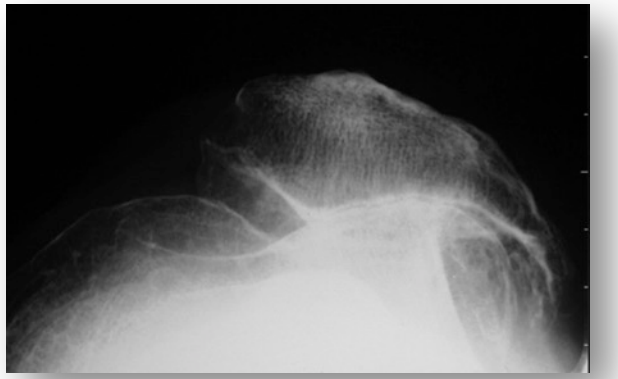
CENTRE ORTHOPÉDIQUE SANTY
FIFA medical centre of excellence

PATELLOFEMORAL OSTEOARTHRITIS Classification

Jean-Marie FAYARD
Centre Orthopédique Santy
Lyon, France



Introduction

- Literature more concerned by FTOA than PFOA

- <u>Prevalence:</u>

- 9% in patients > 40 years

Luring: Orthopade 2011

- 16.4% to 23.9% in symptomatic knees

Lankhorst Osteoarthritis: Cart 2016

Peat: Arthritis Res Ther 2012

- There is no direct correlation between the cartilage lesions and clinical symptoms

Dejour H JLG 1987

Population: Patients-based risk factors

- ♀ gender
- Age > 40 year old
- High BMI

Peat: Arthritis Res Ther 2012

- ♀: 72%
- Mean age: 58 years old
- BMI> 30: 67%

Dejour & Allain: SOFCOT 2003

XR analysis

- Defined as isolated IF:

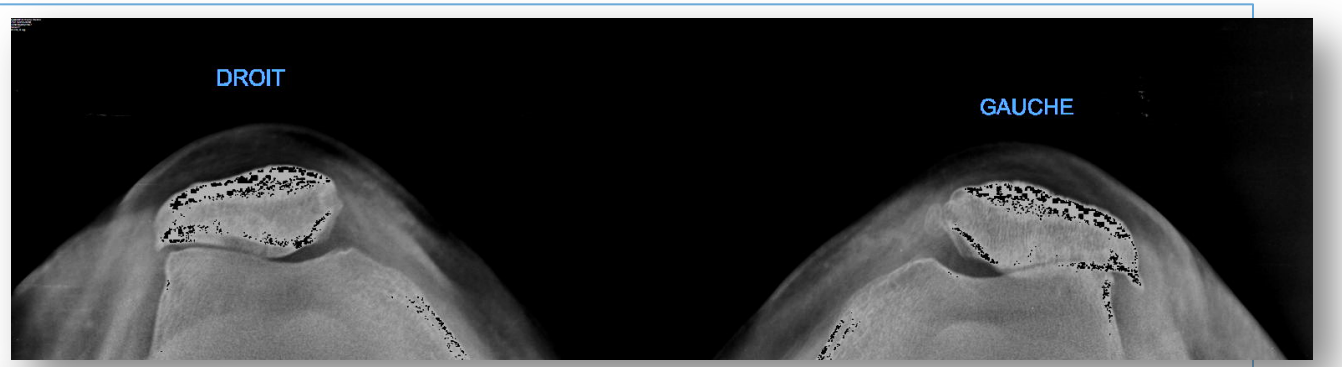
- No FT joint space narrowing in AP views

