

# SEMEIOLOGIE DE BASE DES ARTHROPATHIES

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Cliniques universitaires  
**SAINT-LUC**  
UCL BRUXELLES

# OBJECTIF

- Savoir différencier deux grands cadres nosologiques:
  - Arthropathies mécaniques
  - Arthropathies inflammatoires
- Par une analyse des lésions élémentaires
- En se basant sur des cas cliniques illustratifs

# ARTHROPATHIE

ARTHROPATHIE

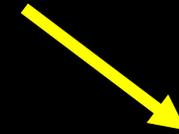


MECANIQUE

ARTHROPATHIE



MECANIQUE



INFLAMMATOIRE

ARTHROPATHIE

MECANIQUE

INFLAMMATOIRE

**ARTHROSE**

ARTHROPATHIE

MECANIQUE

INFLAMMATOIRE

**ARTHROSE**

**ARTHRITE**

# ARTHROPATHIE

MECANIQUE

INFLAMMATOIRE

**ARTHROSE**

**ARTHRITE**

TYPIQUE

ATYPIQUE

- Érosive
- Destructrice rapide

# ARTHROPATHIE

MECANIQUE

INFLAMMATOIRE

**ARTHROSE**

**ARTHRITE**

TYPIQUE

ATYPIQUE

- Érosive
- Destructrice rapide

SEPTIQUE

- germe classique
- mycobactéries

RHUMATISMALE

- PR
- séronégative

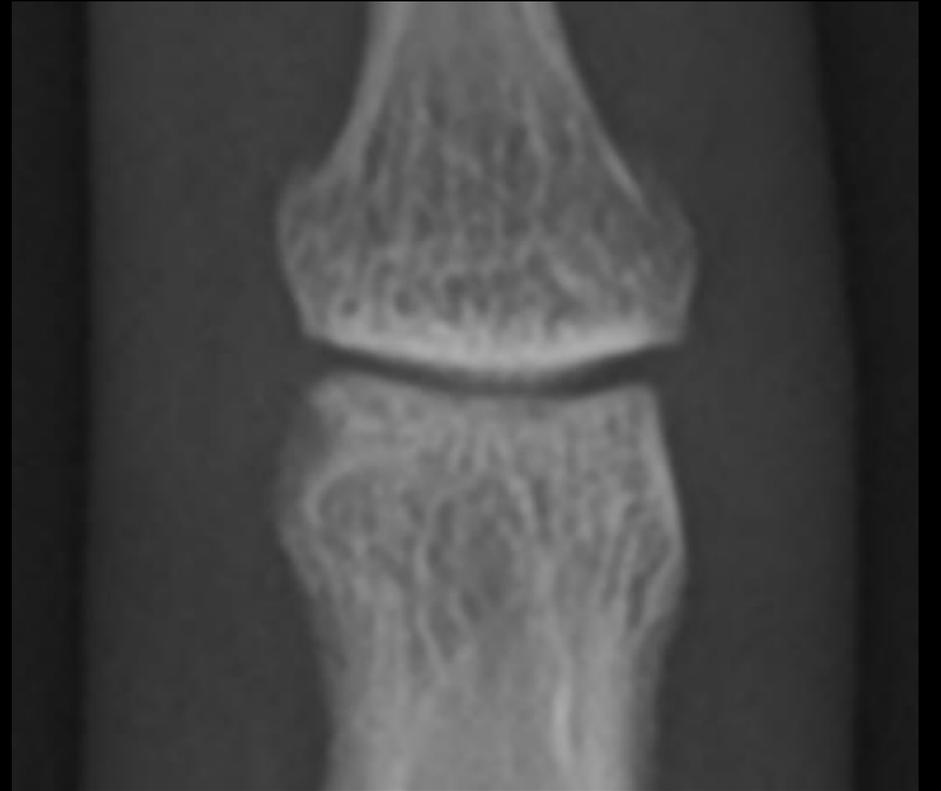
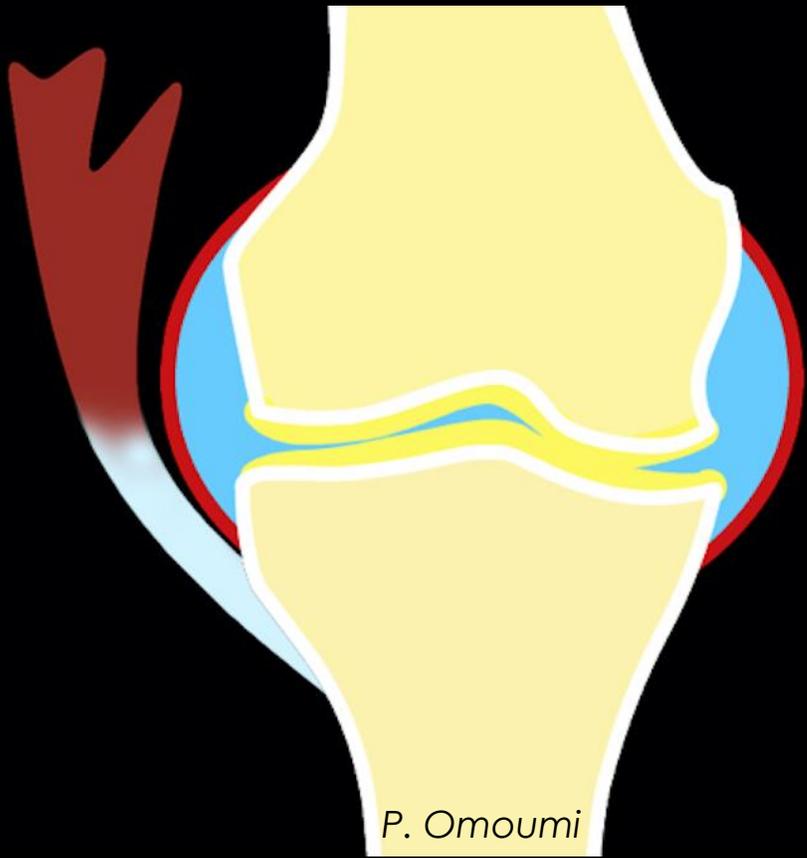
MICROCRISTALLINE

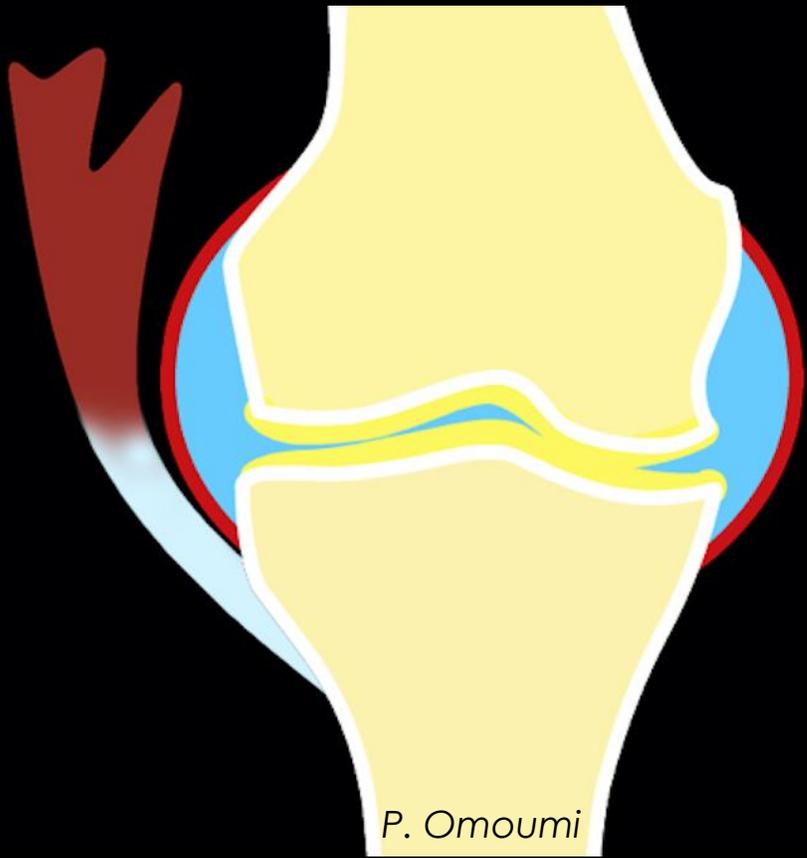
- Goutte
- Chondrocalcinose

**ARTHROSE**

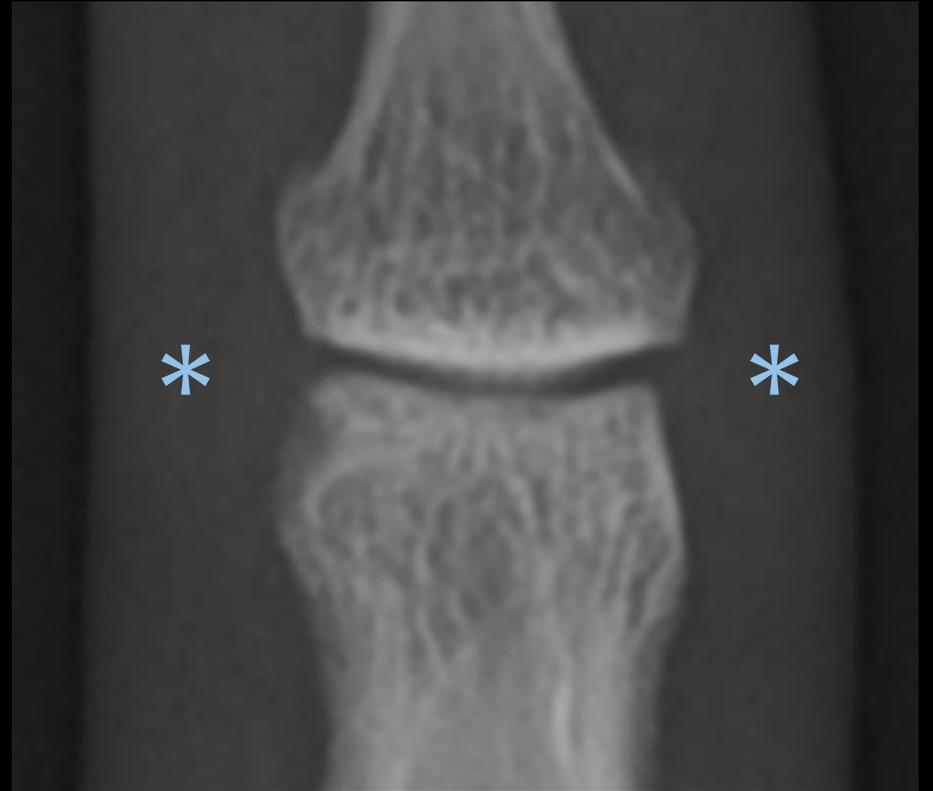
?

**ARTHRITE**

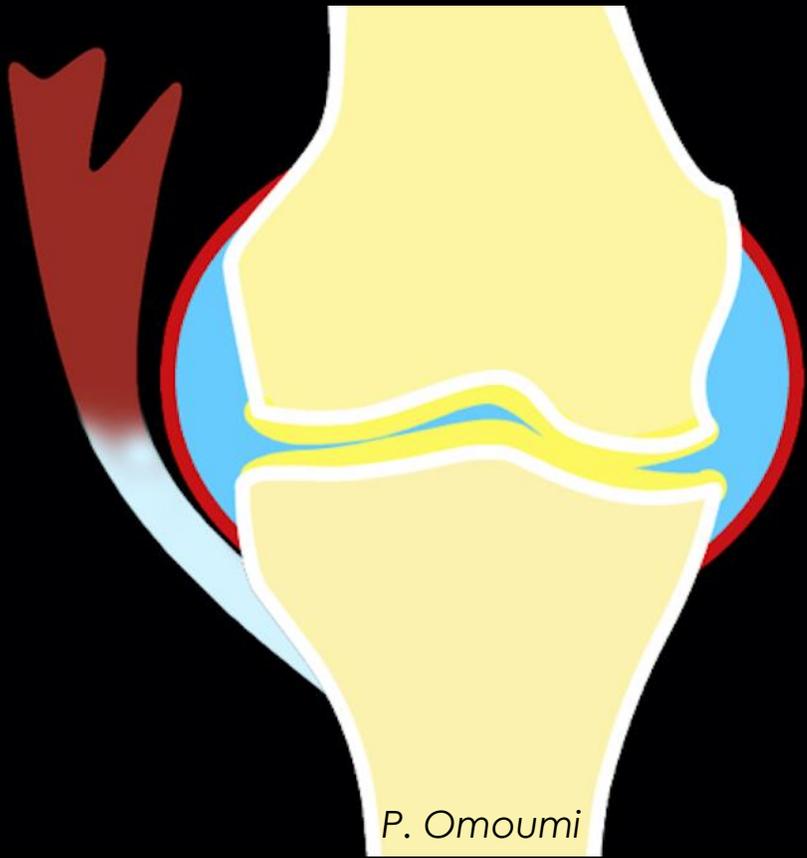




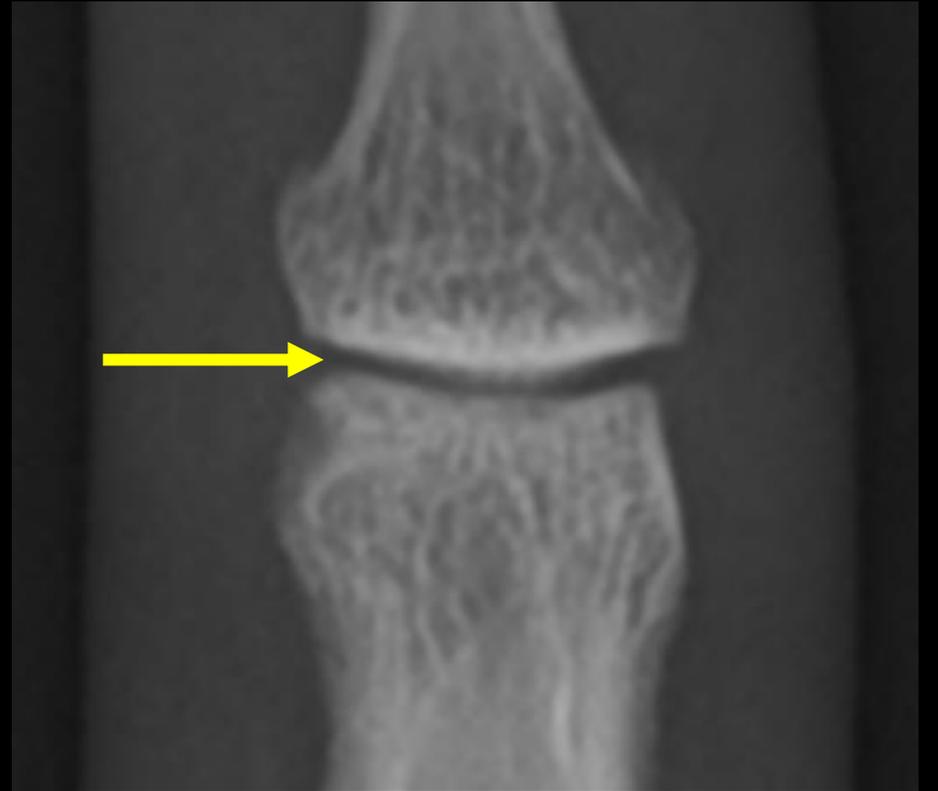
Synoviale (capsule et liquide articulaire,  
gaine tendineuse...)



