

# Clinical cases

Marin HALUT (1,2), Charbel MOURAD (1,2), Bruno VANDE BERG(2)

*Art at the service of radiology learning : 3D medical displays as a tool for better understanding of radiographic hip projections*

# Case #1: 75 yo woman with left hip pain



# Question: What is your diagnosis?



**Question: What is your diagnosis?**

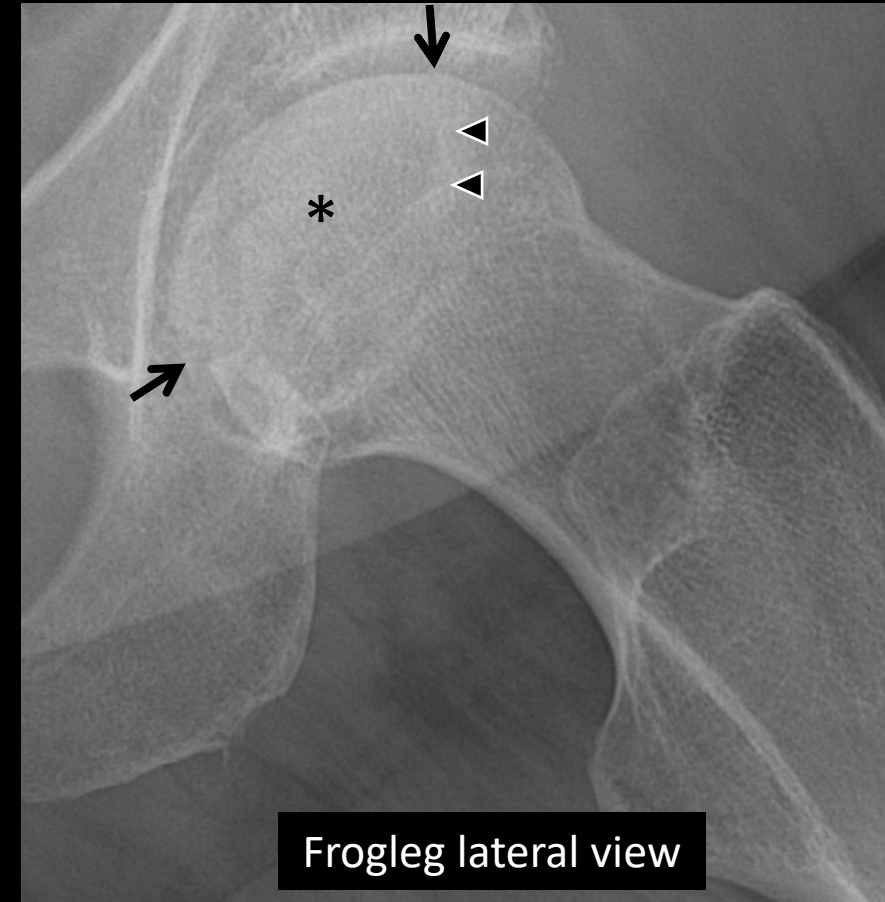
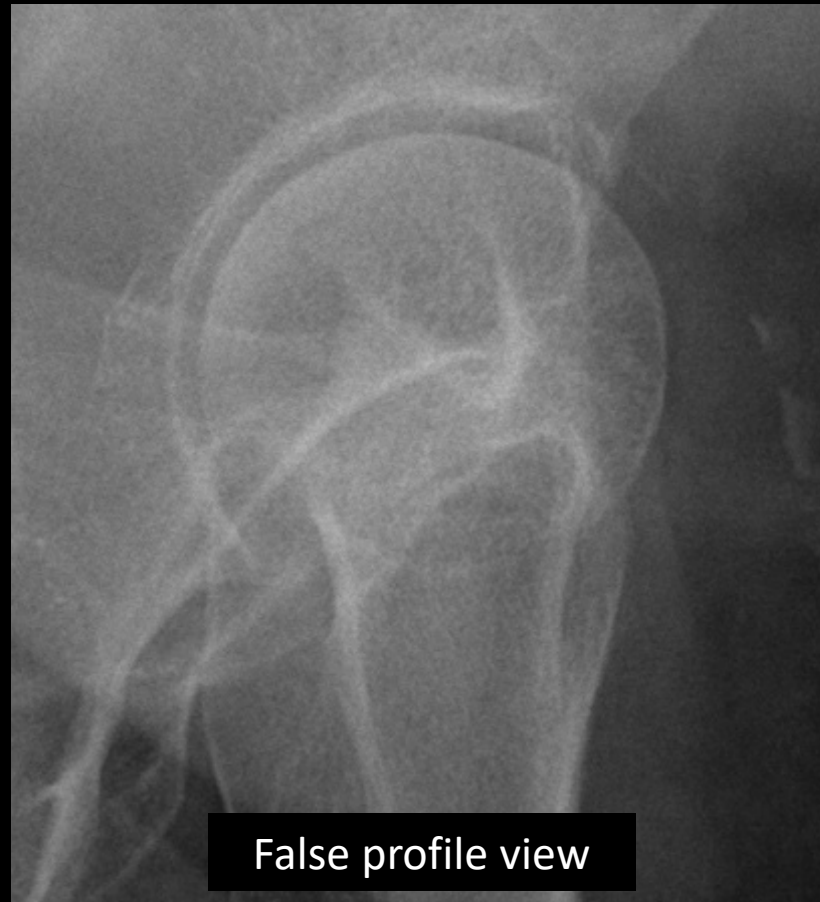