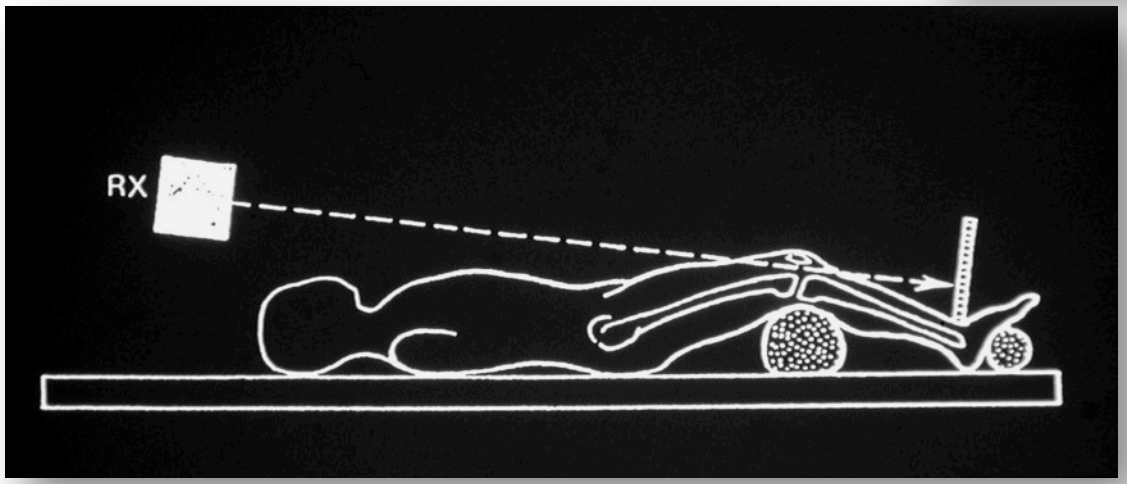
XR analysis

- Strict lateral views

XR analysis

- Supine position
- Strict skyline views at 30°





Davies: Clin Orthop Relat Res 2002

OA classification

- **Kellgren-Lawrence:**

- Grade 0: Normal

- Grade I: Dubious osteophytes (dubious OA)

- Grade II: Osteophytes, No joint line changes (Minor OA)

- Grade III: Osteophytes, Joint line narrowing (Certain OA)

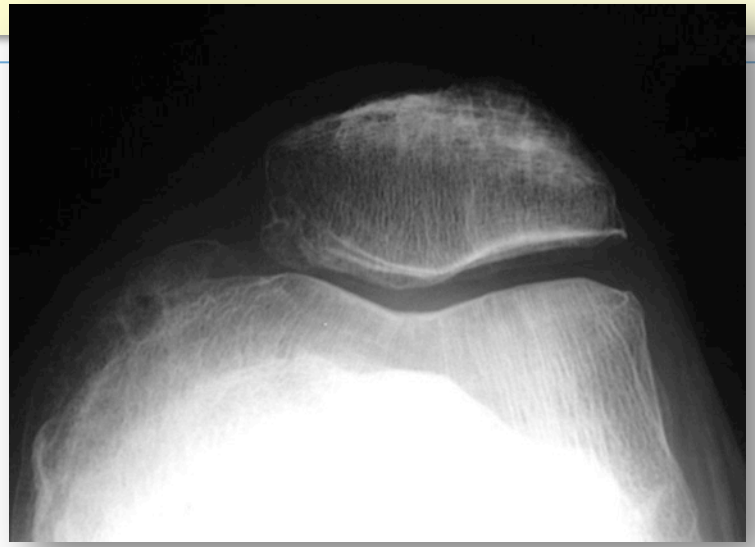
- Grade IV: Sclerosis, Loss of the joint line (Evolved OA)