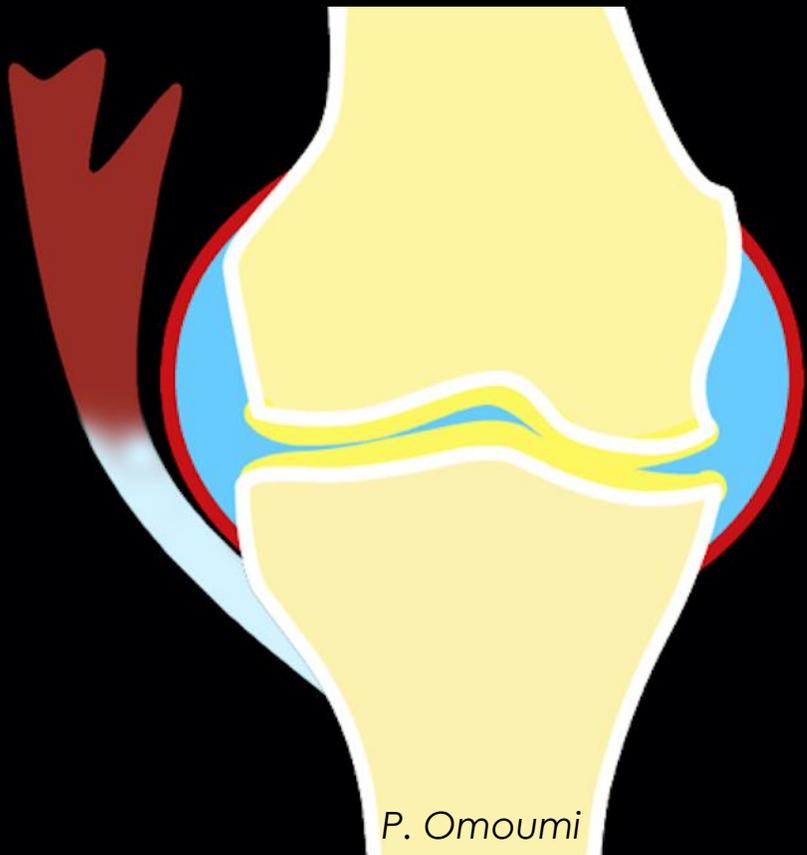
TISSUS MOUS



Synoviale  
Cartilage



TISSUS MOUS  
INTERLIGNE ARTICULAIRE



Synoviale

Cartilage

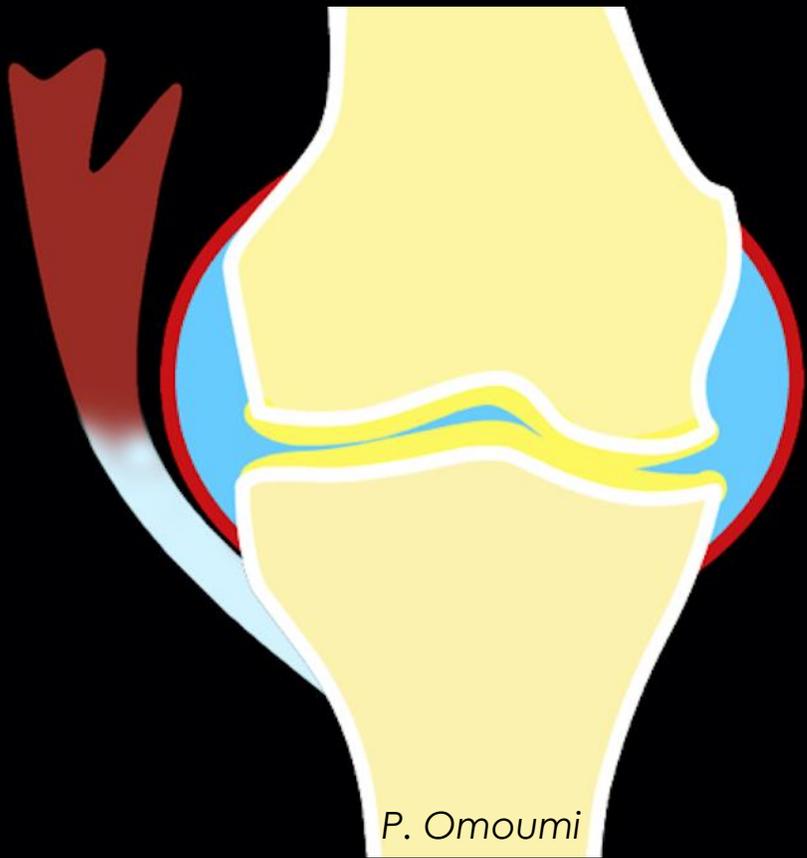
Os sous-chondral



TISSUS MOUS

INTERLIGNE ARTICULAIRE

OS SOUS-CHONDRAL



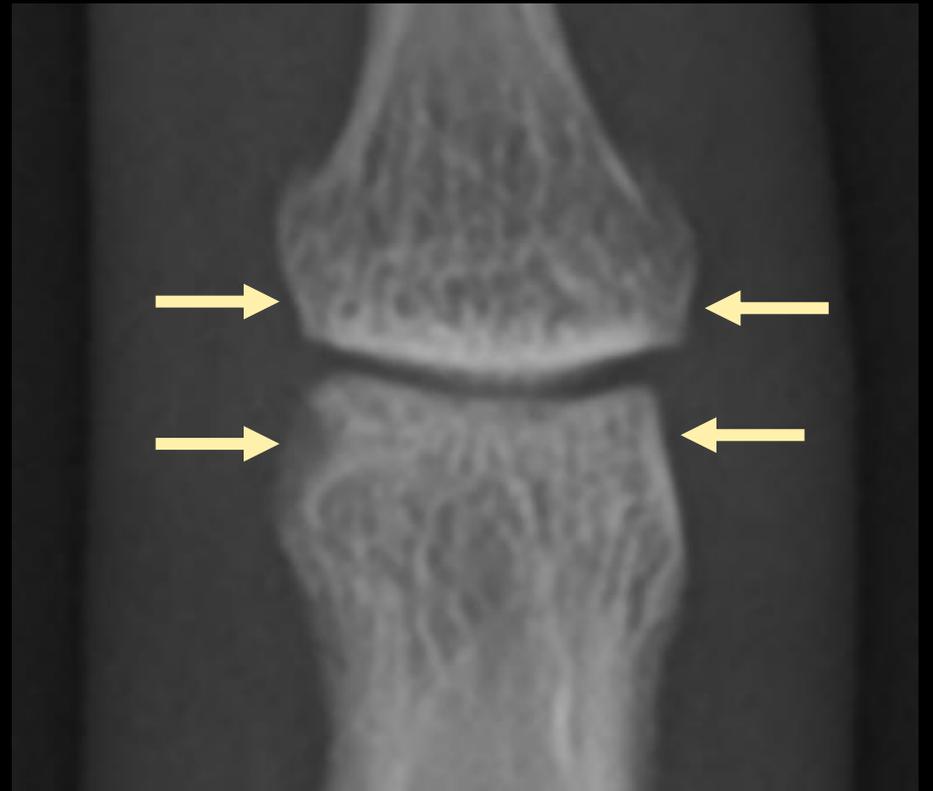
Synoviale

Cartilage

Os sous-chondral

Os marginal

*P. Omoumi*



TISSUS MOUS

INTERLIGNE ARTICULAIRE

OS SOUS-CHONDRAL

OS MARGINAL



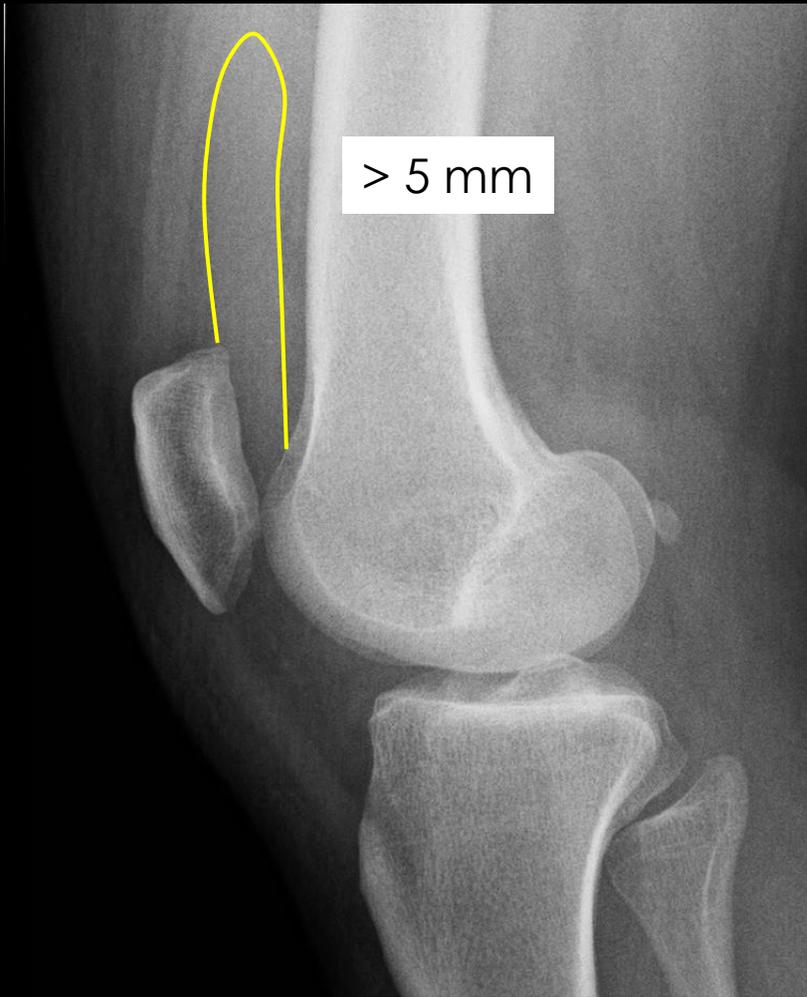
Tuméfaction articulaire?  
A – Oui  
B – Non



Tuméfaction articulaire?  
A – Oui  
B – Non



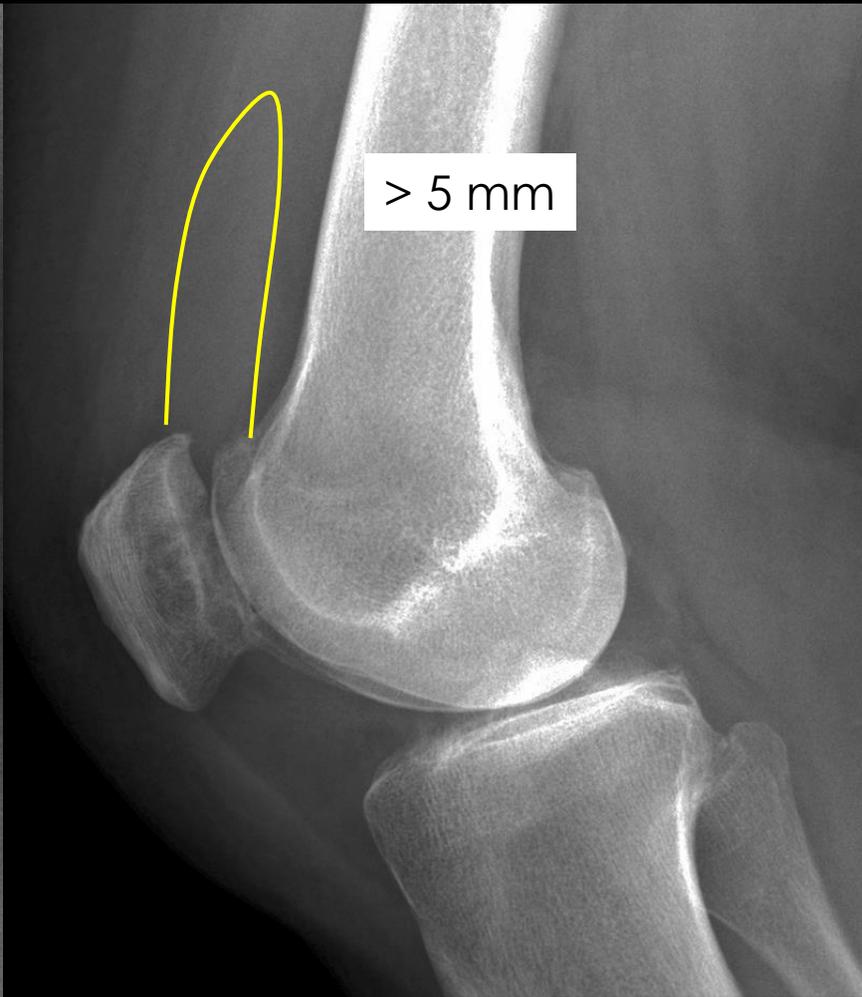
Tuméfaction articulaire?  
A – Oui  
B – Non



Tuméfaction articulaire?

A – Oui

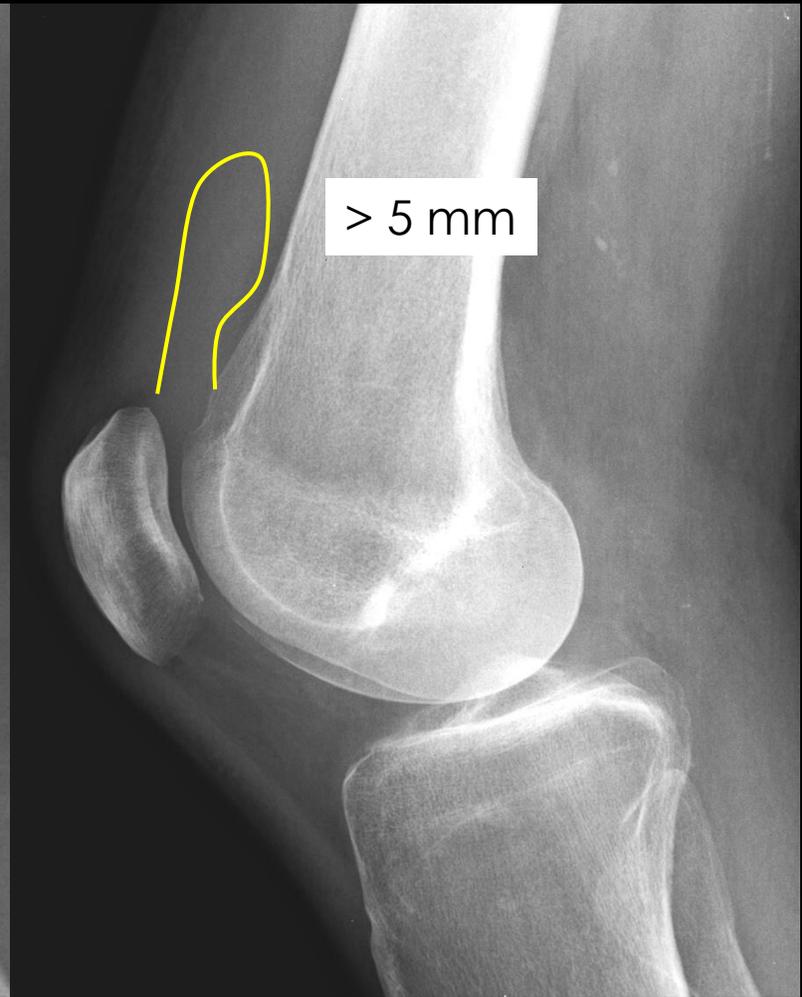
B – Non



Tuméfaction articulaire?

A – Oui

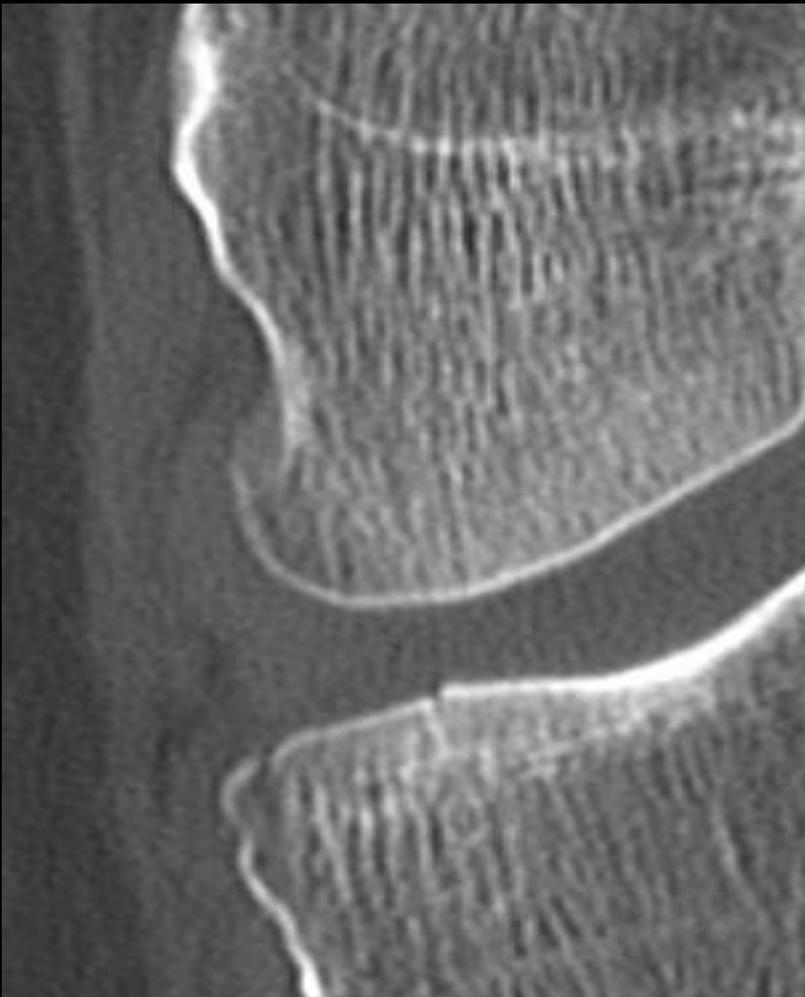
B – Non



Tuméfaction articulaire?

A – Oui

B – Non



Tuméfaction articulaire?

A – Oui

B – Non

*fracture*



Tuméfaction articulaire?

A – Oui

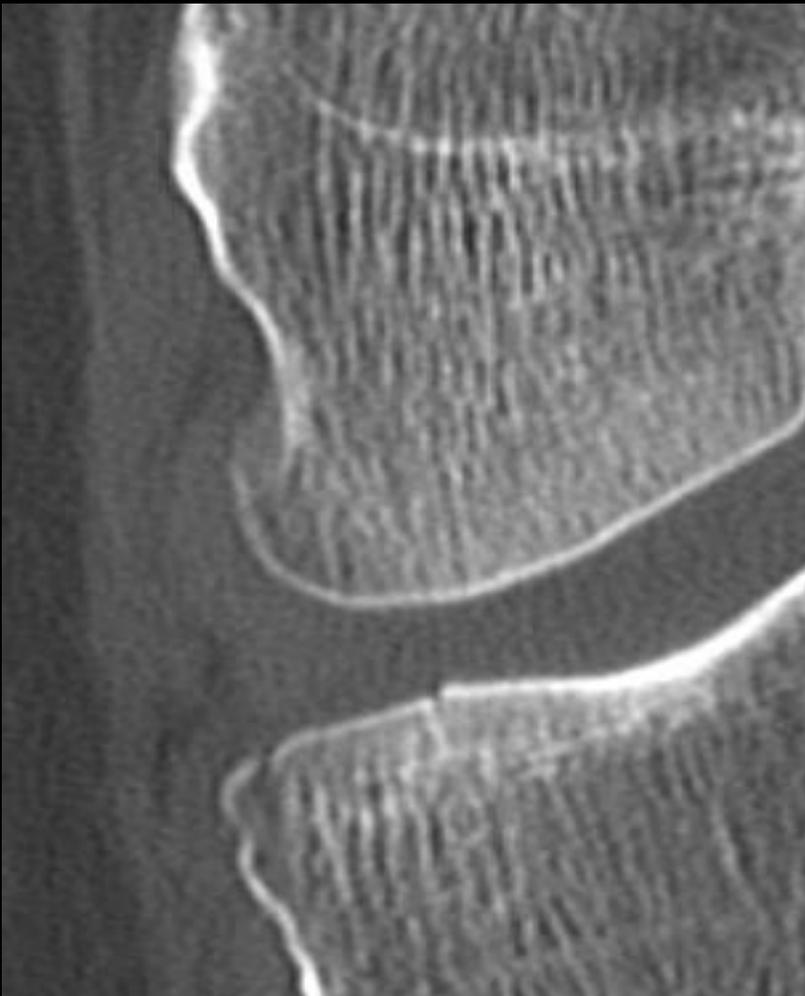
B – Non



Tuméfaction articulaire?

A – Oui

B – Non



Tuméfaction articulaire?

A – Oui

B – Non

*fracture*



Tuméfaction articulaire?

A – Oui

B – Non

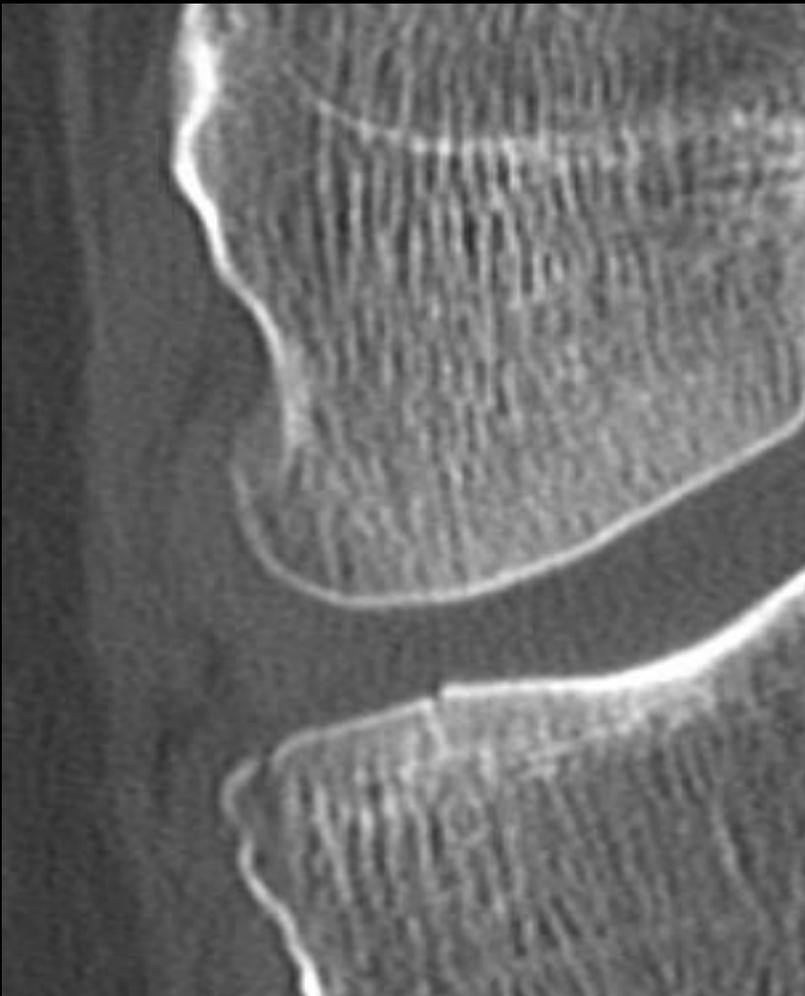
*arthrose*



Tuméfaction articulaire?

A – Oui

B – Non



Tuméfaction articulaire?

A – Oui

B – Non

*fracture*



Tuméfaction articulaire?

A – Oui

B – Non

*arthrose*

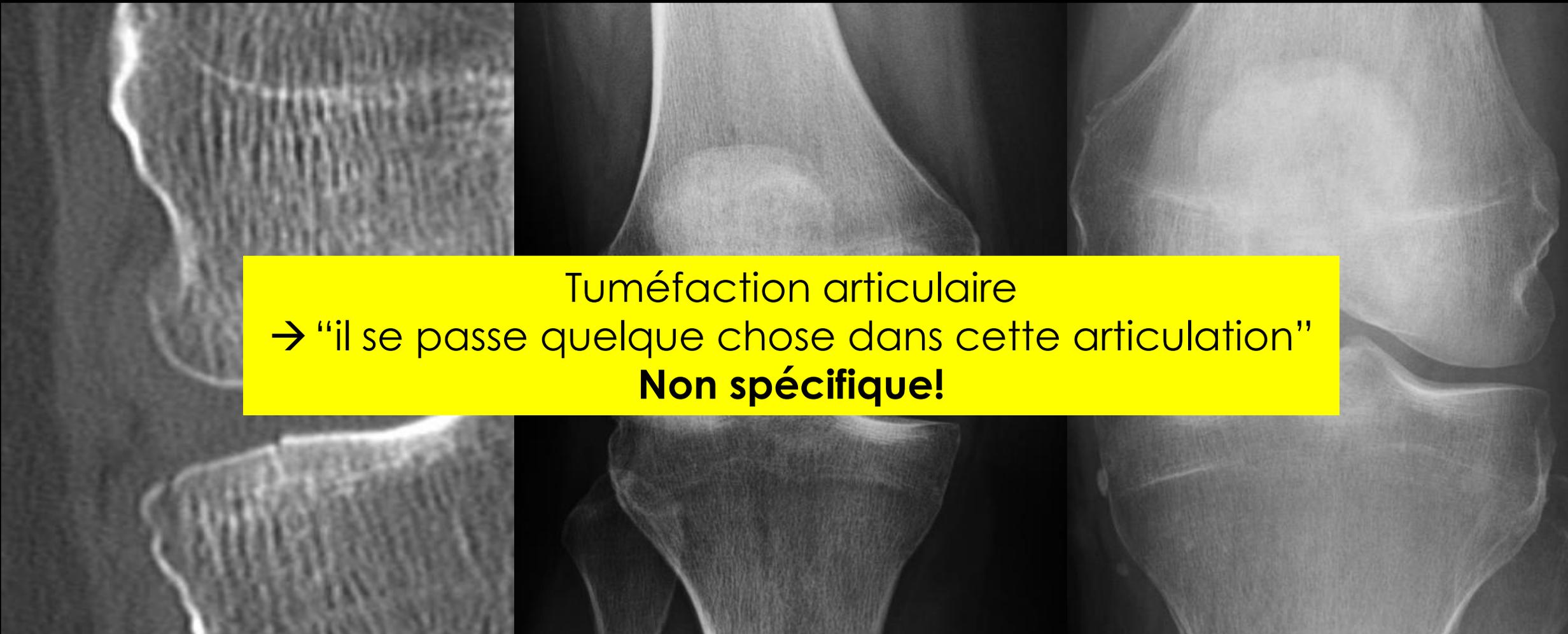


Tuméfaction articulaire?

A – Oui

B – Non

*arthrite*



Tuméfaction articulaire  
→ “il se passe quelque chose dans cette articulation”  
**Non spécifique!**

Tuméfaction articulaire?

A – **Oui**

B – Non

*fracture*

Tuméfaction articulaire?