**Answer: Osteonecrosis of the femoral head**

# Question: Which lateral radiograph best depicts the lesion?



# Question: Which lateral radiograph best depicts the lesion?







The frogleg lateral view depicts the lesion better  
Bone changes are not visible on false profile view

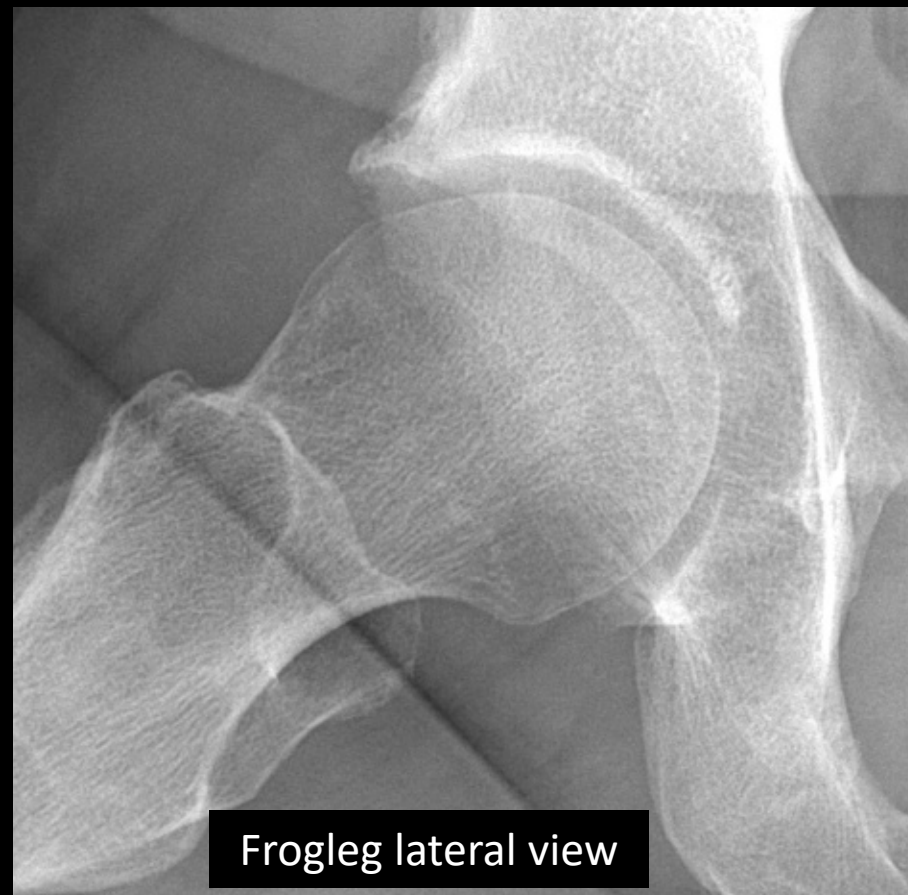
- Altered density of femoral head (\*) surrounded by a thin sclerotic line (arrowheads)
- Early epiphyseal collapse (arrows)

# Message#1: Lesions of the femoral head

- Are more conspicuous on the frogleg lateral view
- May be overlooked on the off-lateral view

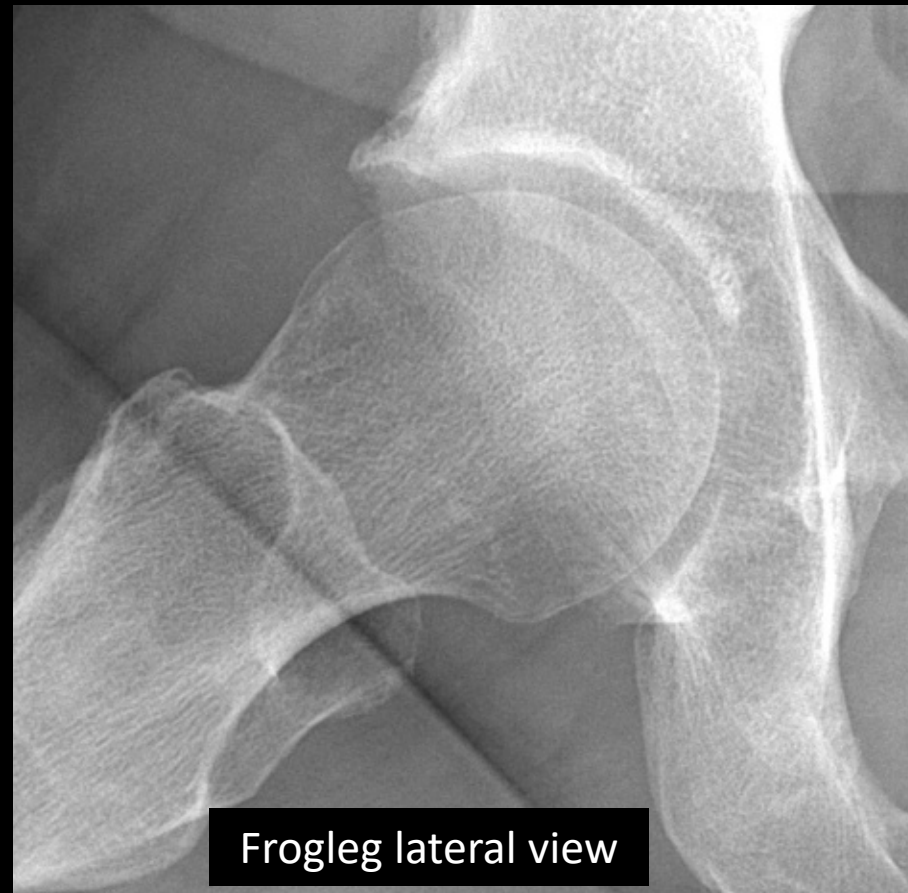
	Frogleg	False profile
<b>Osteoarthritis Dysplasia</b>		
<b>Osteonecrosis SIF</b>		

