the new femoral head center of rotation inferior to the acetabular center of rotation will shorten the limb

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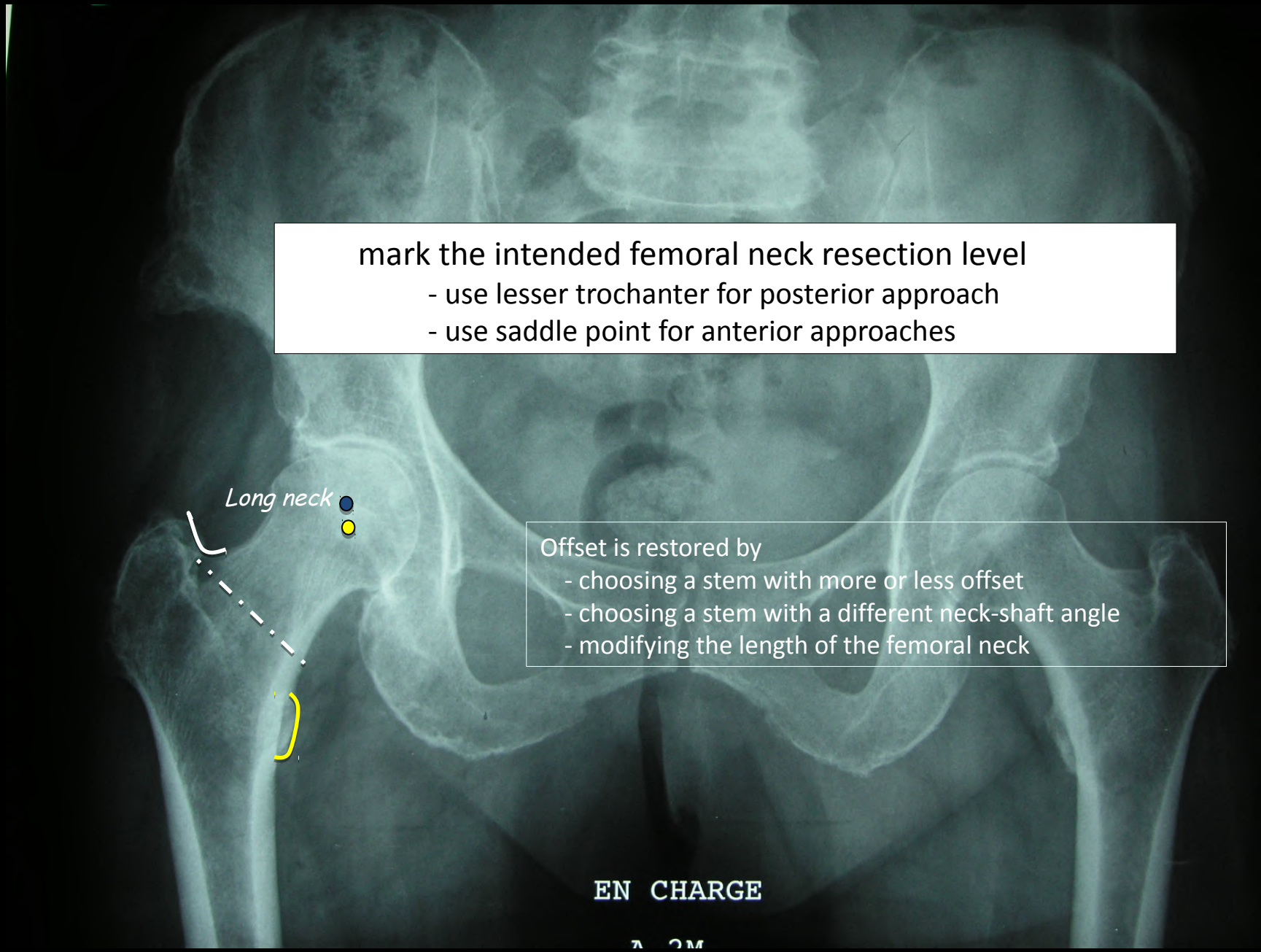
mark the intended femoral neck resection level
- use lesser trochanter for posterior approach
- use saddle point for anterior approaches
Long neck
Offset is restored by
- choosing a stem with more or less offset
- choosing a stem with a different neck-shaft angle
- modifying the length of the femoral neck
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Thank You

sebastien.lustig@gmail.com