A – **Oui**

B – Non

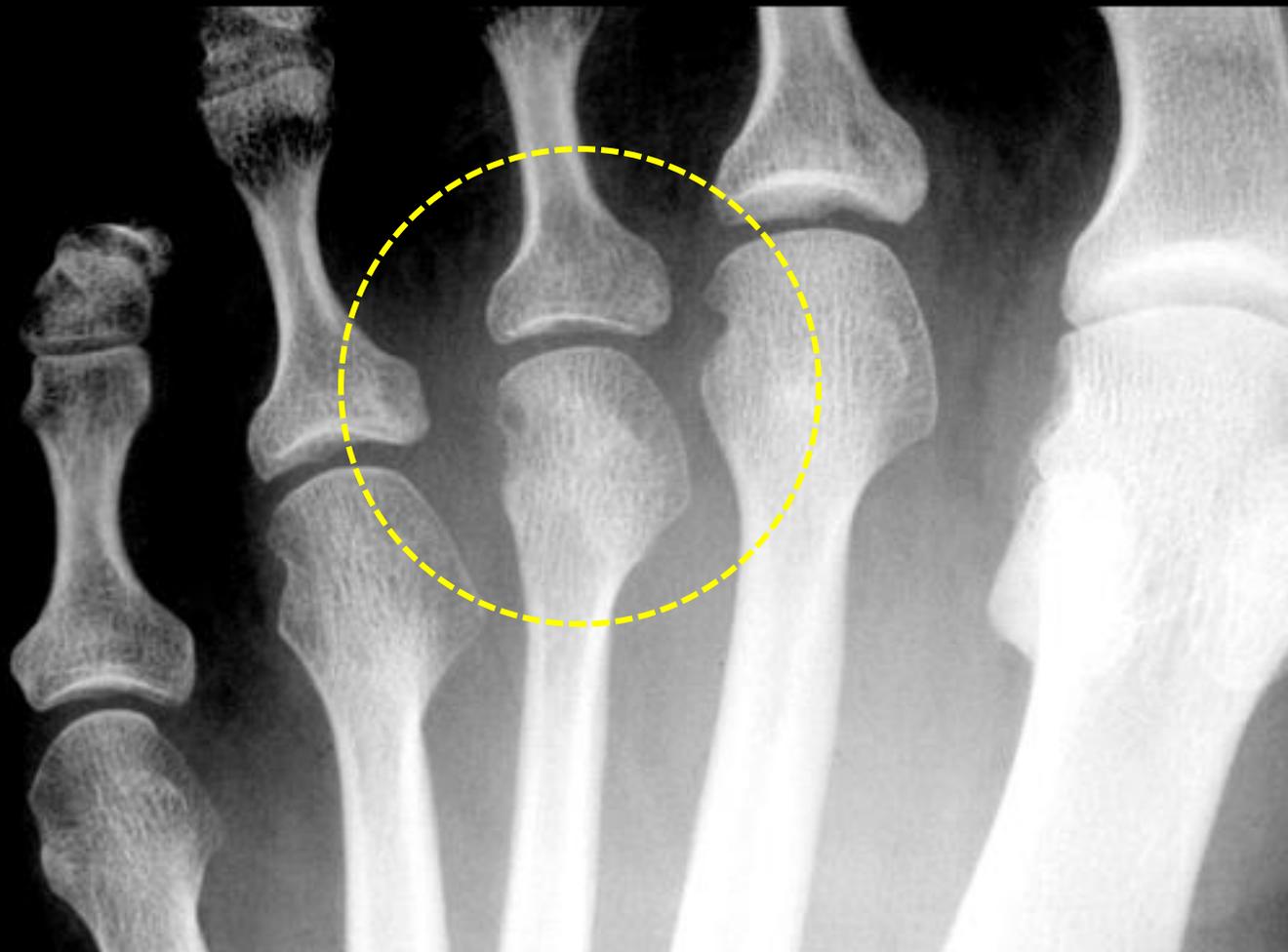
*arthrose*

Tuméfaction articulaire?

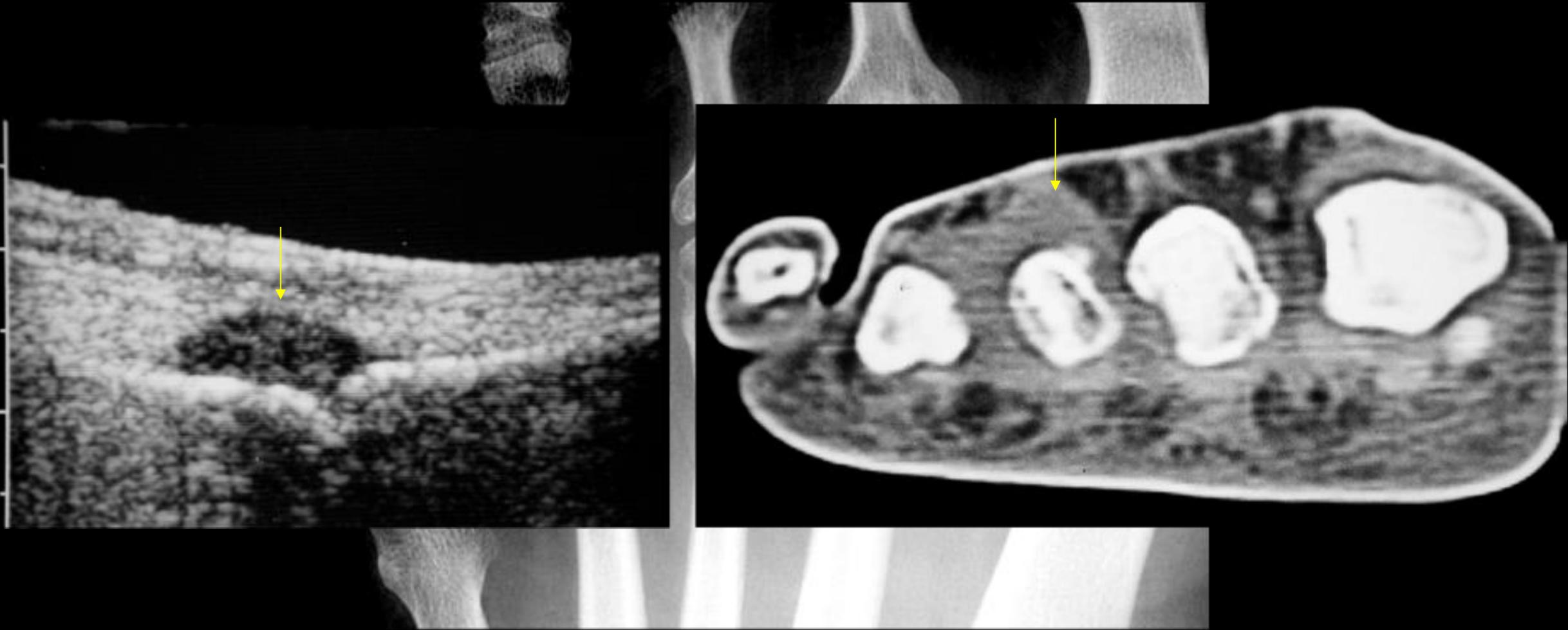
A – **Oui**

B – Non

*arthrite*



Tuméfaction?



*Tuméfaction MTP R3D en US & CT*



RX (chondrolyse)



IRM (tuméfaction)



Quelle est la hanche pathologique?