## Case #2: 51 yo woman with right hip pain

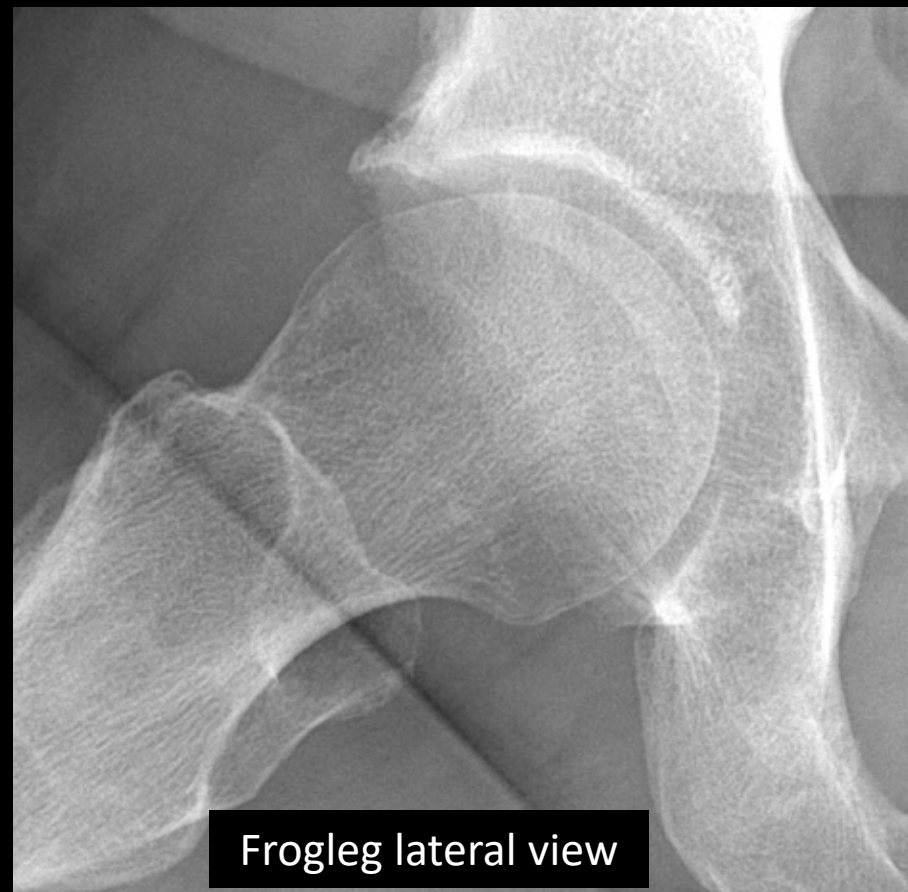




**Question: What is your diagnosis?**

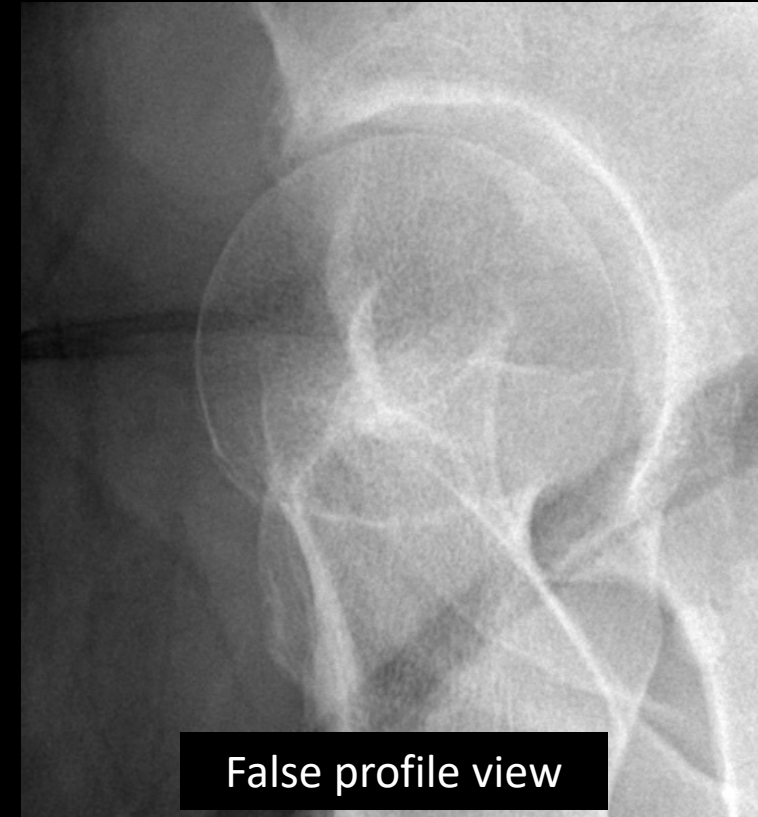


**Question: What is your diagnosis?