OA classification

- **Iwano**

- <u>Stage I:</u>

Joint space remodeling



Iwano: Clin Orthop 1990

OA classification

- **Iwano**

- <u>Stage I:</u>

Joint space remodeling

- <u>Stage II:</u>

Joint space narrowing > 3mm

Iwano: Clin Orthop 1990

OA classification

- **Iwano**

- <u>Stage I:</u>

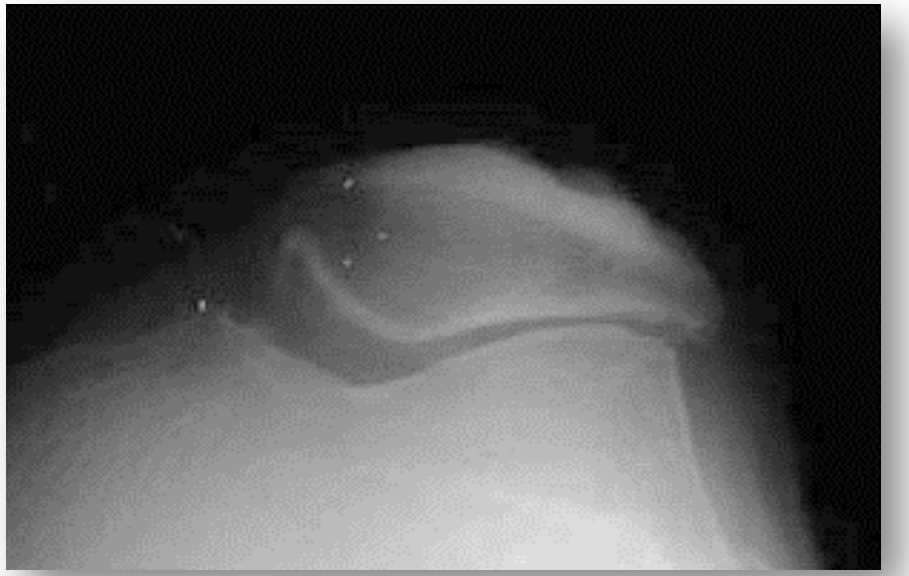
Joint space remodeling

- <u>Stage II:</u>

Joint space narrowing > 3mm

- <u>Stage III:</u>

Joint space narrowing < 3mm