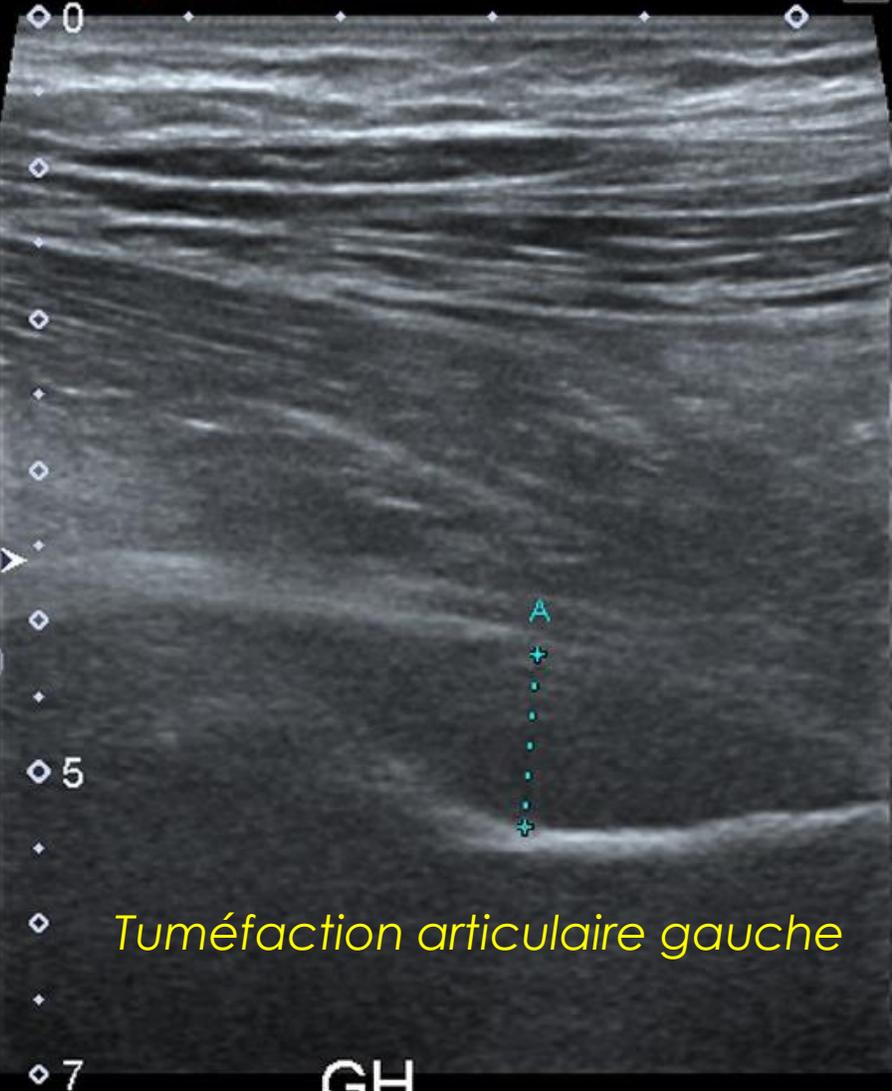
A Pure+ Precision

T

Precision A Pure+

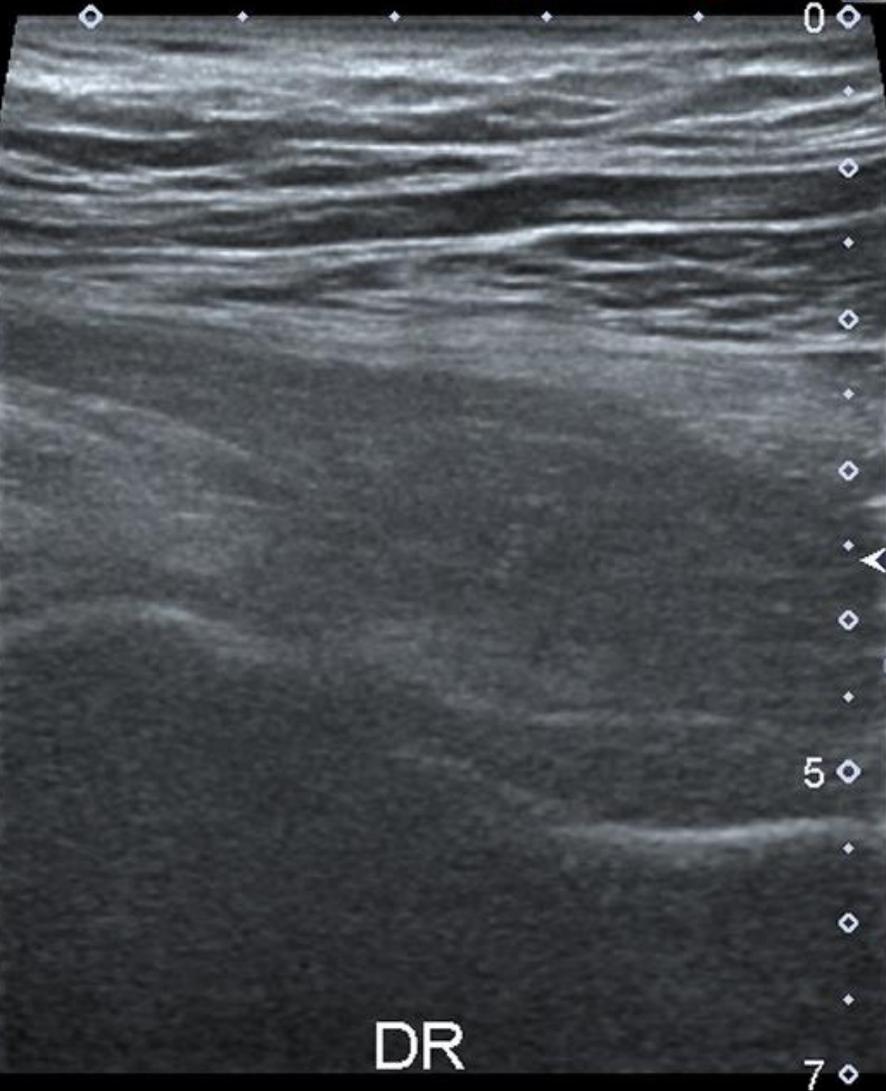
T

12L5  
diffT8.0  
23 fps  
G:92  
DR:70  
A:5  
P:2



*Tuméfaction articulaire gauche*

GH



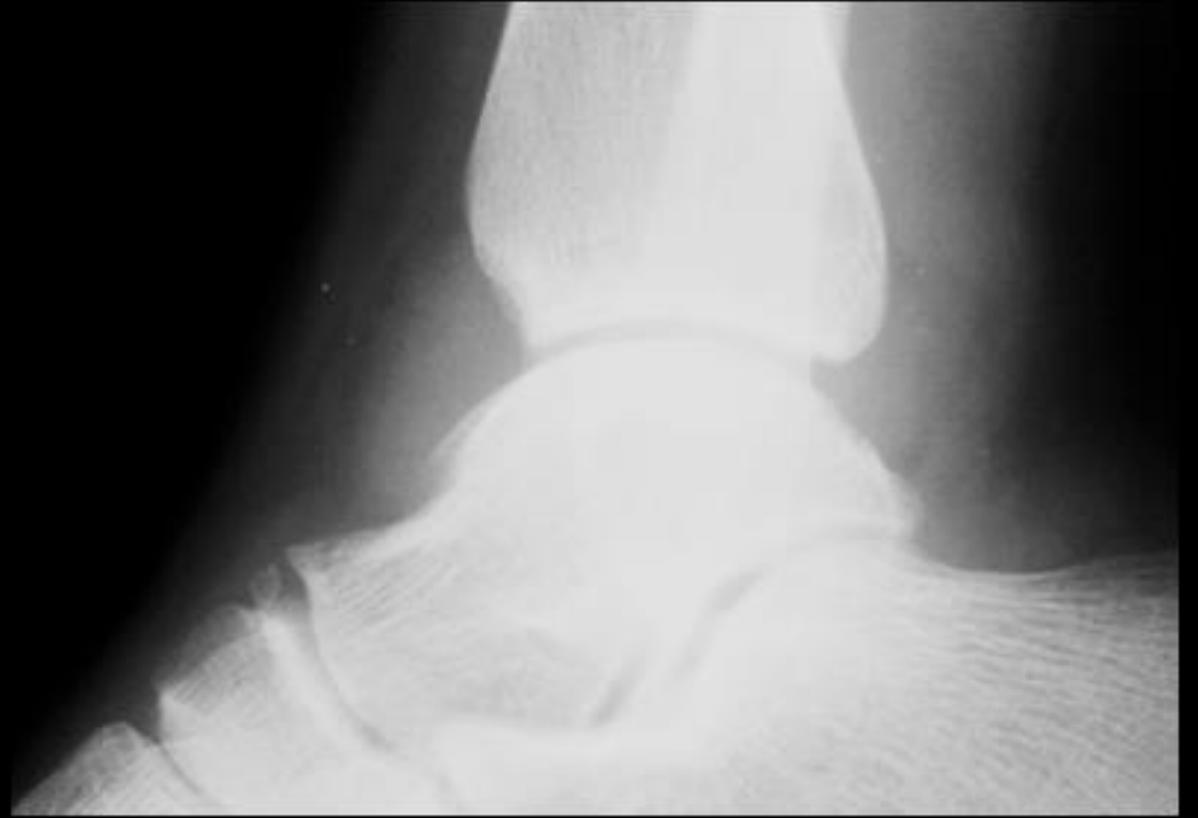
DR

12L5  
diffT8.0  
23 fps  
G:92  
DR:70  
A:5  
P:2





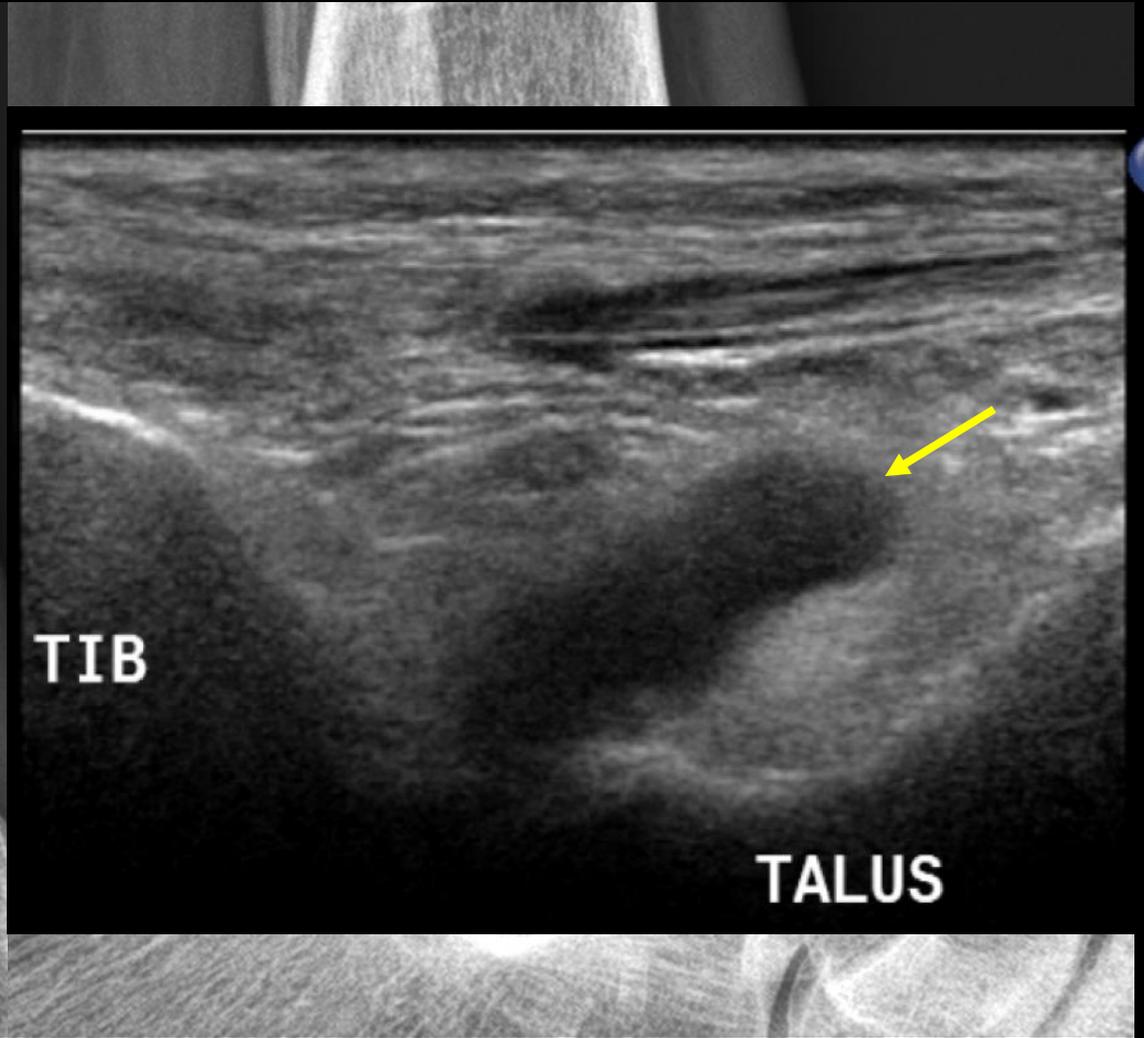
articulations superficielles

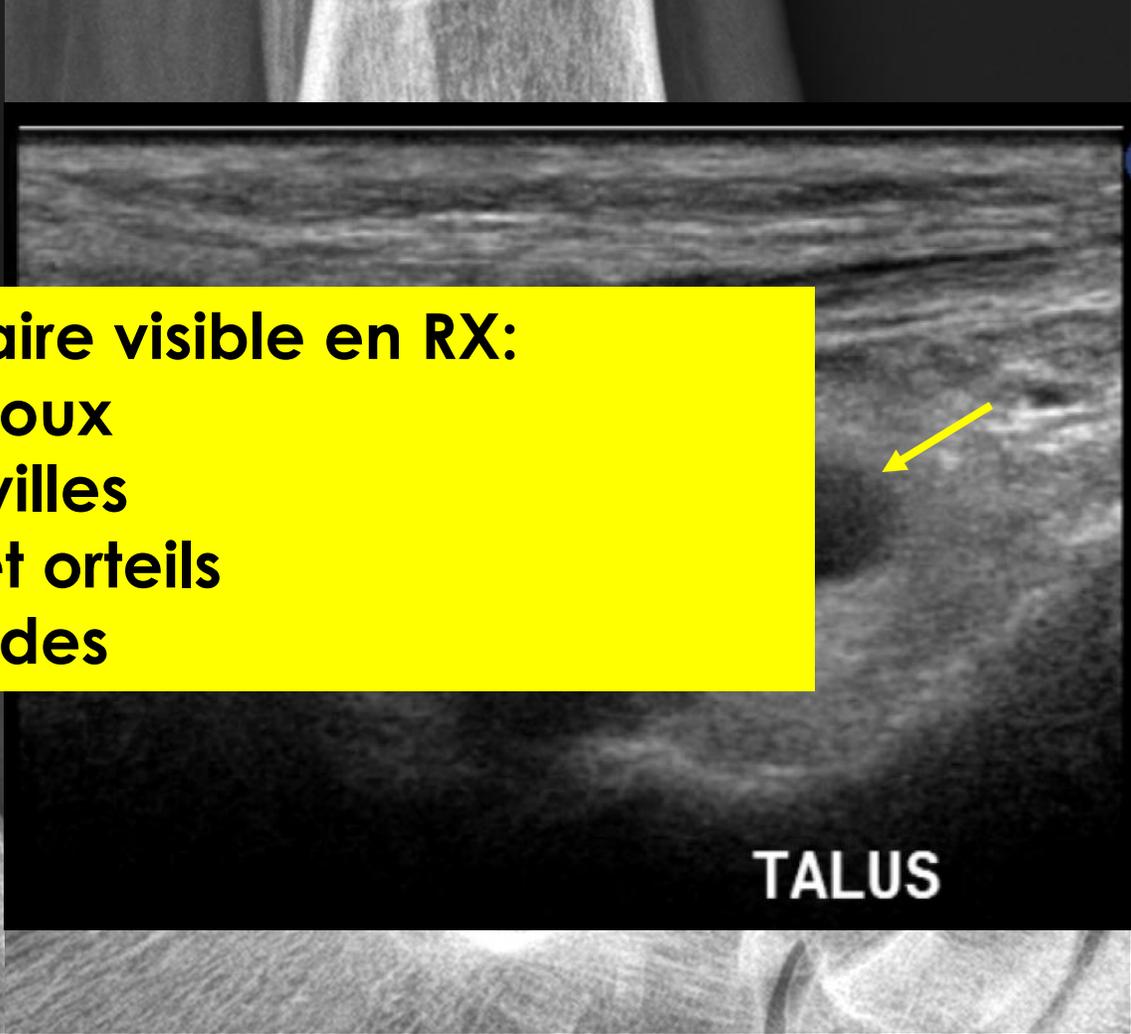
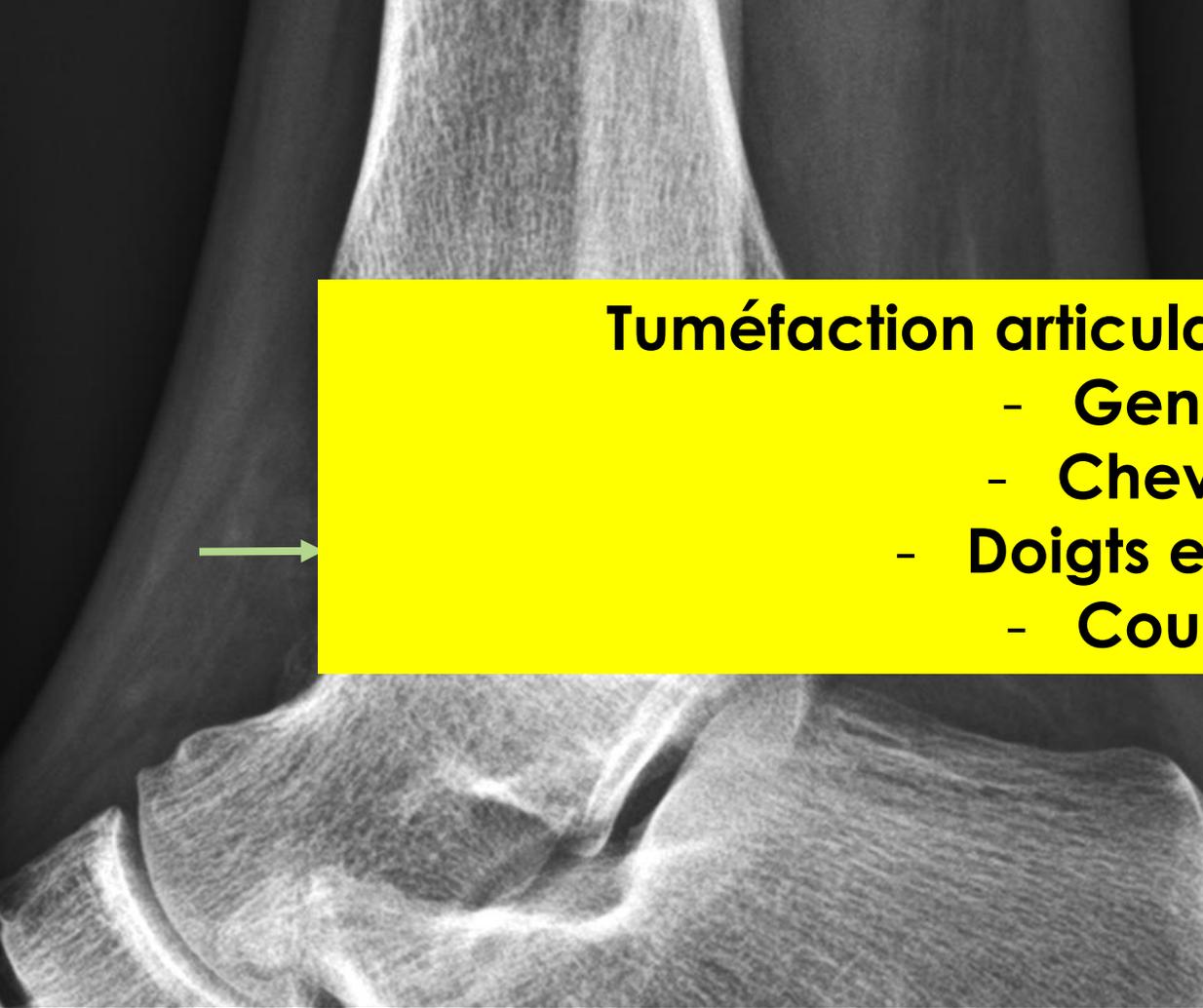


contraste graisseux







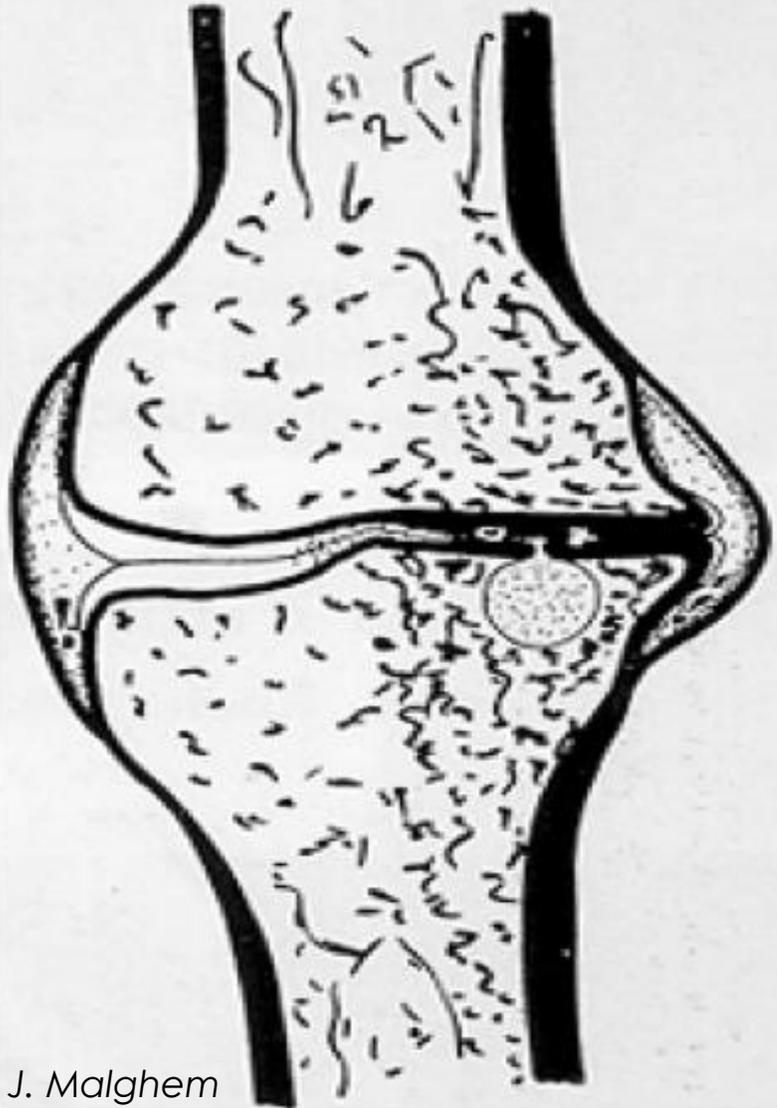


**Tuméfaction articulaire visible en RX:**

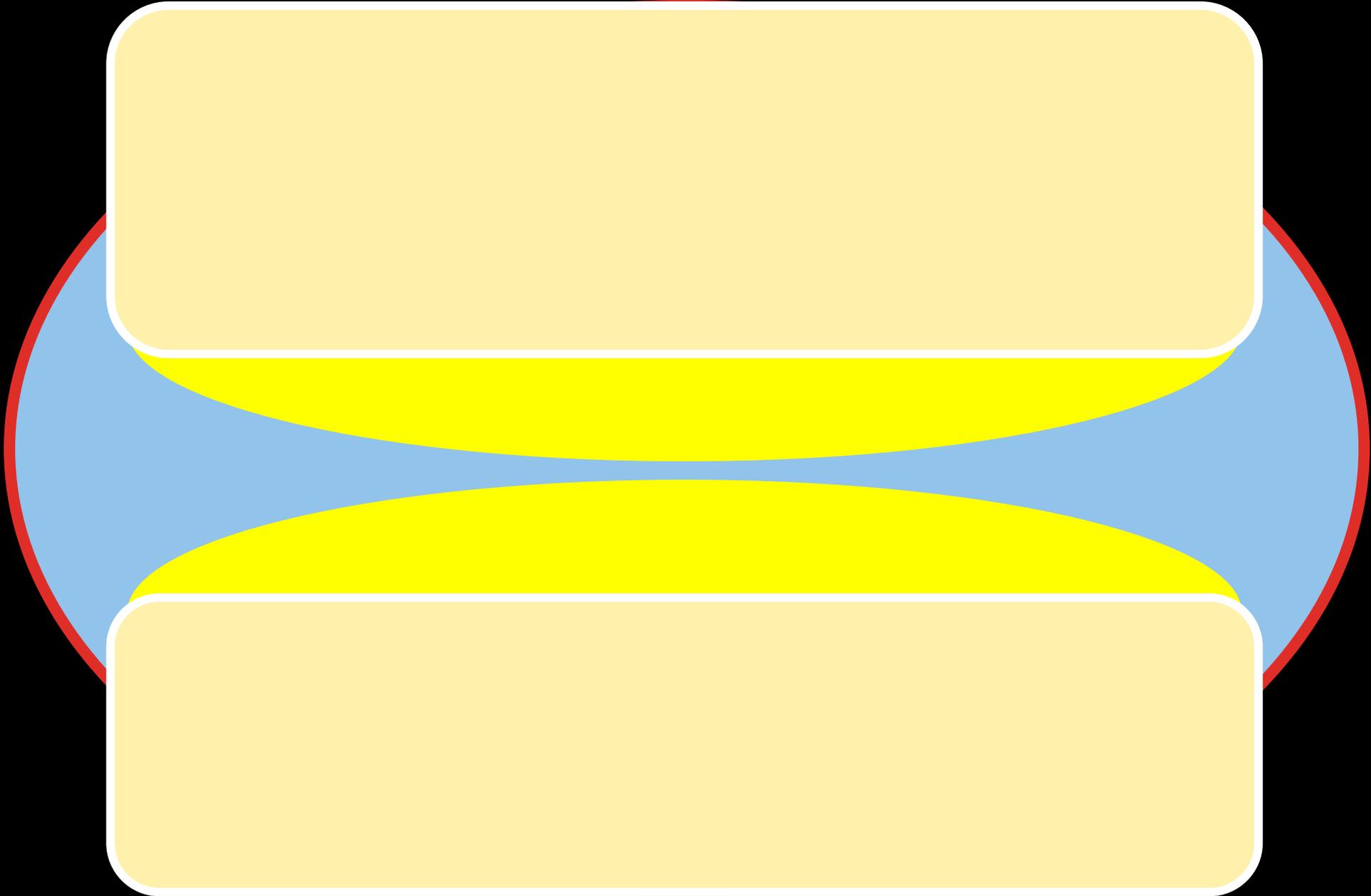
- Genoux
- Chevilles
- Doigts et orteils
- Coudes