**

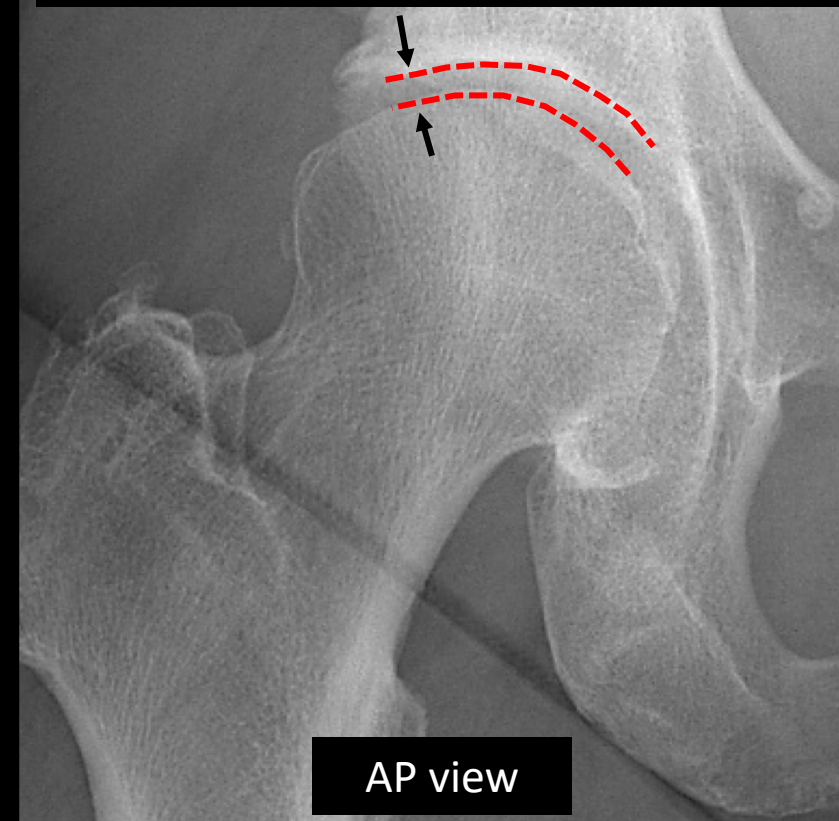


**Answer: Osteoarthritis**

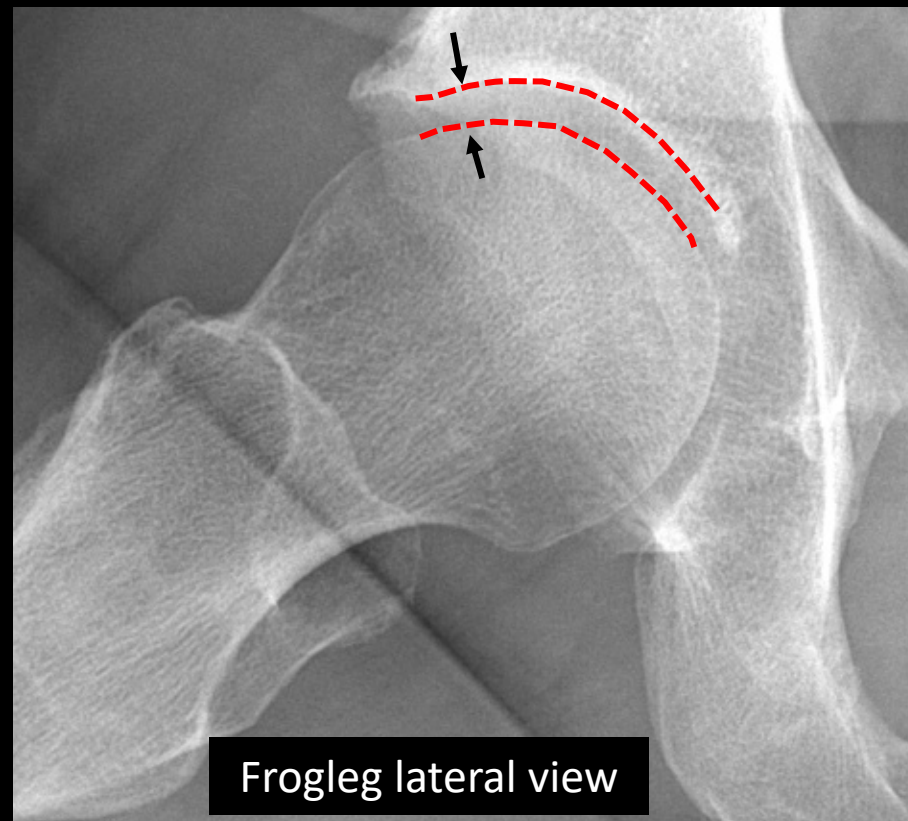
**Question: which lateral radiograph best depicts the area of more advanced cartilage loss?**