Iwano: Clin Orthop 1990

OA classification

- **Iwano**

- <u>Stage I:</u>

Joint space remodeling

- <u>Stage II:</u>

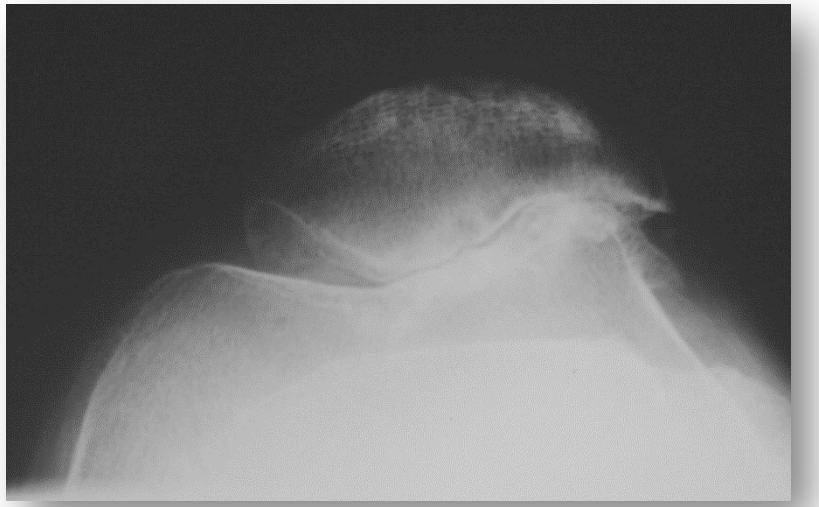
Joint space narrowing > 3mm

- <u>Stage III:</u>

Joint space narrowing < 3mm

- <u>Stage IV:</u>

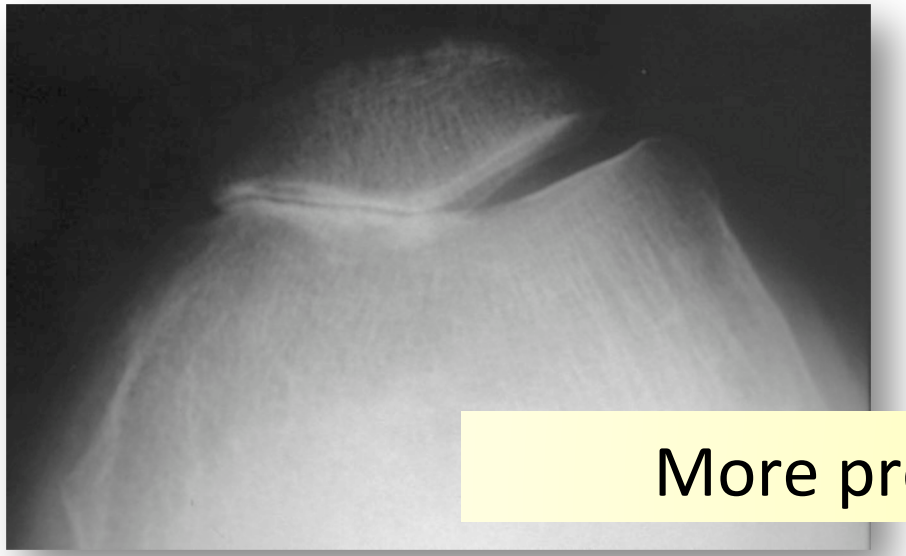
Bone on bone

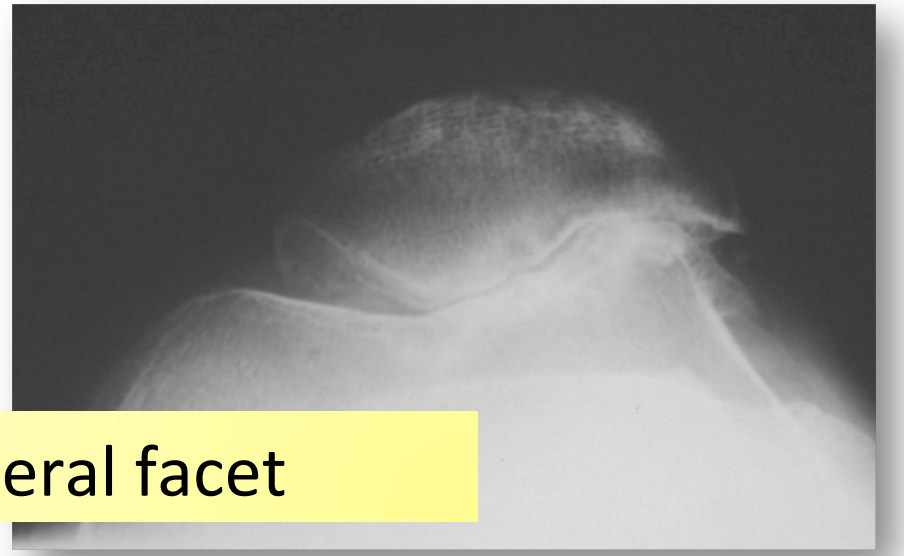


Iwano: Clin Orthop 1990

Localisation

- Medial vs lateral



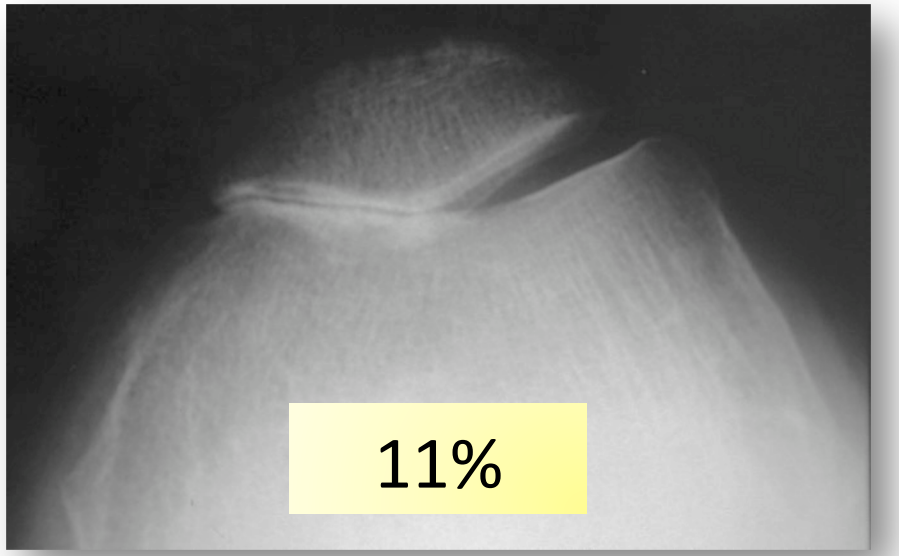


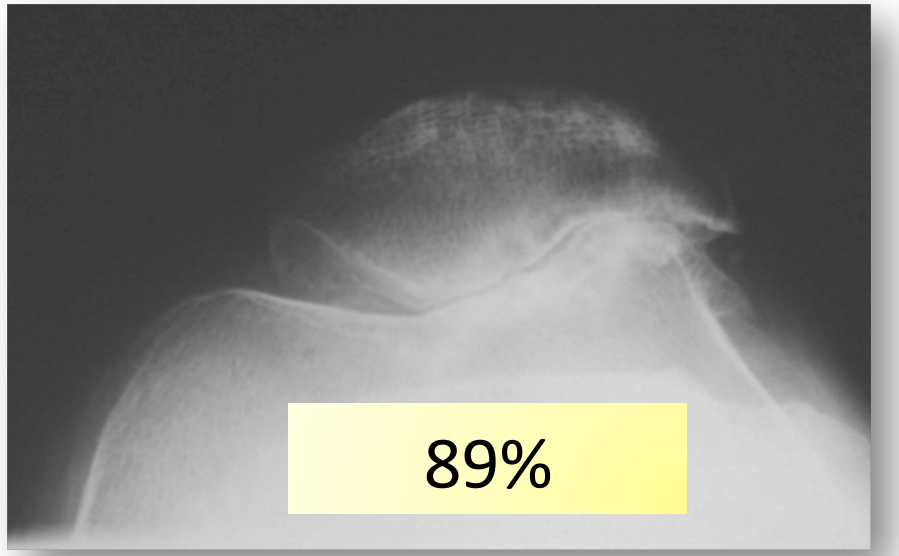