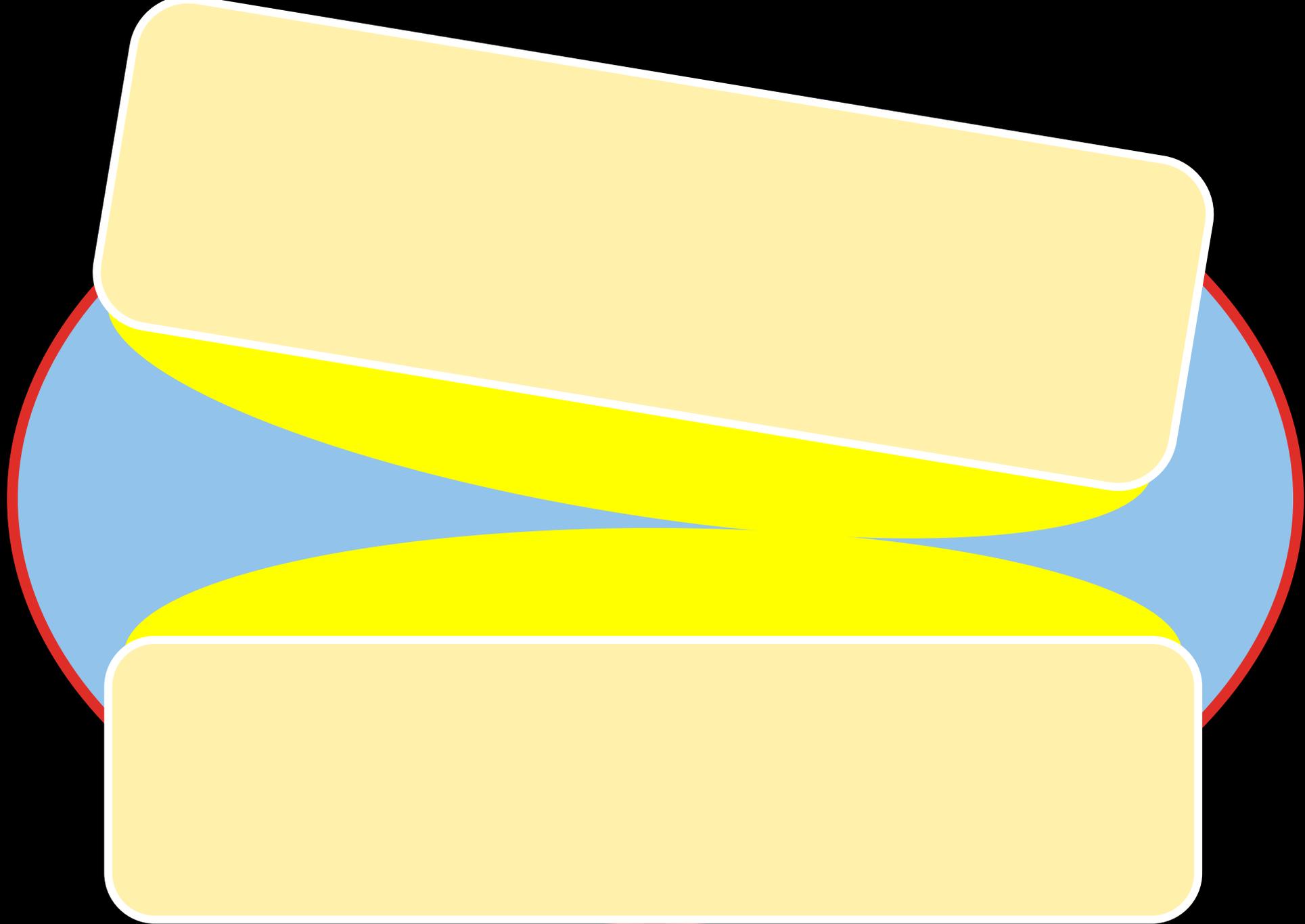
TALUS

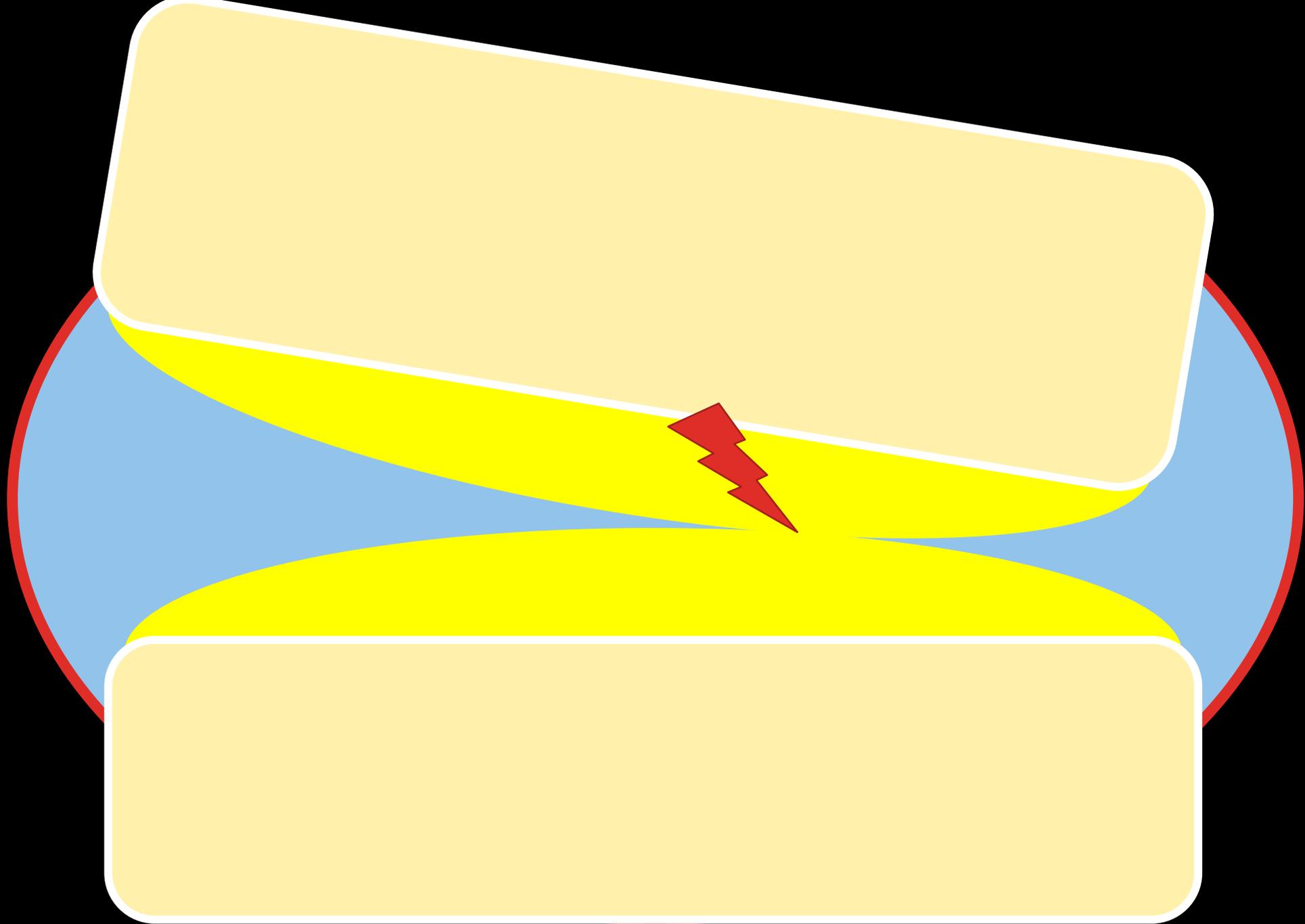
# ARTHROSE

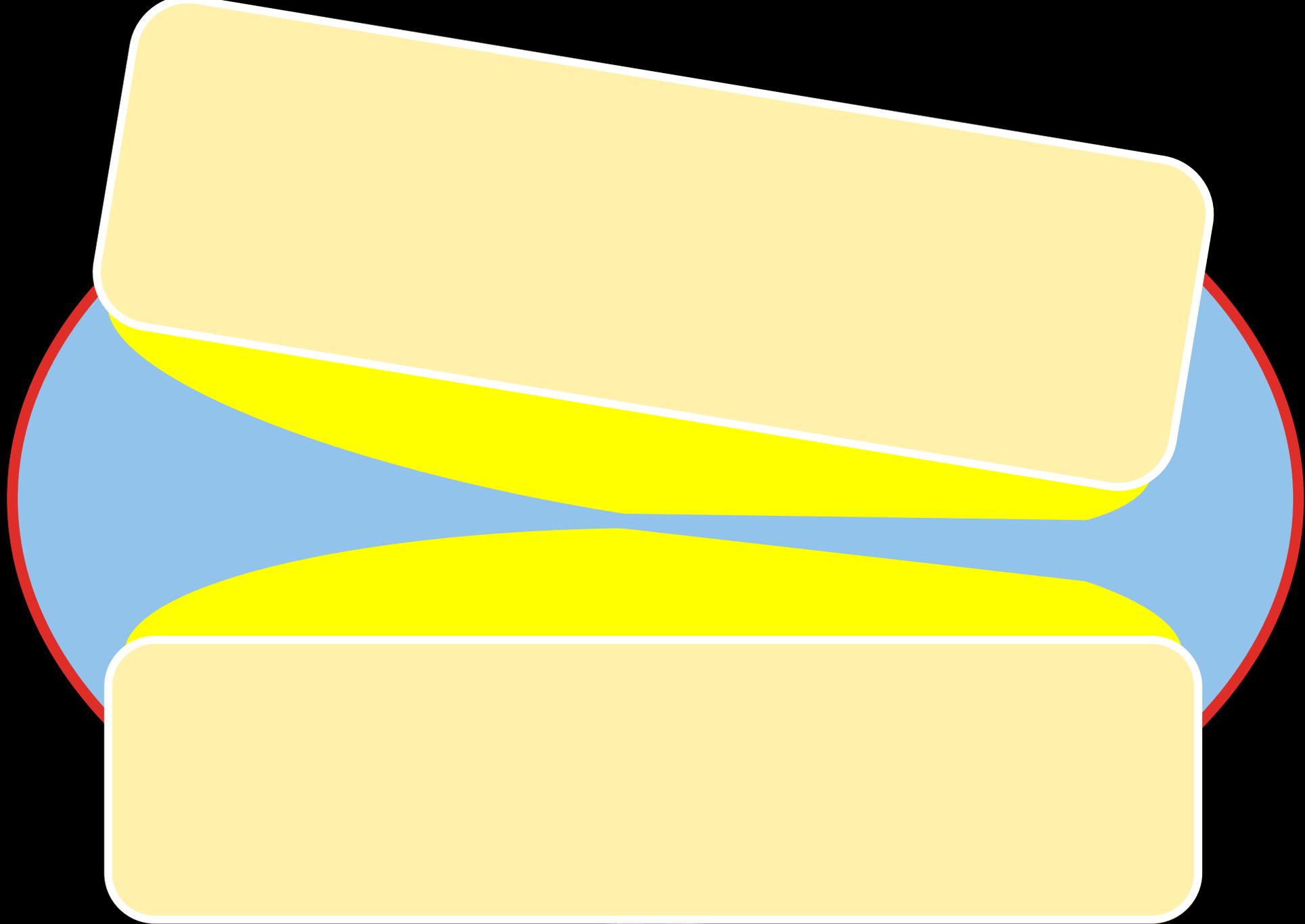


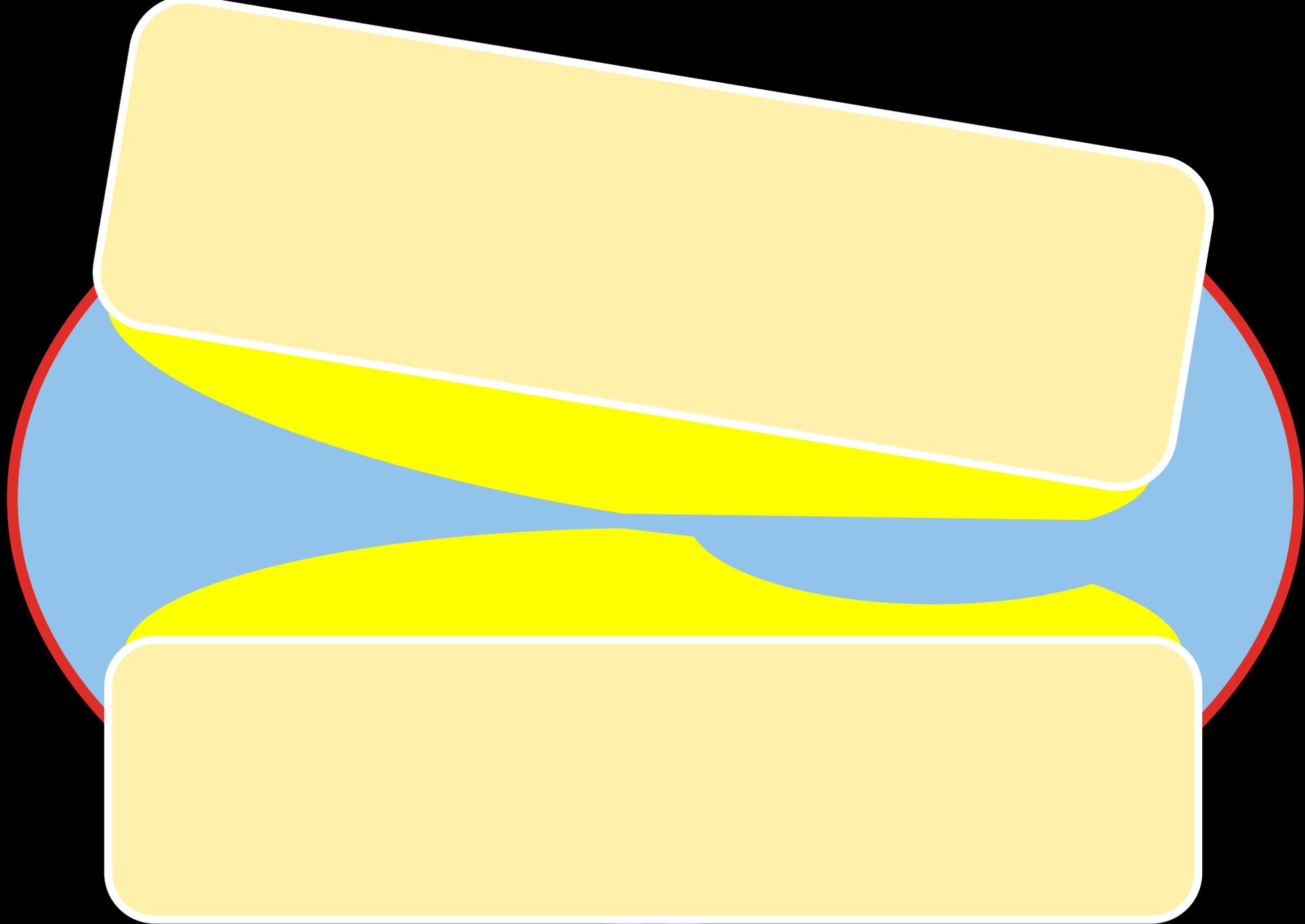
TISSUS MOUS	Gonflement inconstant
INTERLIGNE ARTICULAIRE	Pincement <b>focal</b>
OS SOUS-CHONDRAL	Erosions Géodes Hyperostose
OS MARGINAL	Ostéophytes