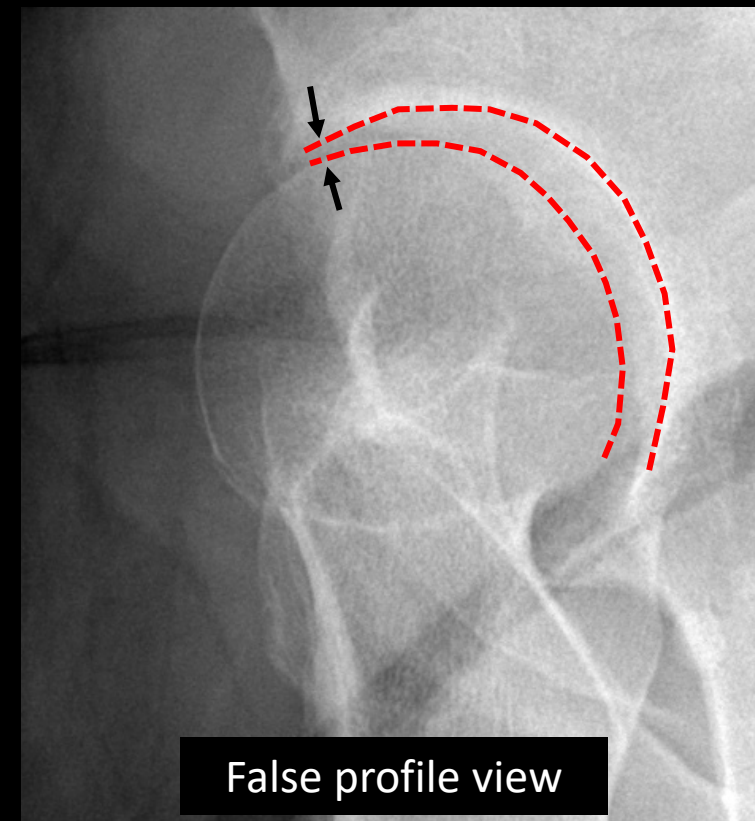
**Question: which lateral radiograph best depicts the area of more advanced cartilage loss?