More prevalence lateral facet

Saleh KJ: J Bone Joint Surg Am. 2005

Localisation

- Medial vs lateral



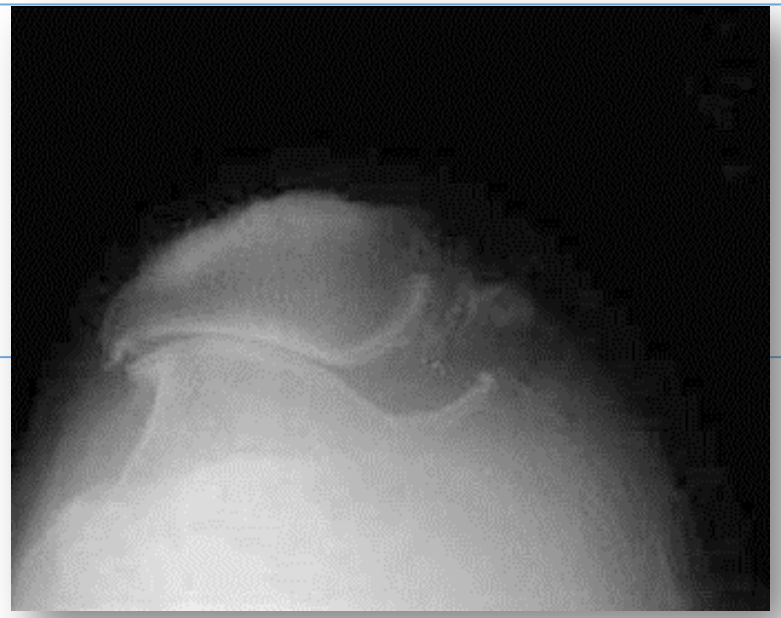


Iwano: Clin Orthop 1990

Etiology

- Idiopathic: 49%

No previous patellofemoral history



Dejour & Allain: SOFCOT 2003

Etiology

- Patellar instability: 33%

Secondary to dislocation

Cartilage lesions

Fractures

Dejour & Allain: SOFCOT 2003

Etiology

- Patellar instability: 33%

-Predisposing factors:

High grade trochlear dysplasia:

Maltracking (horizontal plane)

Dejour & Allain: SOFCOT 2003

Etiology

- Patellar instability: 33%

-Predisposing factors:

High grade trochlear dysplasia:

Impigement (supratrochlear spur)

Dejour & Allain: SOFCOT 2003

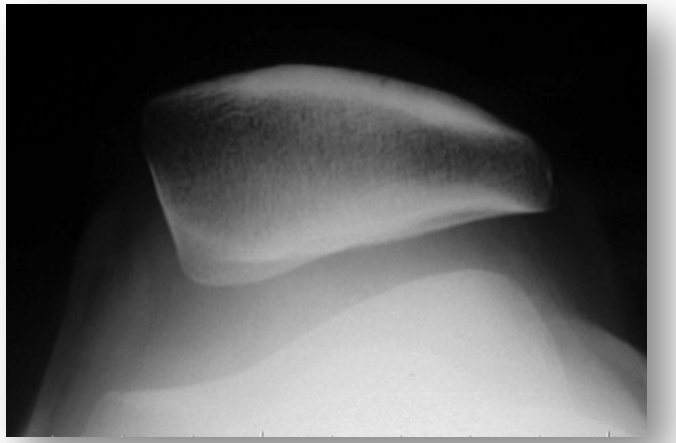
Etiology

- Patellar instability: 33%

-Predisposing factors:

High grade trochlear dysplasia

Patellar dysplasia (Wiberg 3)



Dejour & Allain: SOFCOT 2003

Etiology

- Patellar instability: 33%

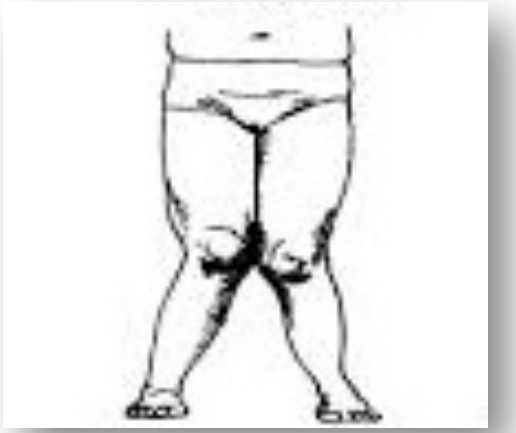
-Predisposing factors:

High grade trochlear dysplasia

Patellar dysplasia (Wiberg 3)