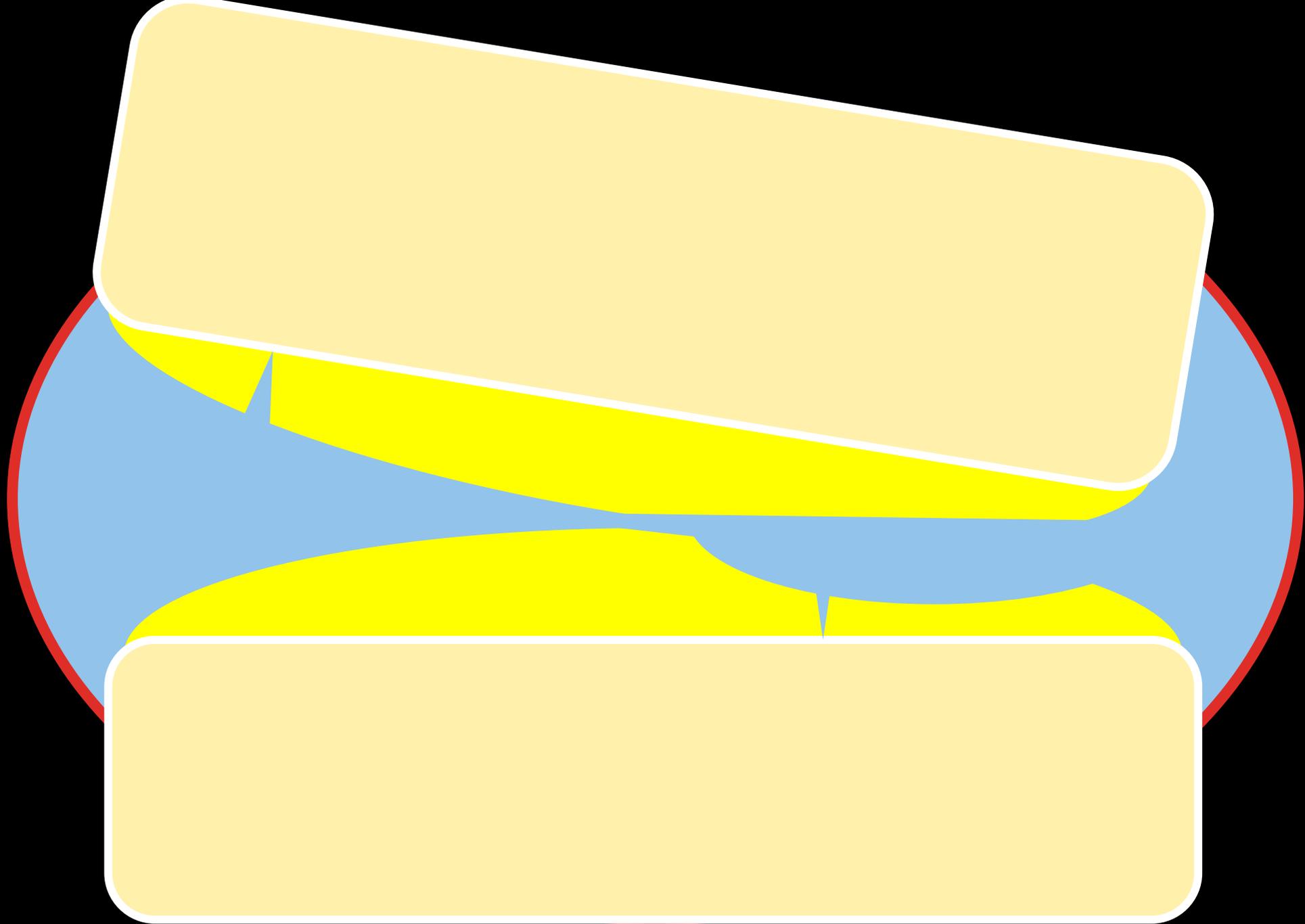


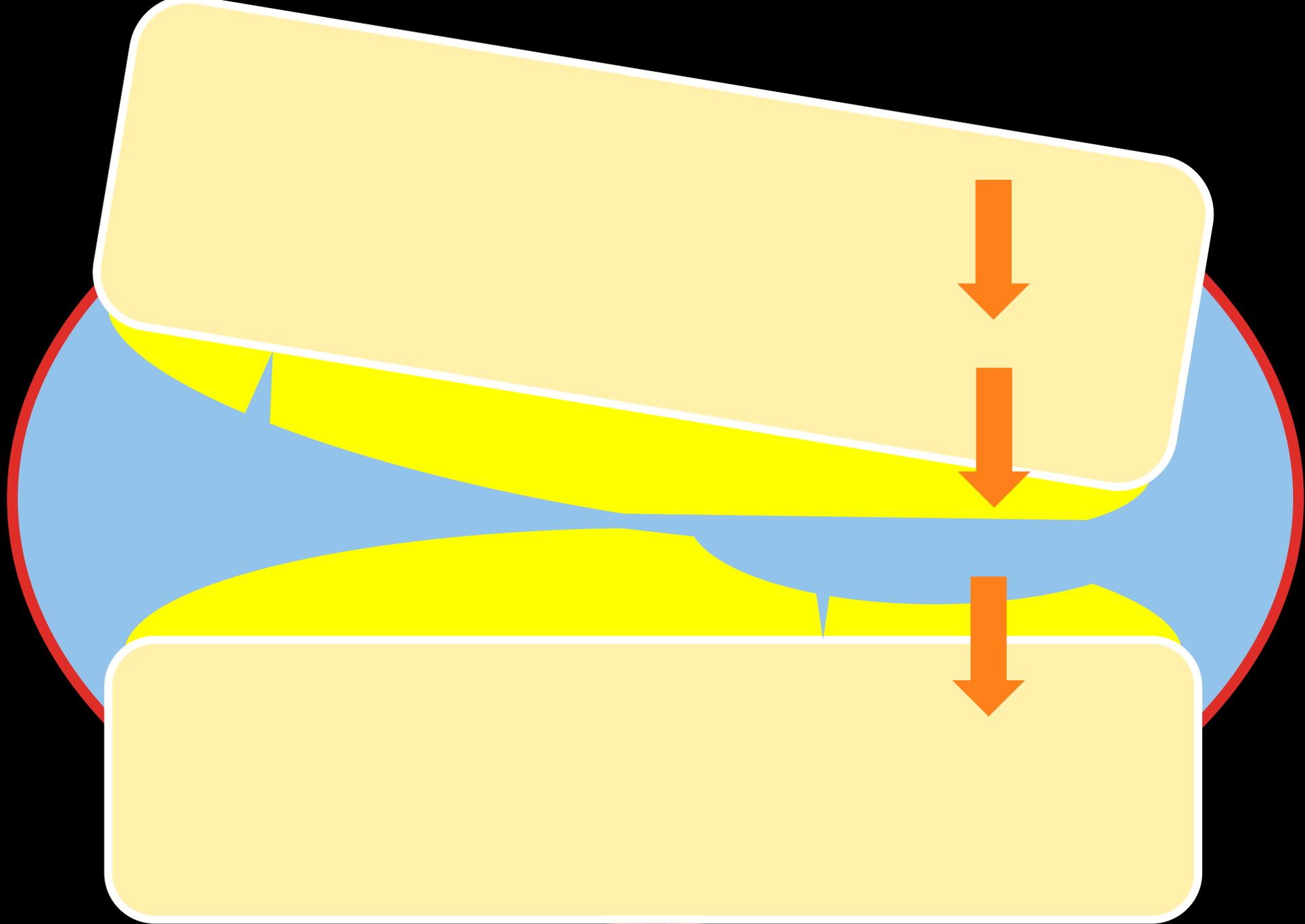


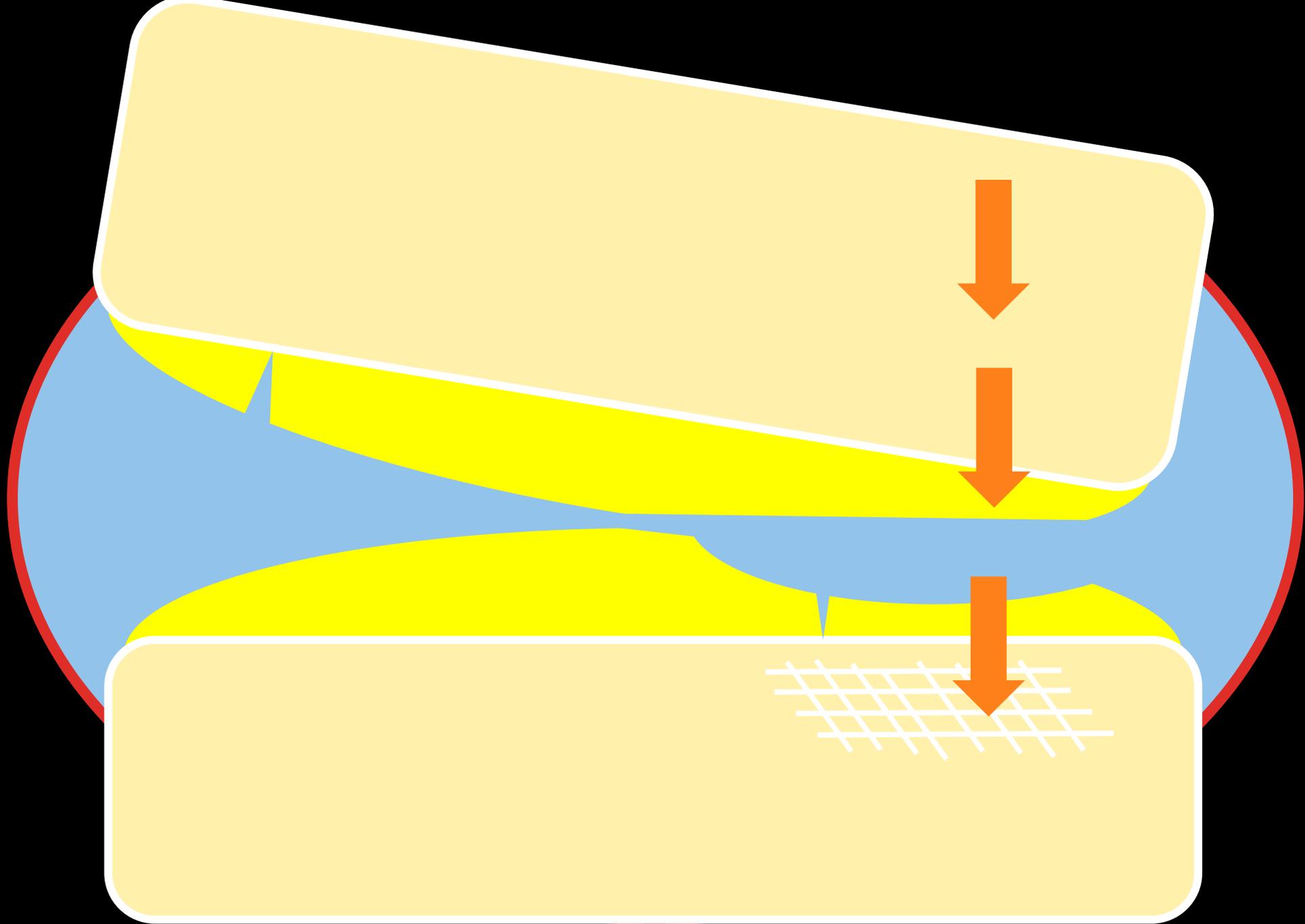


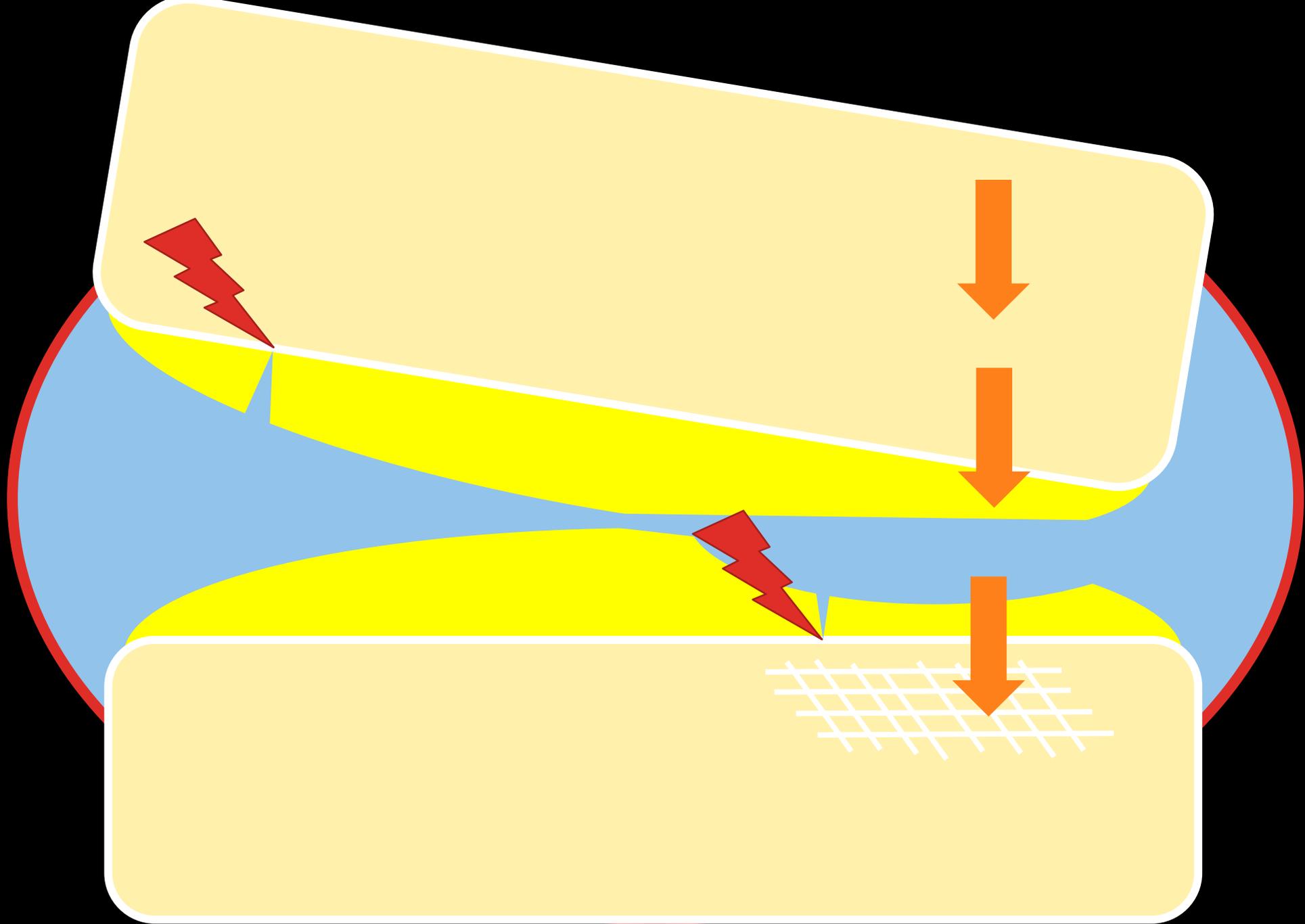


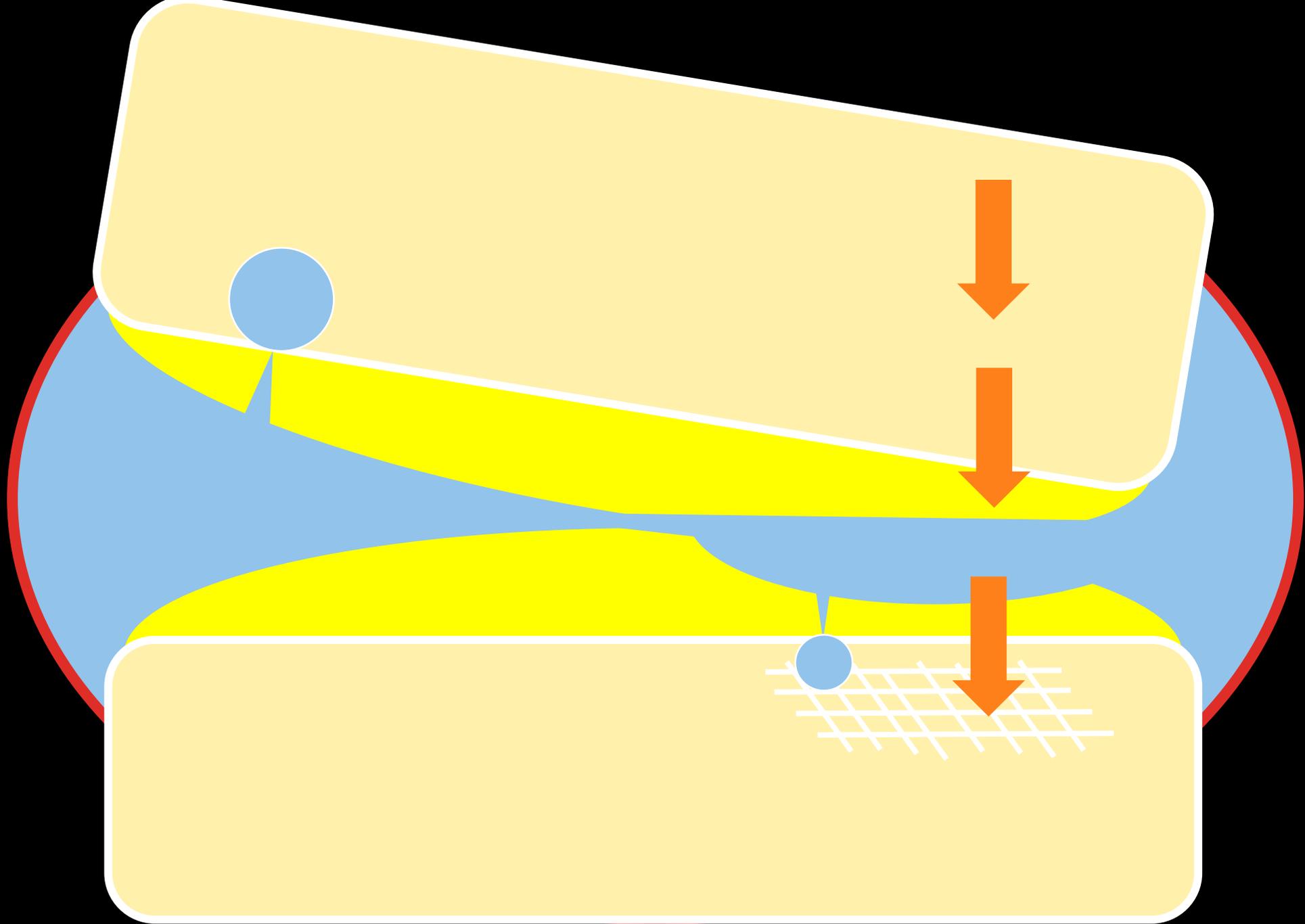


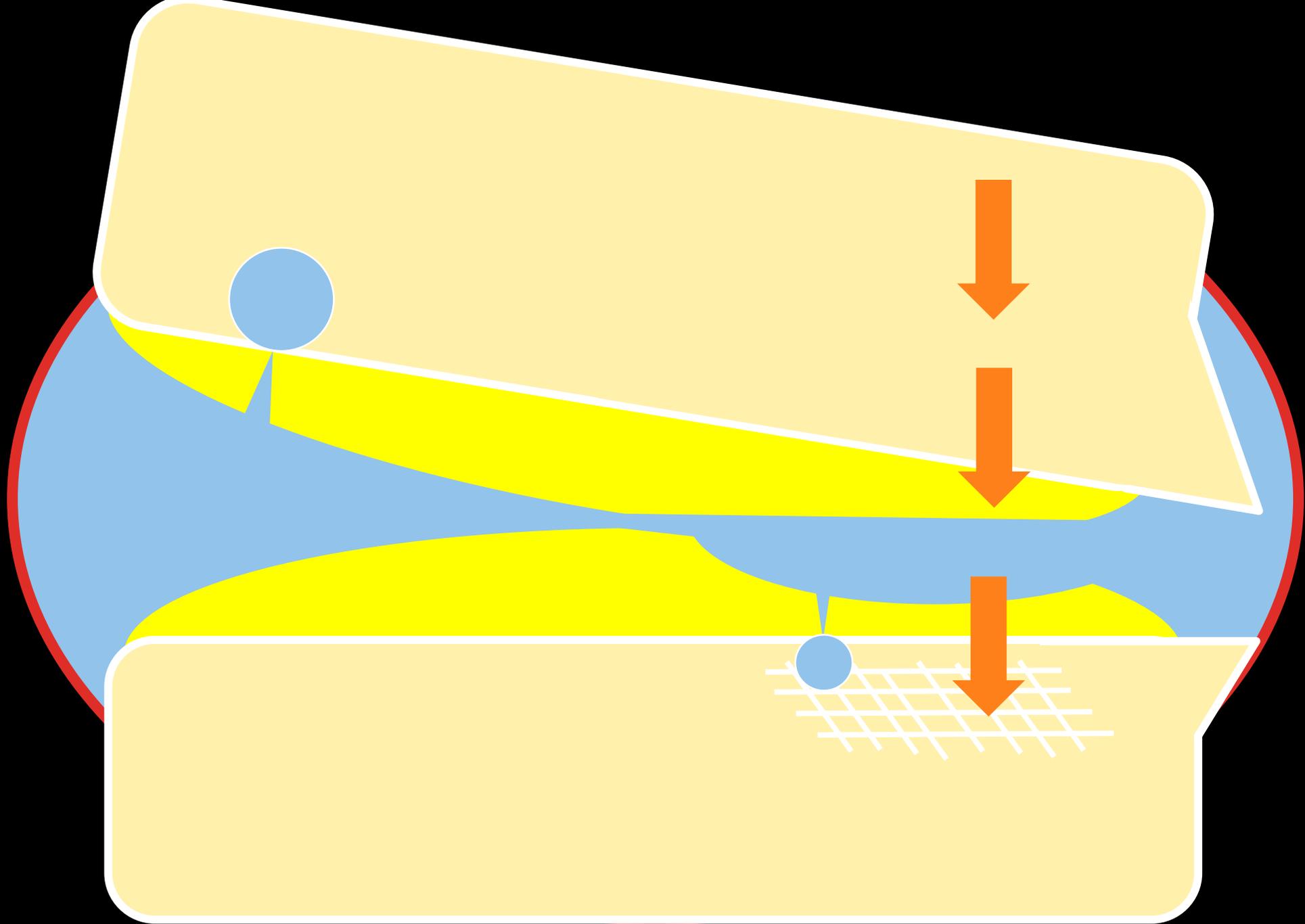


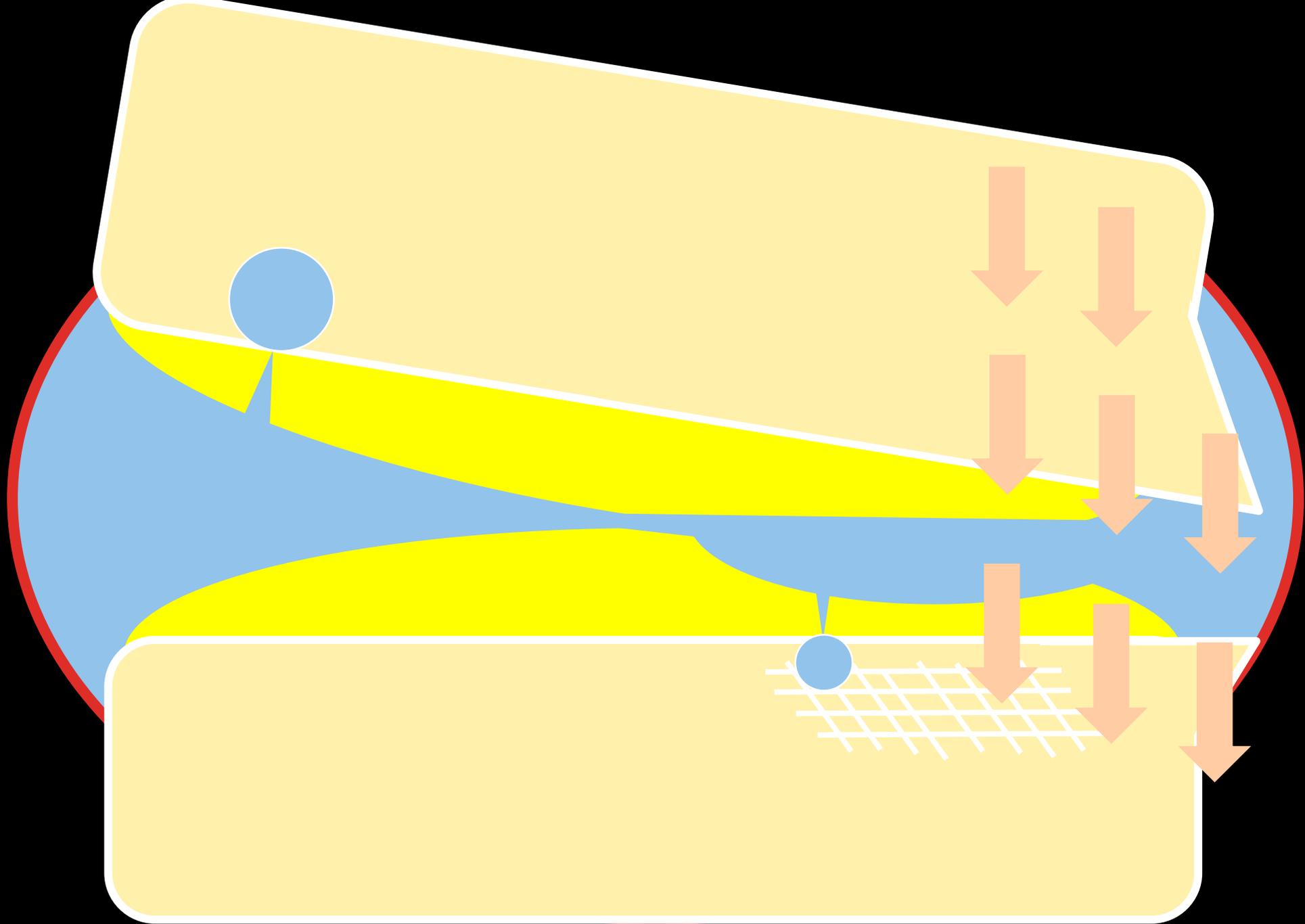


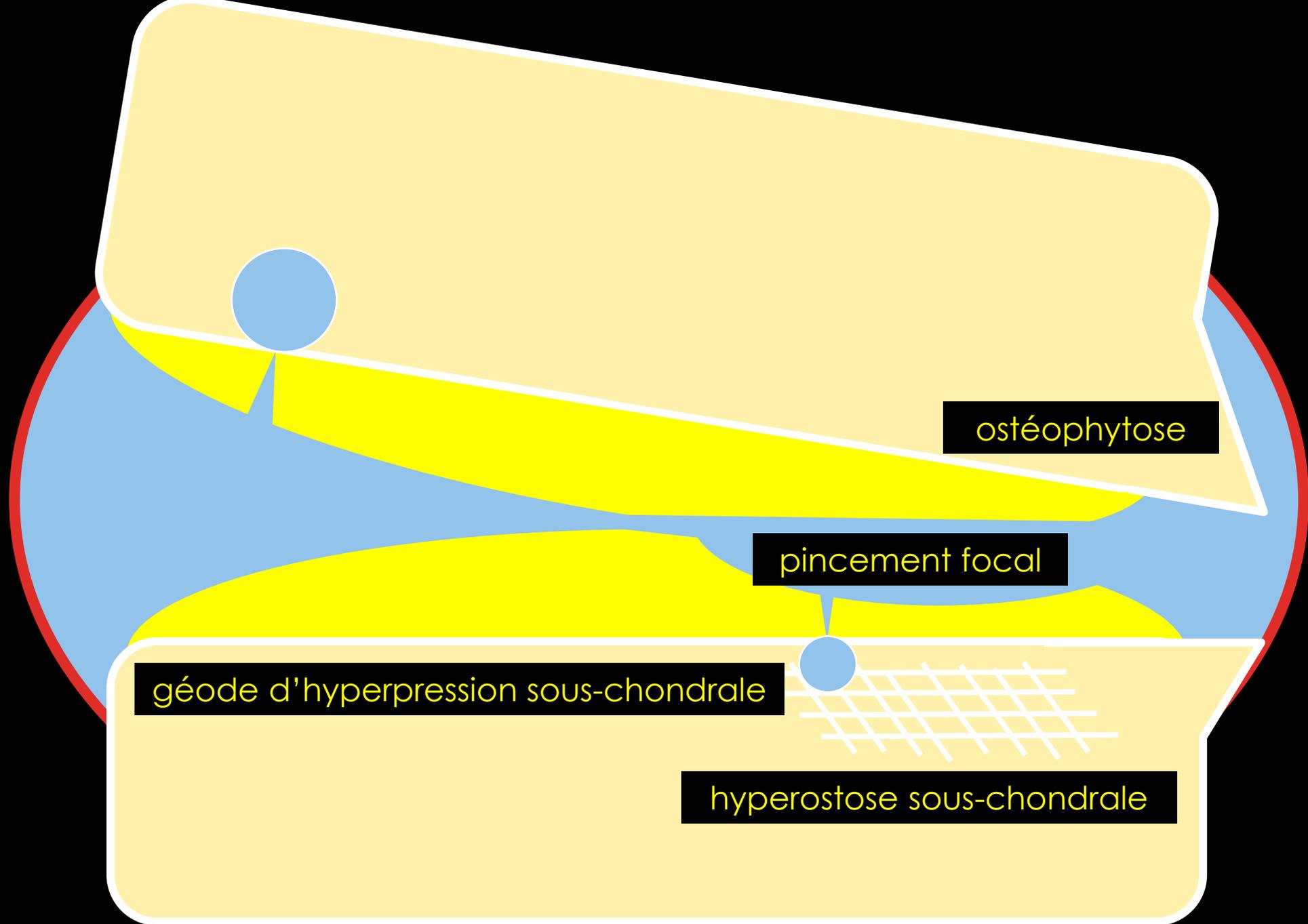












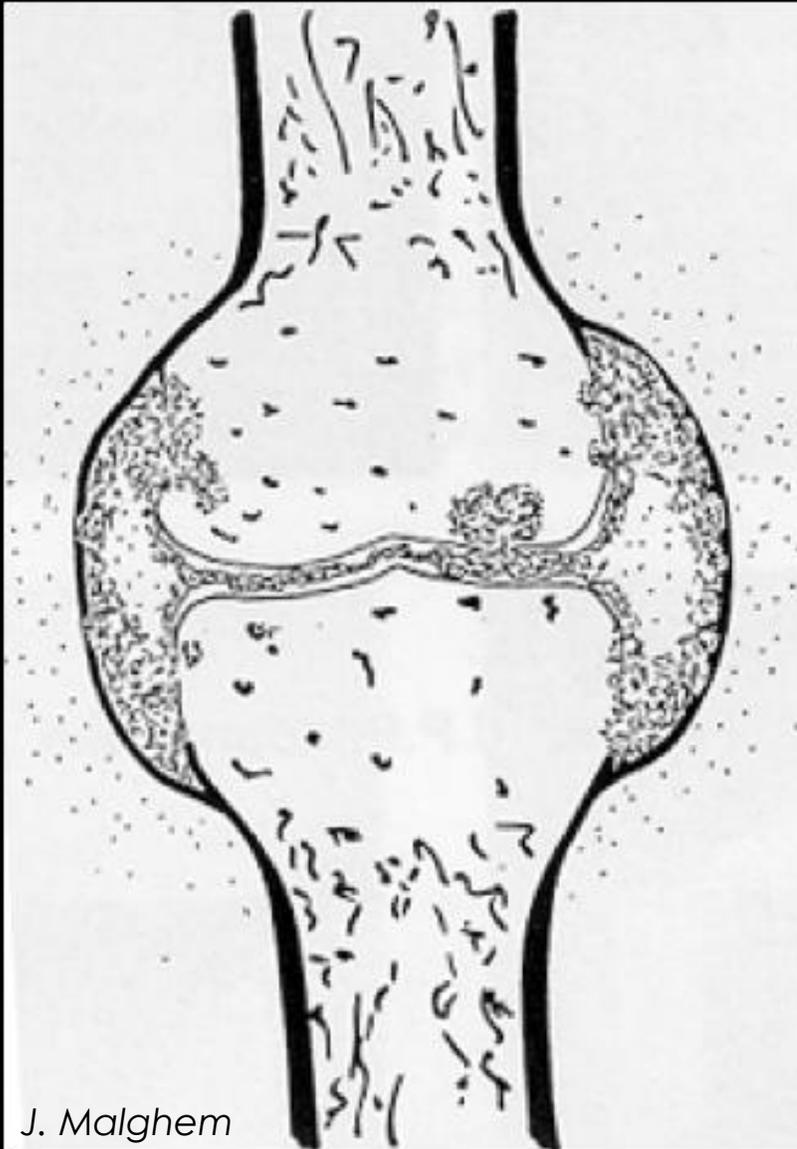
ostéophytose

pincement focal

géode d'hyperpression sous-chondrale

hyperostose sous-chondrale

# ARTHRITE



TISSUS MOUS

Gonflement fréquent

INTERLIGNE  
ARTICULAIRE

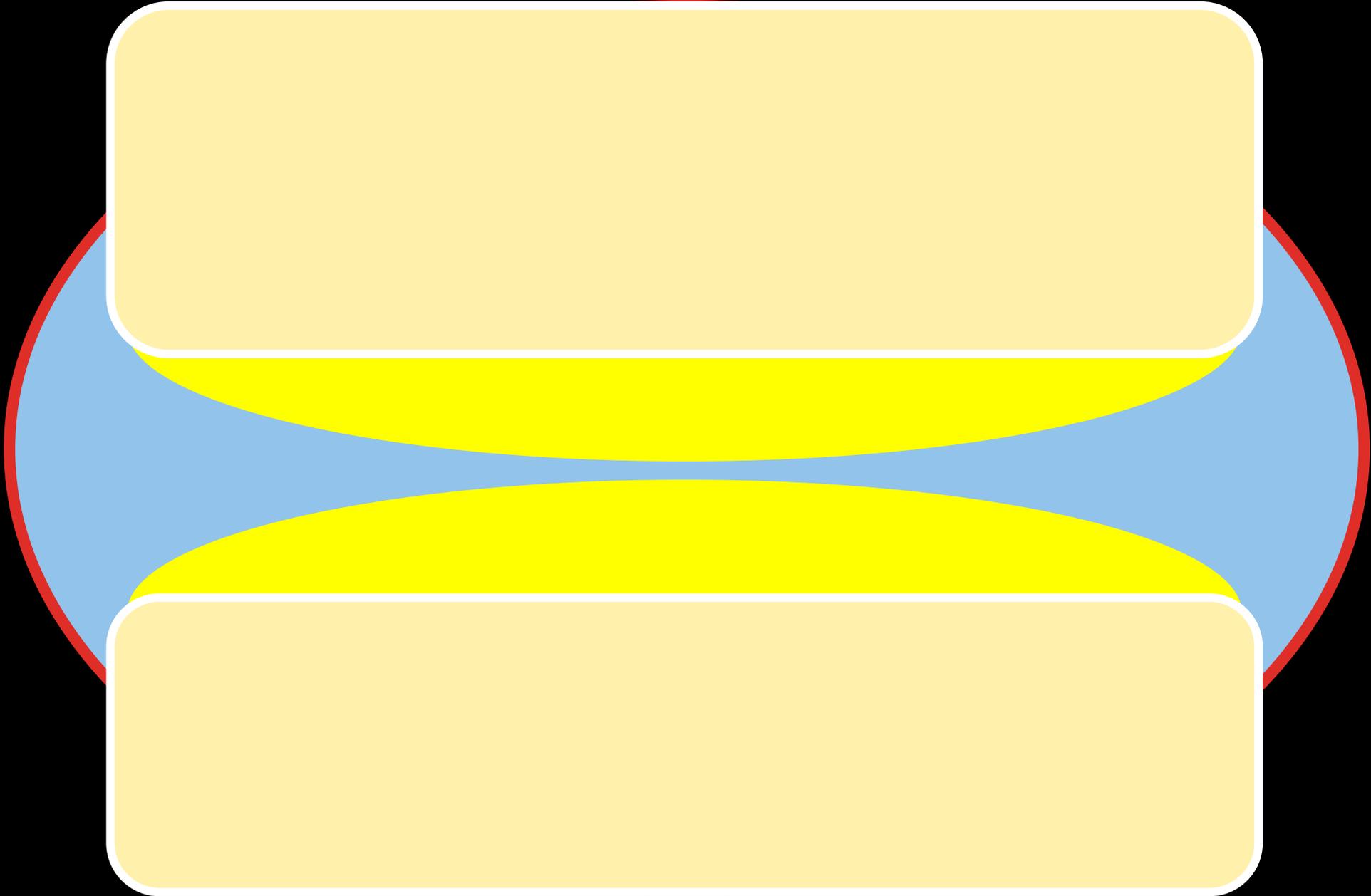
Pincement **global**

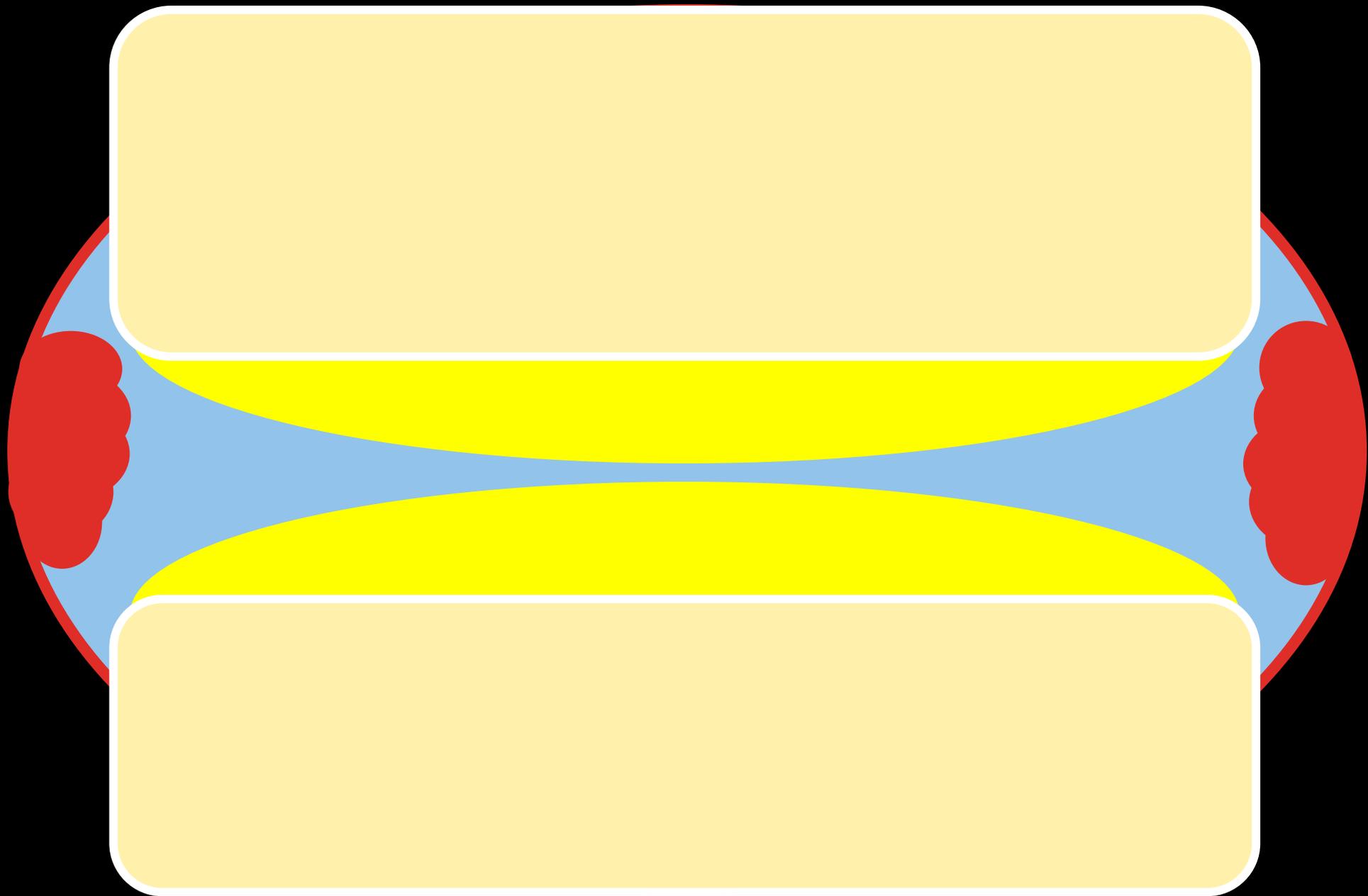