**



**Mild joint space narrowing**

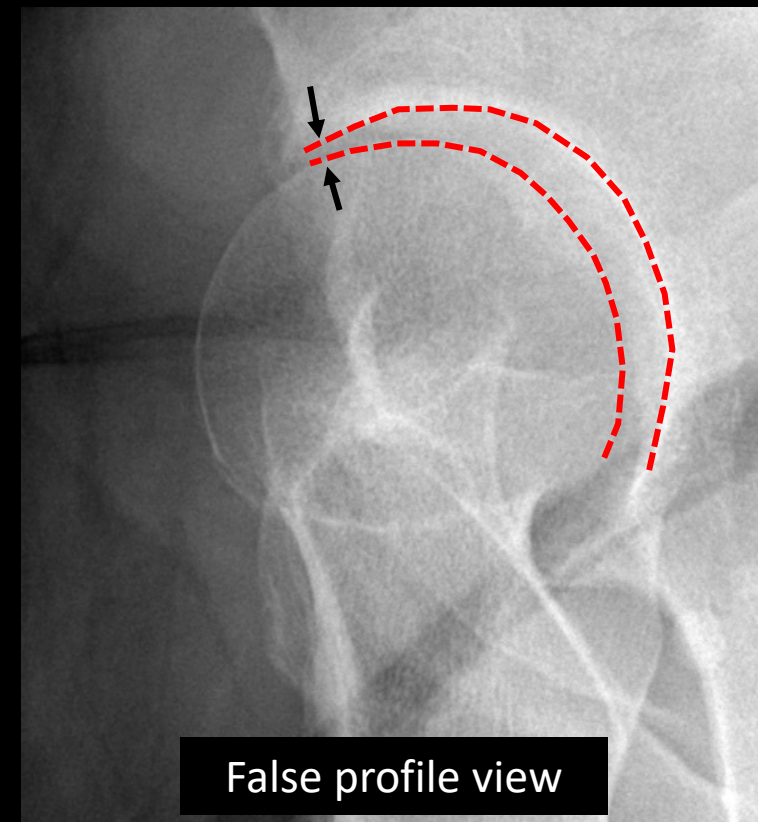
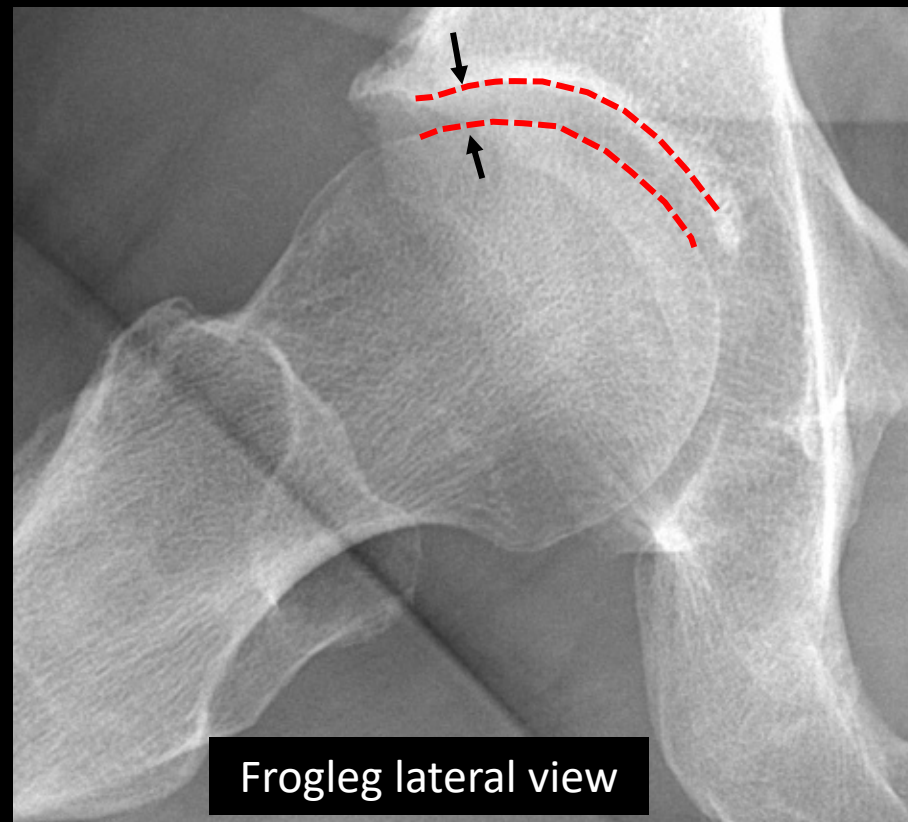
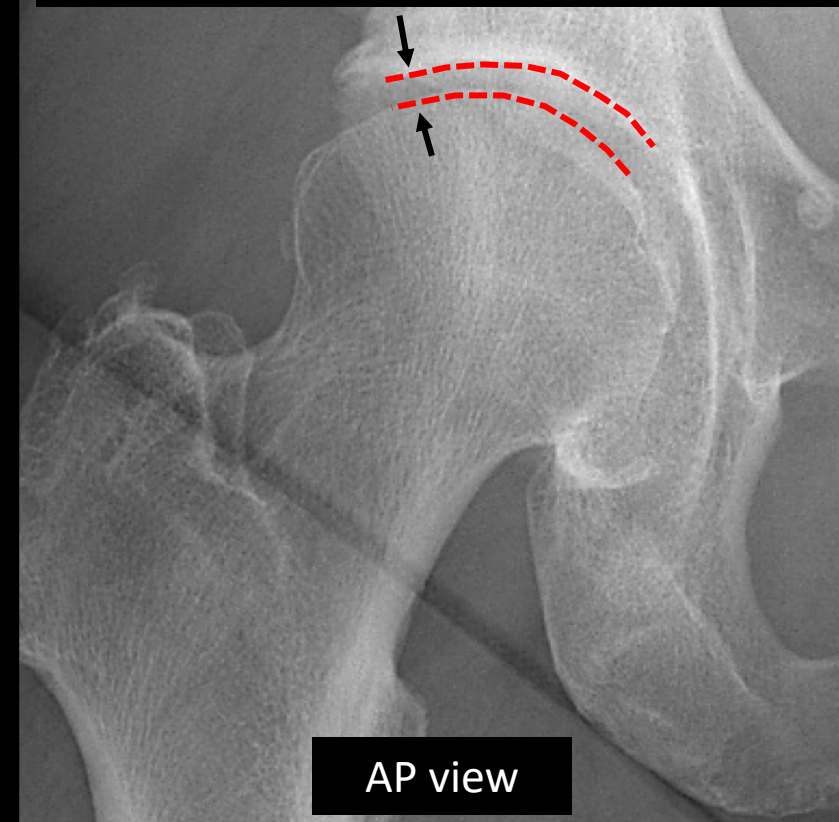