Q angle

2-4x more lateral PFOA

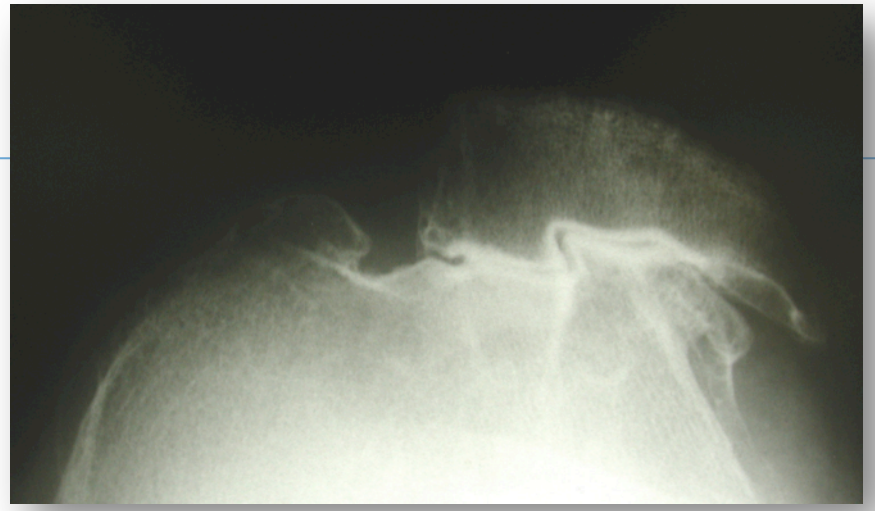


Elahi: Arthritis Rheum 2000

Gross: Ann Rheum Dis 2012

Etiology

- Chondrocalcinosis: 9%



Dejour & Allain: SOFCOT 2003

Etiology

- <u>Post-traumatic: 9%</u>

- **Initial trauma:**

Chondral lesion

Multiple fragments

"Any damage to the articular surfaces causes a loss of pressure within the fluid phase, which subsequently results in higher stresses on the collagen fibers and more vulnerability leading to possible breakdown"

Ateshian: Clin Orthop Relat Res. 2005

Etiology

- Post-traumatic: 9%

- **Treatment:**

Malunion

Stiffness (MUA)

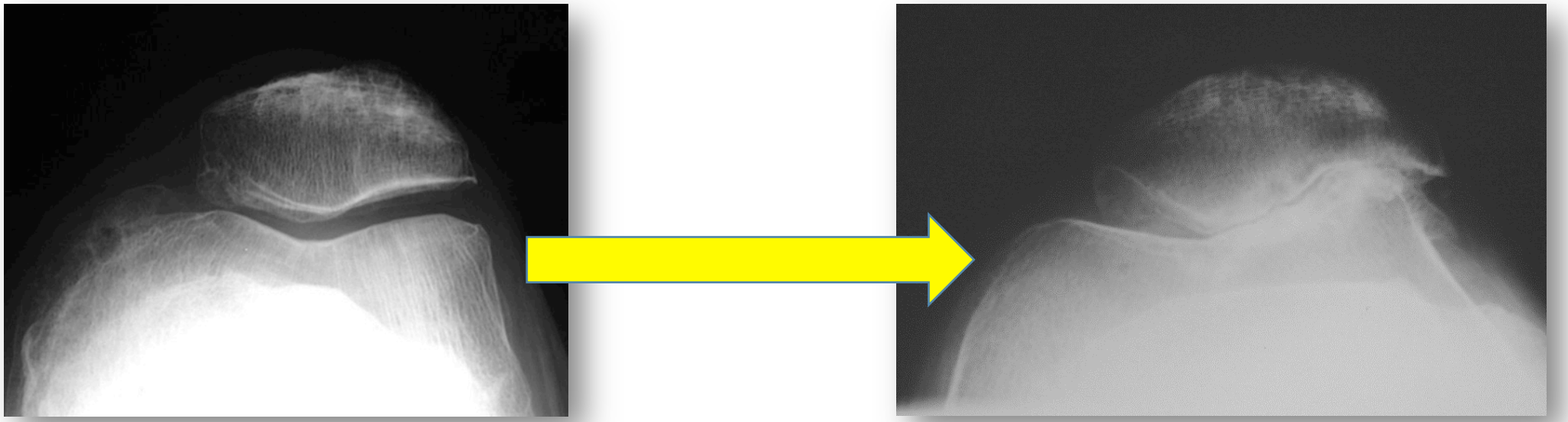
Infection

"Any damage to the articular surfaces causes a loss of pressure within the fluid phase, which subsequently results in higher stresses on the collagen fibers and more vulnerability leading to possible breakdown"

Ateshian: Clin Orthop Relat Res. 2005

Evolution

- Slow evolution on the PF compartment:



18 years

Dejour & Allain: SOFCOT 2003

OA progression

- Evolution to global OA

  Idiopathic 41% vs Instability: 32%

  Dejour & Allain: SOFCOT 2003

- 53% of the patients with PFOA progress to global OA at 5 years FU

  Lankhorst:Osteoarthritis and cartilage 2017

- Patients with isolated PFOA were 2 x more likely to develop global OA compared to patients with isolated FTOA

  Stefanik: Osteoarthritis cartilage 2016

THANK YOU

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