OS SOUS-CHONDRAL

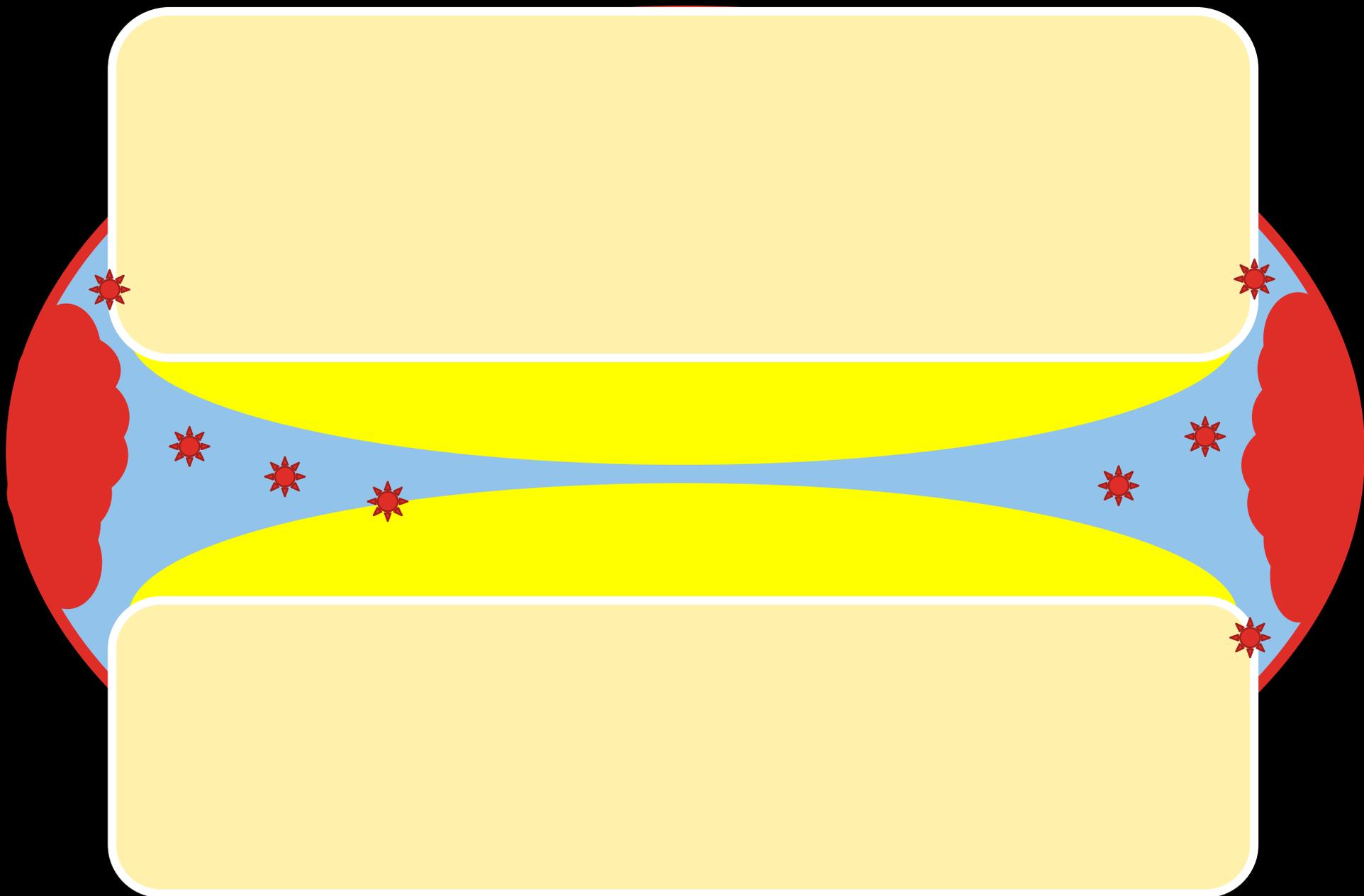
Erosions  
Géodes

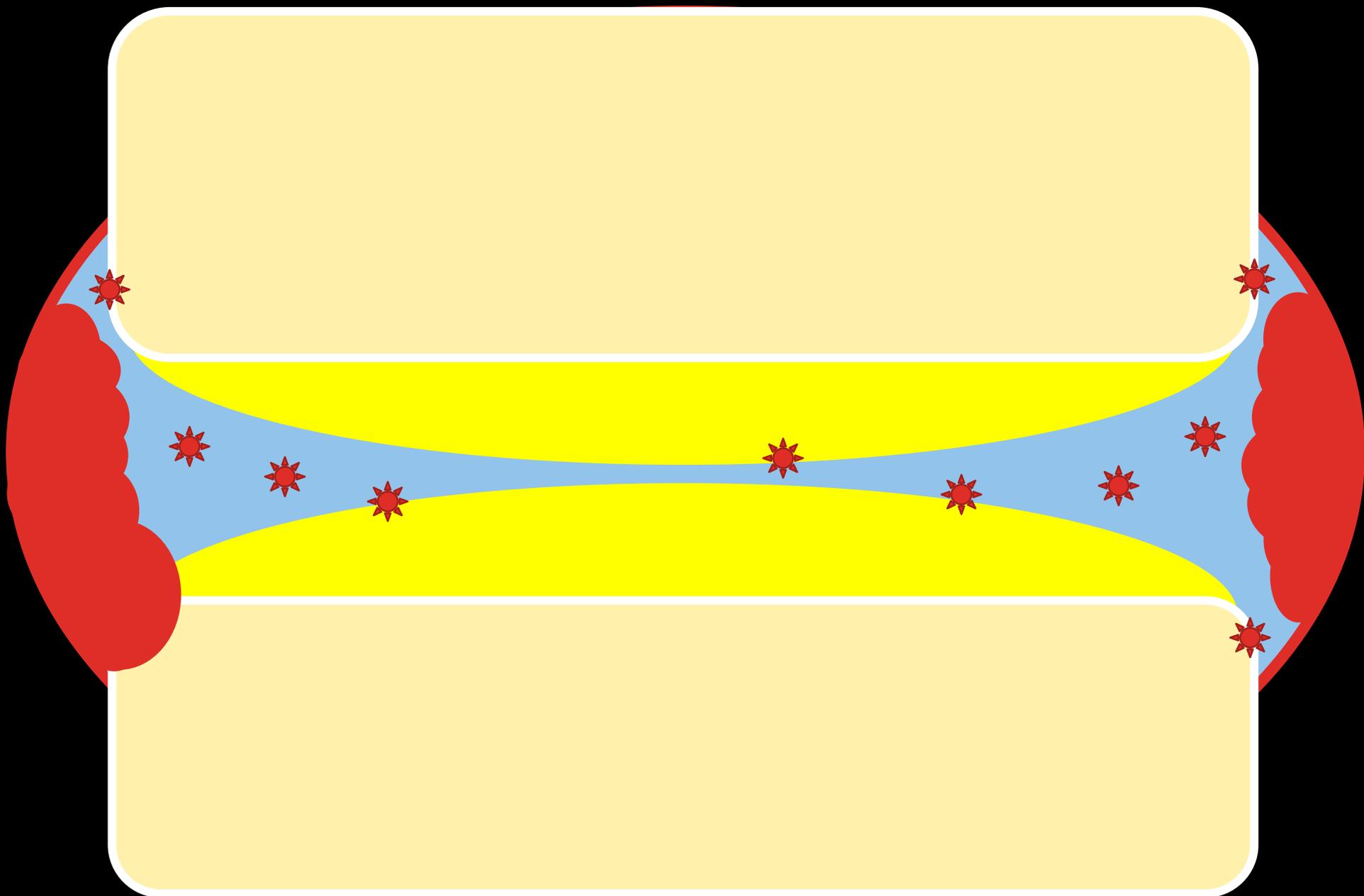
OS MARGINAL

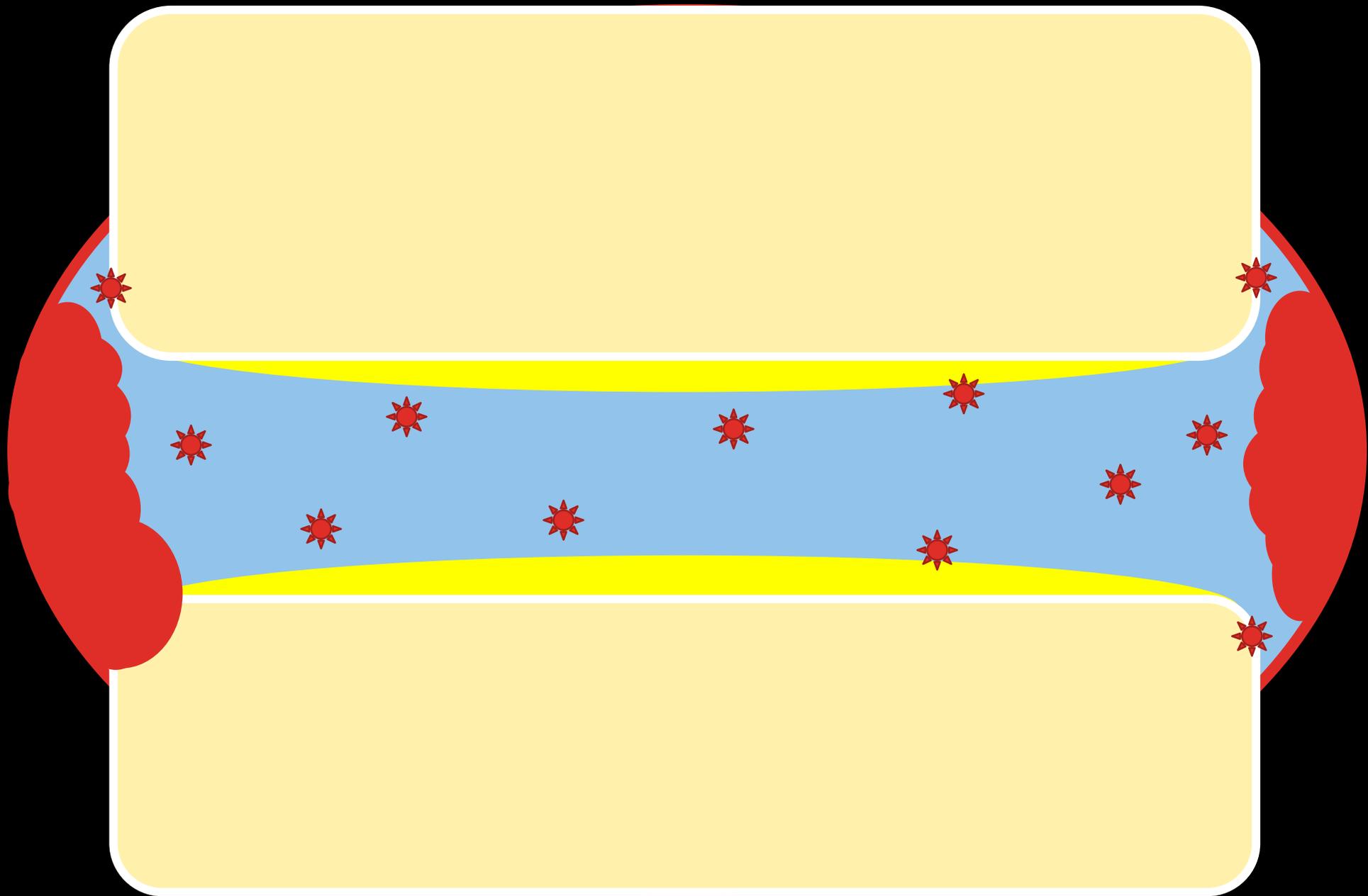
**Erosions**

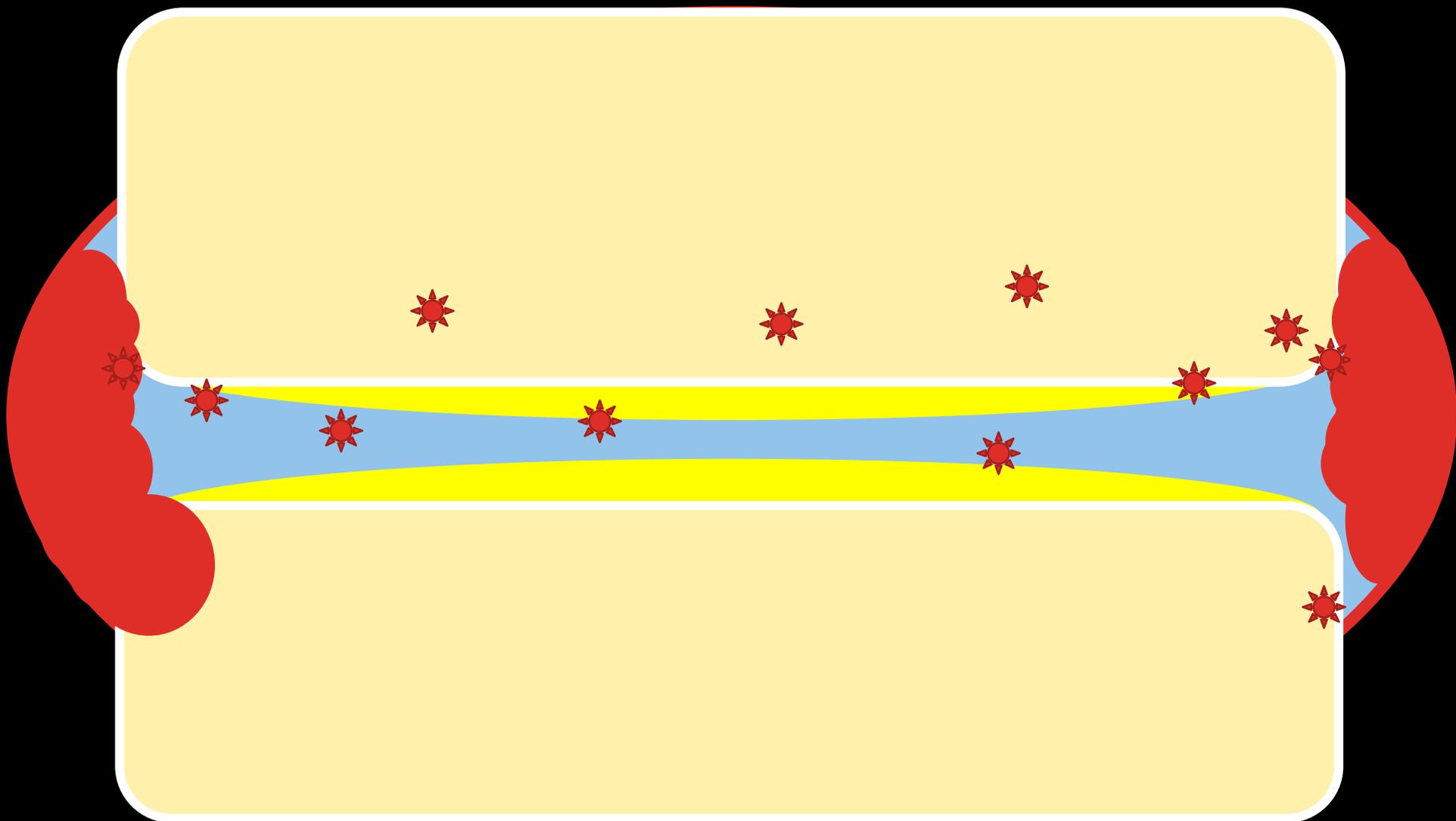








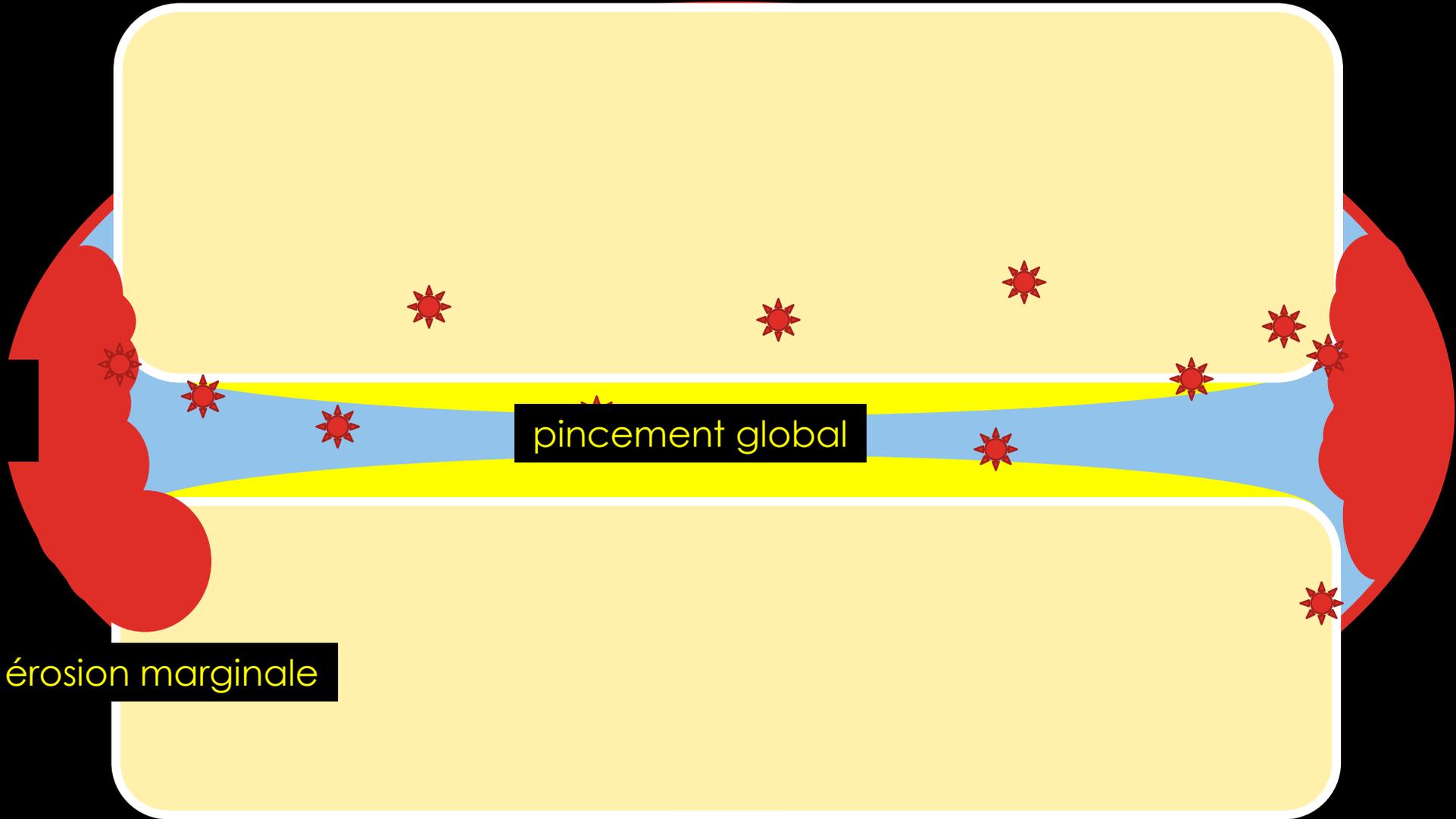




tuméfaction  
synoviale

érosion marginale

pincement global





Interligne articulaire?

A – Pincement focal

B – Pincement global

C – Pas de pincement



Interligne articulaire?

A – **Pincement focal**

B – Pincement global

C – Pas de pincement



Interligne articulaire?

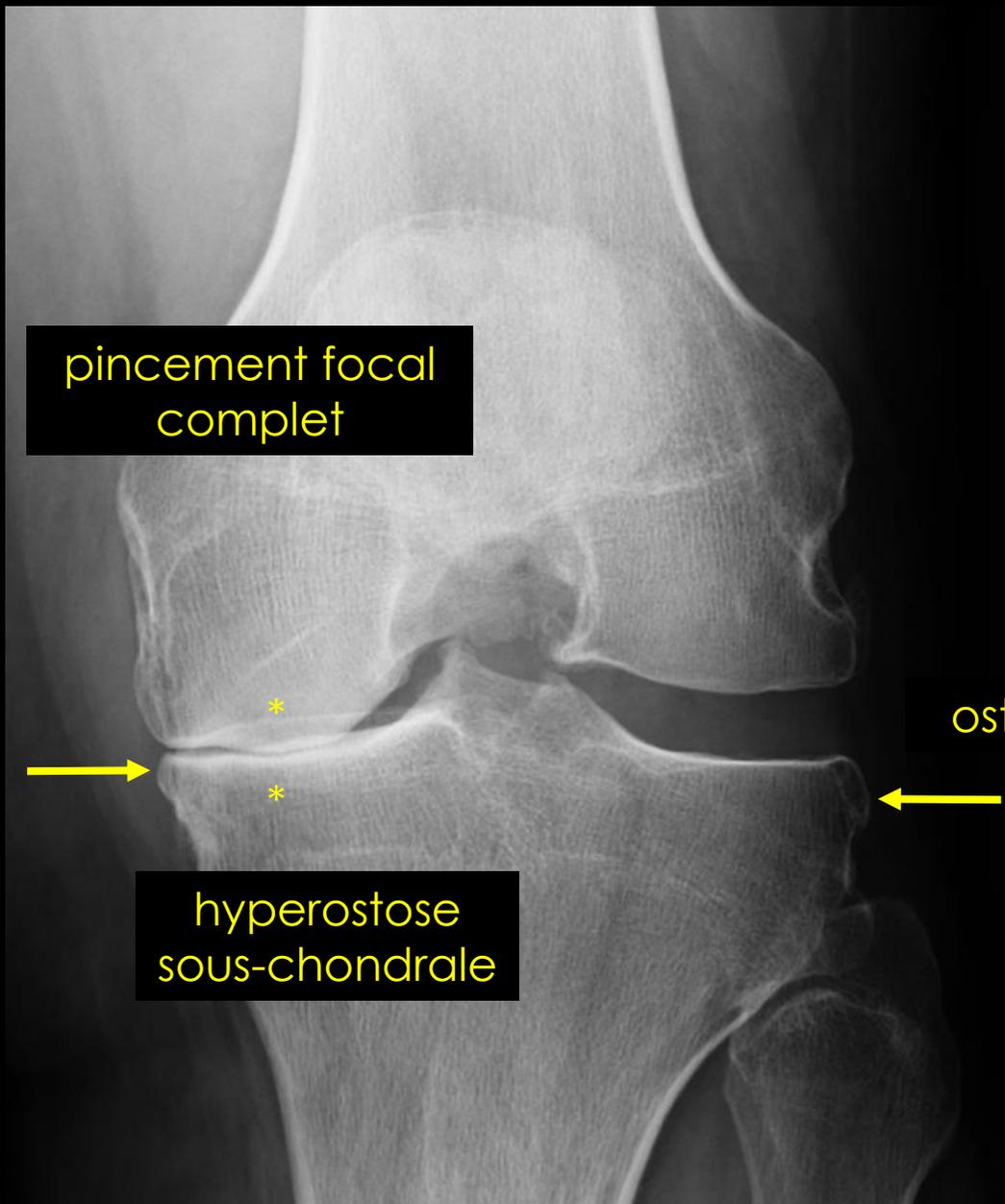
A – Pincement focal

B – Pincement global

C – Pas de pincement

Ostéophyte?