**Mild joint space narrowing**

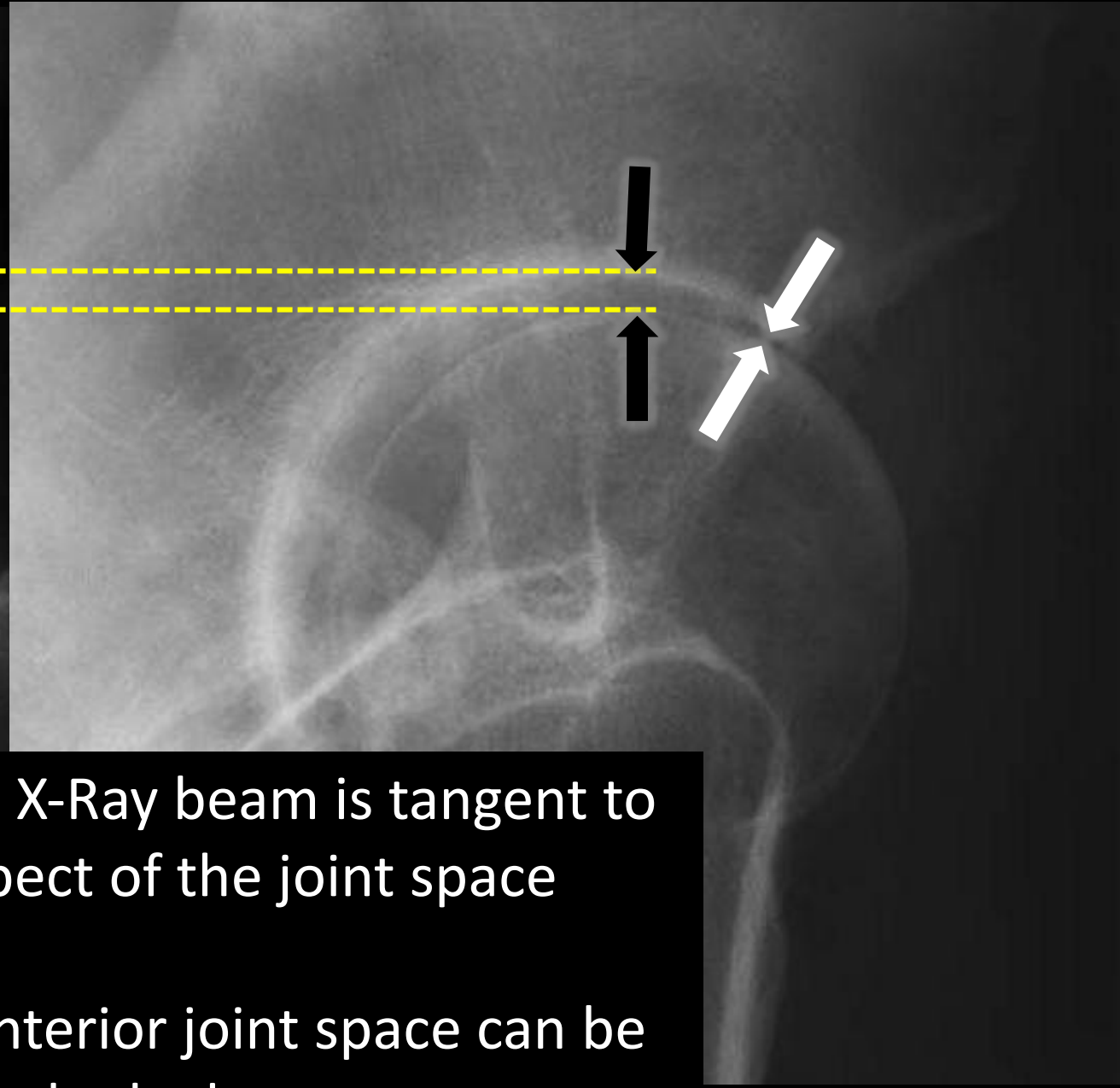
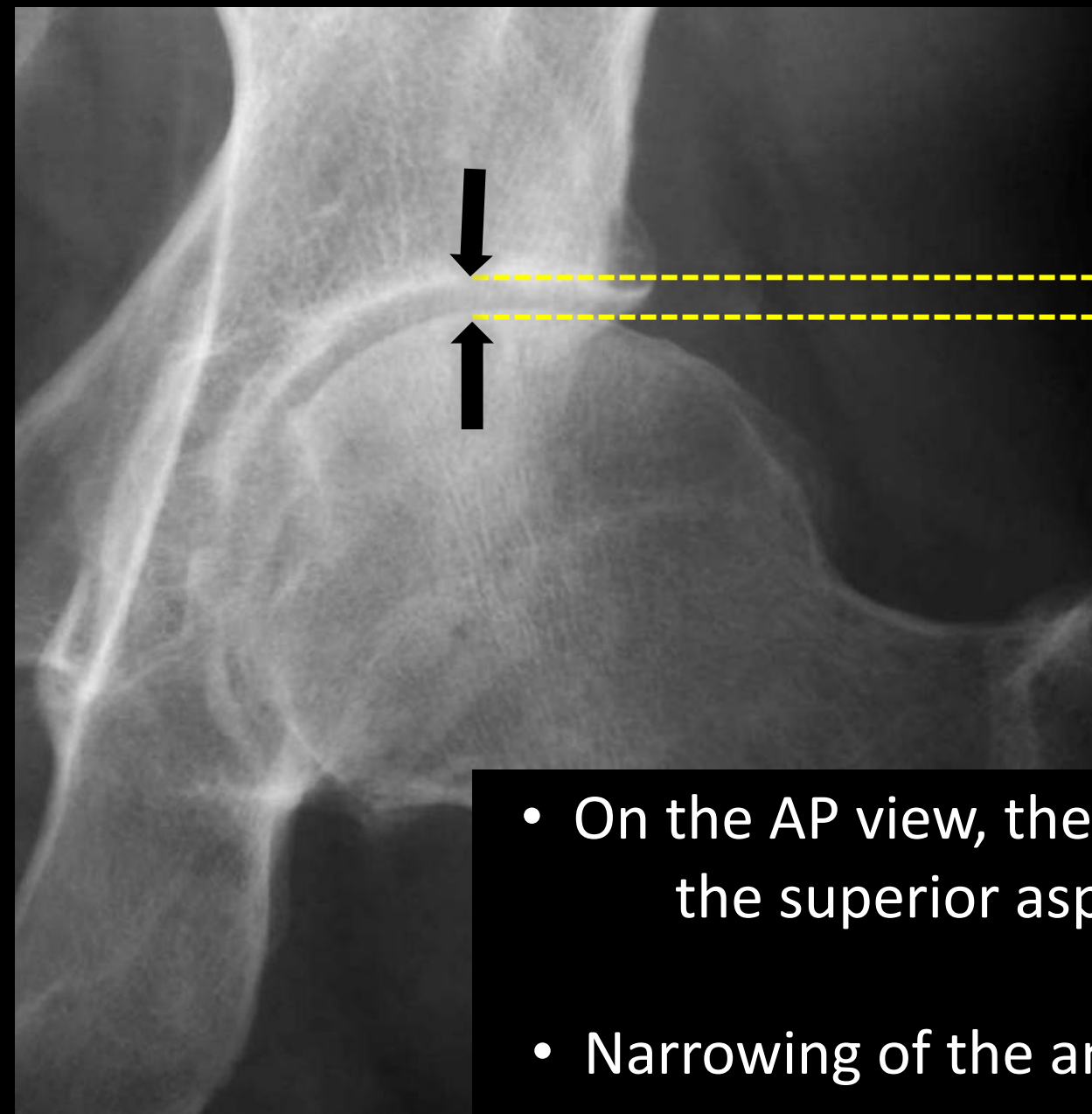


**Severe joint space narrowing**

**Question: which lateral radiograph best depicts the area of more advanced cartilage loss?**







**Answer:  
off-lateral view.**



- On the AP view, the X-Ray beam is tangent to the superior aspect of the joint space
- Narrowing of the anterior joint space can be overlooked

## Message#2:

- The off-lateral view has an added value for the evaluation of the joint space
- Narrowing of the anterior joint/posterior space can be overlooked on AP and frogleg radiographs

	Frogleg	False profile
<b>Osteoarthritis Dysplasia</b>		
<b>Osteonecrosis SIF</b>		

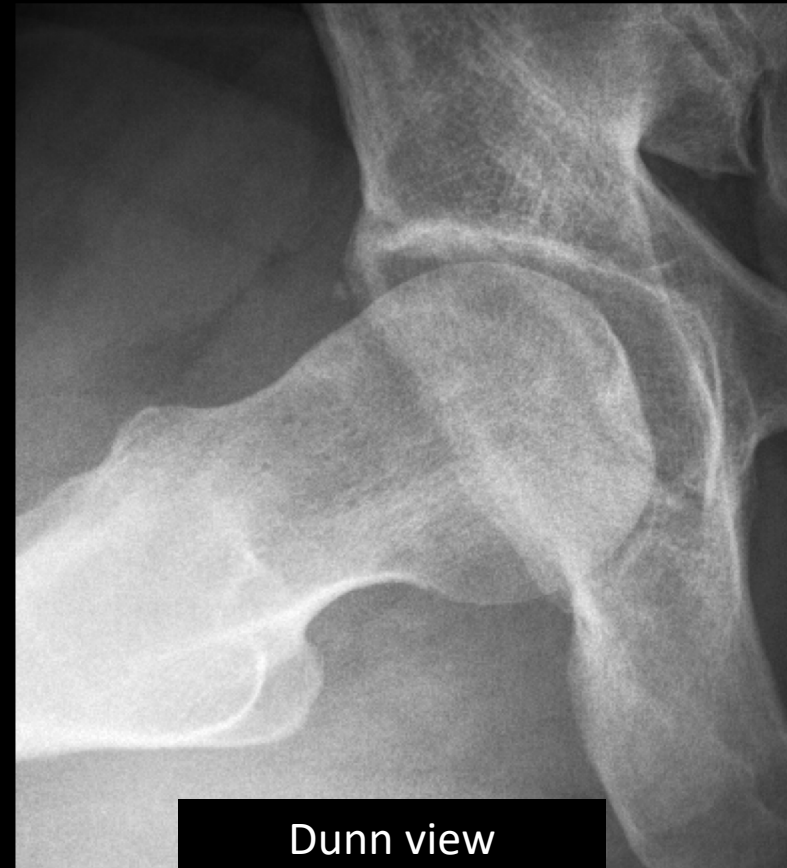
## Case #3: 33 yo man with right hip pain



Courtesy of Patrick Omoumi, MD PhD.  
Lausanne, Switzerland



**Question: What's your diagnosis?**

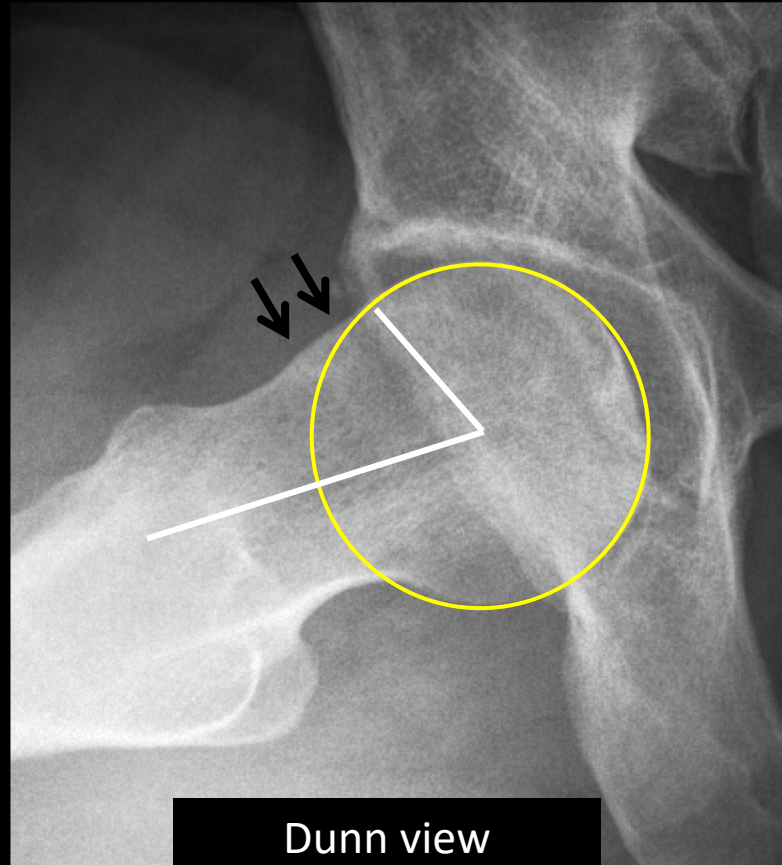


**Question: What's your diagnosis?**



**Answer: CAM type femoro-acetabular impingement**






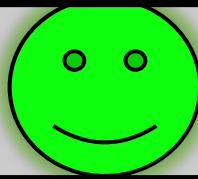
**On which lateral radiograph the femoral head-neck junction is better evaluated?**



**The Dunn view better depicts the anterior femoral head-neck junction (arrows).**

## Message#3:

- The Dunn has an added value to evaluate the head-neck junction in young patients with a clinical diagnosis of femoro-acetabular impingement

	Frogleg	Dunn
<b>Osteoarthritis Dysplasia</b>		
<b>Osteonecrosis SIF</b>		
<b>FAI</b>		

# Take home message

- The frogleg lateral view best displays the anterior aspect of the femoral head
- The false profile view best displays the joint space
- The Dunn view best displays the femoral head-neck junction