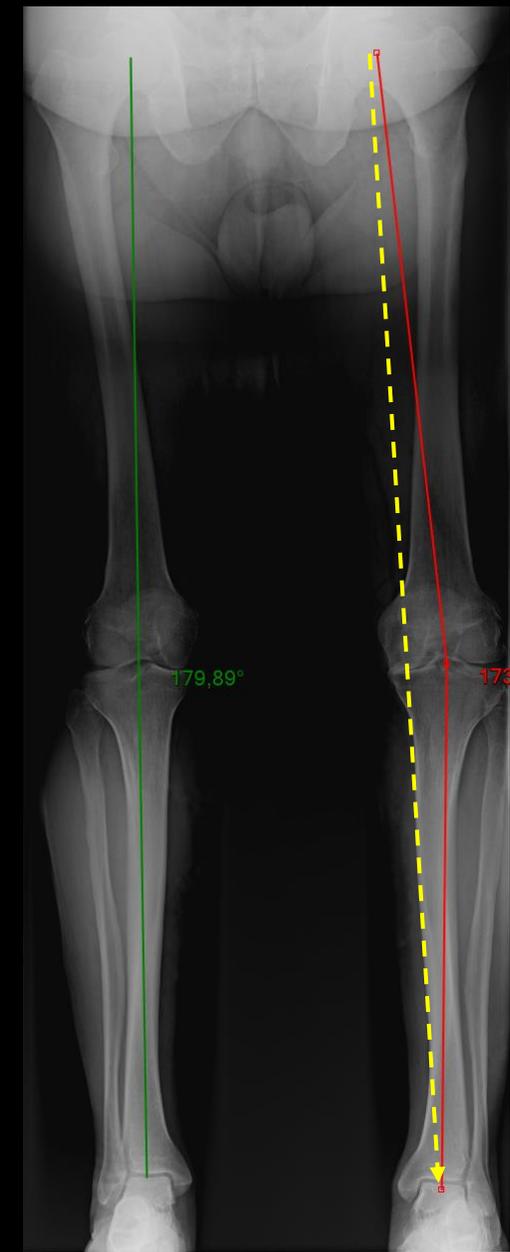
Erosion?



pincement focal complet

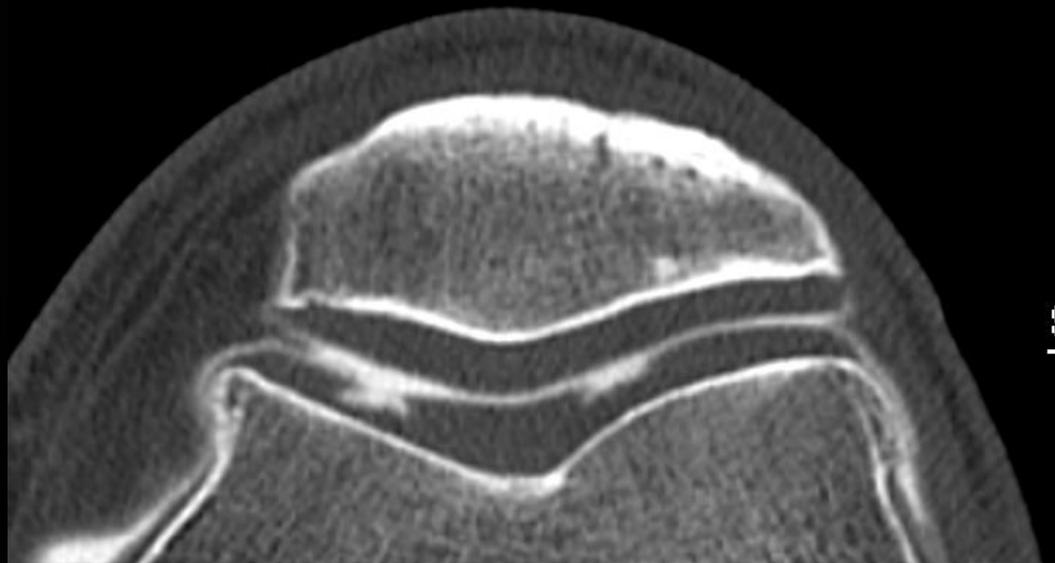
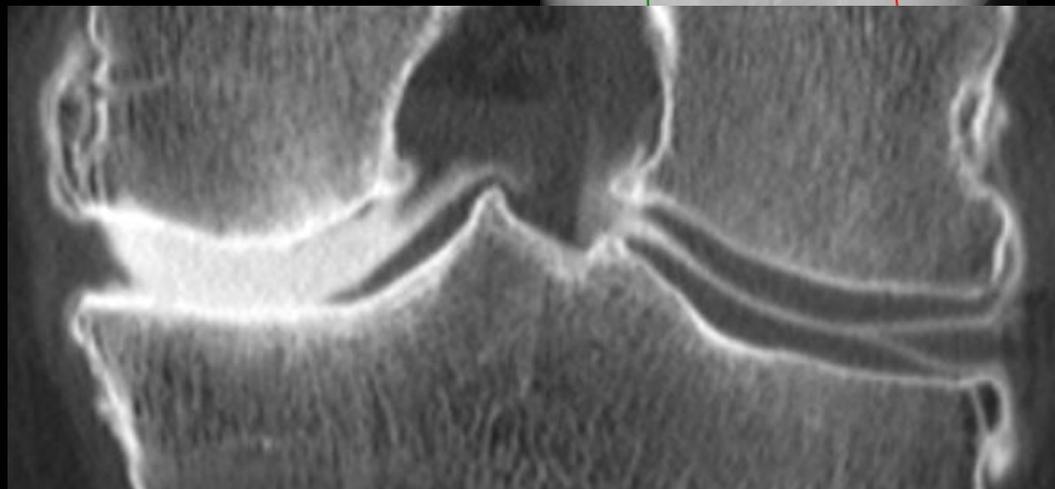
hyperostose sous-chondrale

ostéophytose

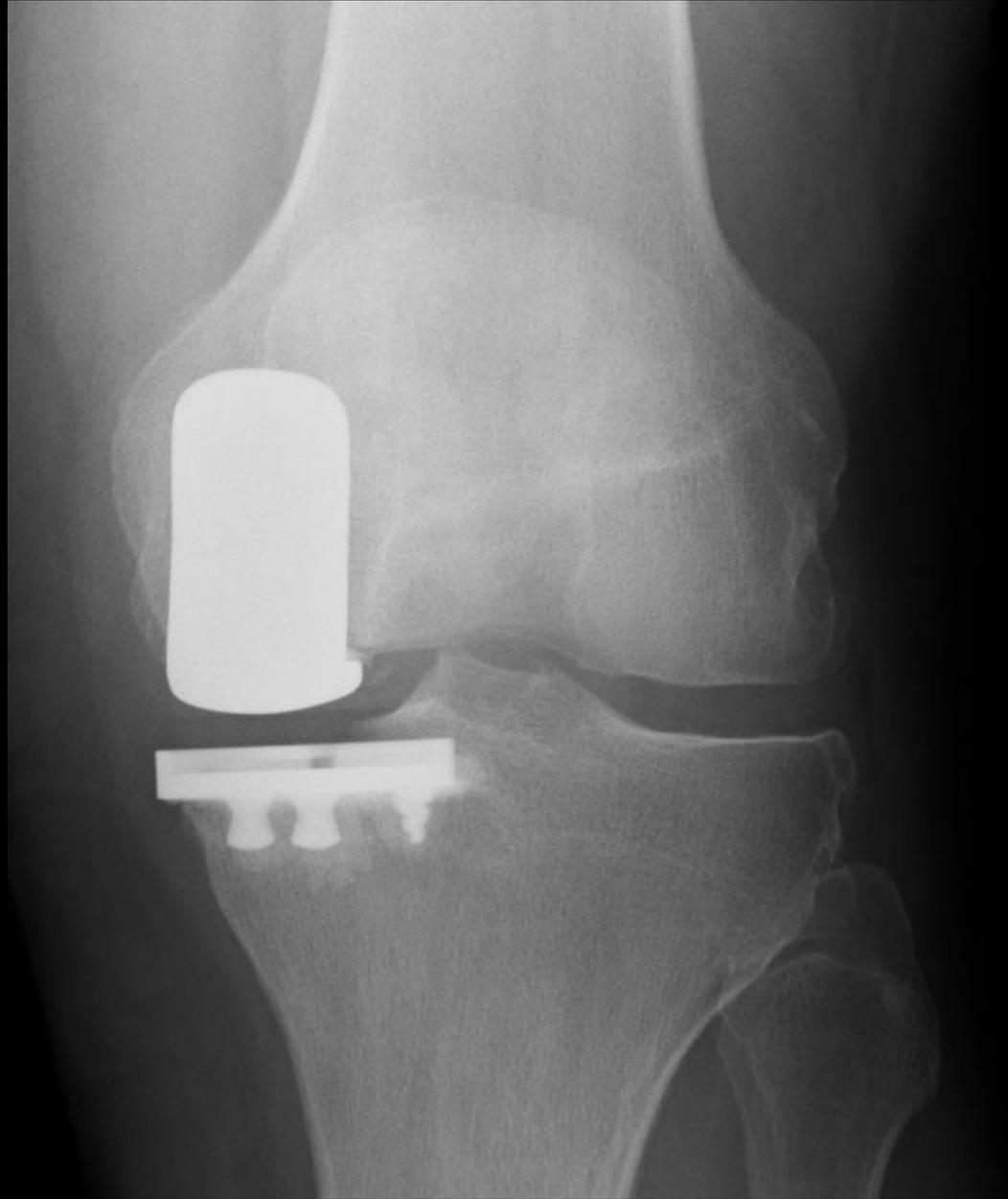


179,89°

173,04°



**Traitement de l'arthrose?**





Interligne articulaire?

A – Pincement focal

B – Pincement global

C – Pas de pincement



Interligne articulaire?

A – Pincement focal

B – **Pincement global**

C – Pas de pincement



Interligne articulaire?

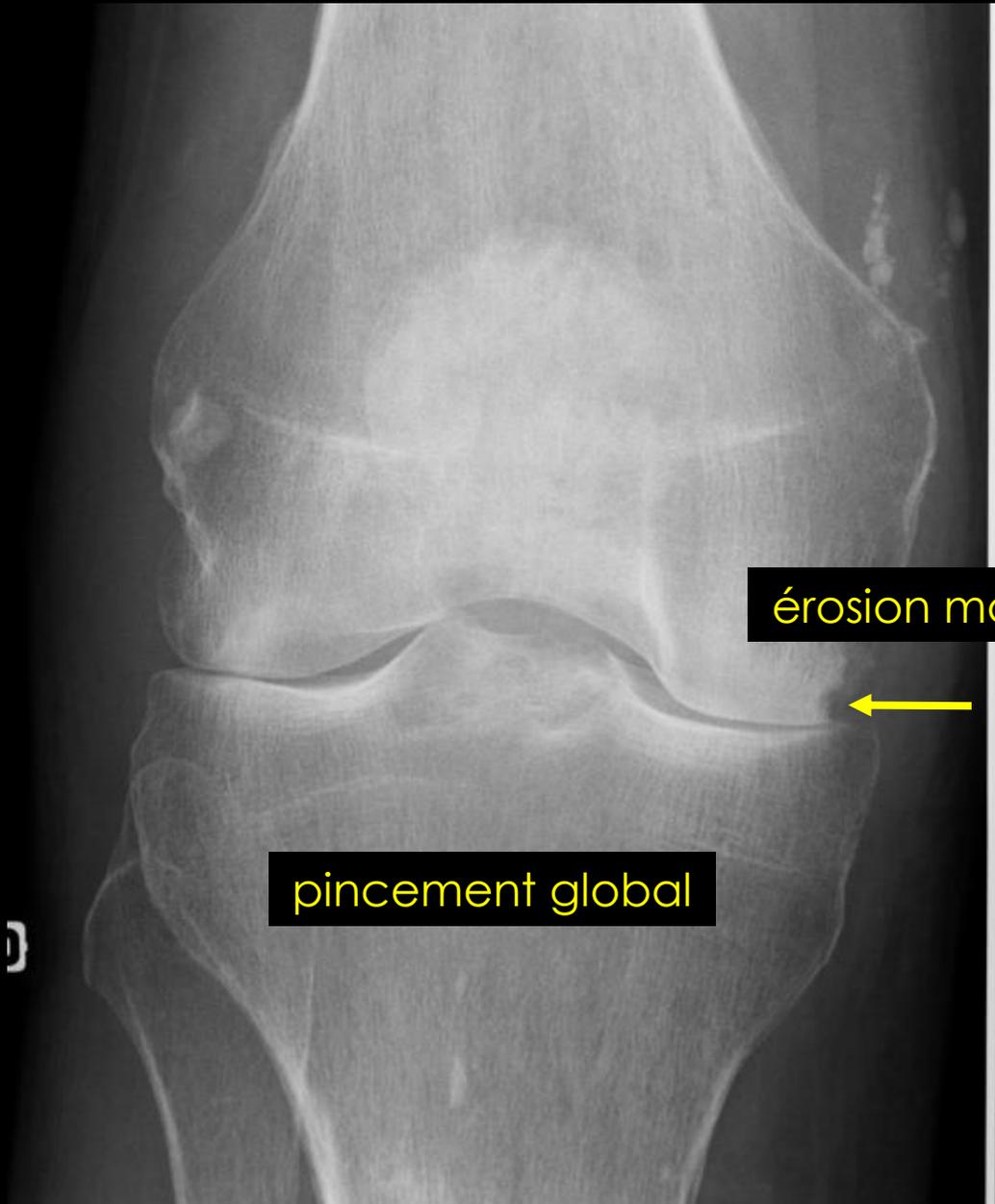
A – Pincement focal

B – **Pincement global**

C – Pas de pincement

Ostéophyte?

Erosion?



Interligne articulaire?

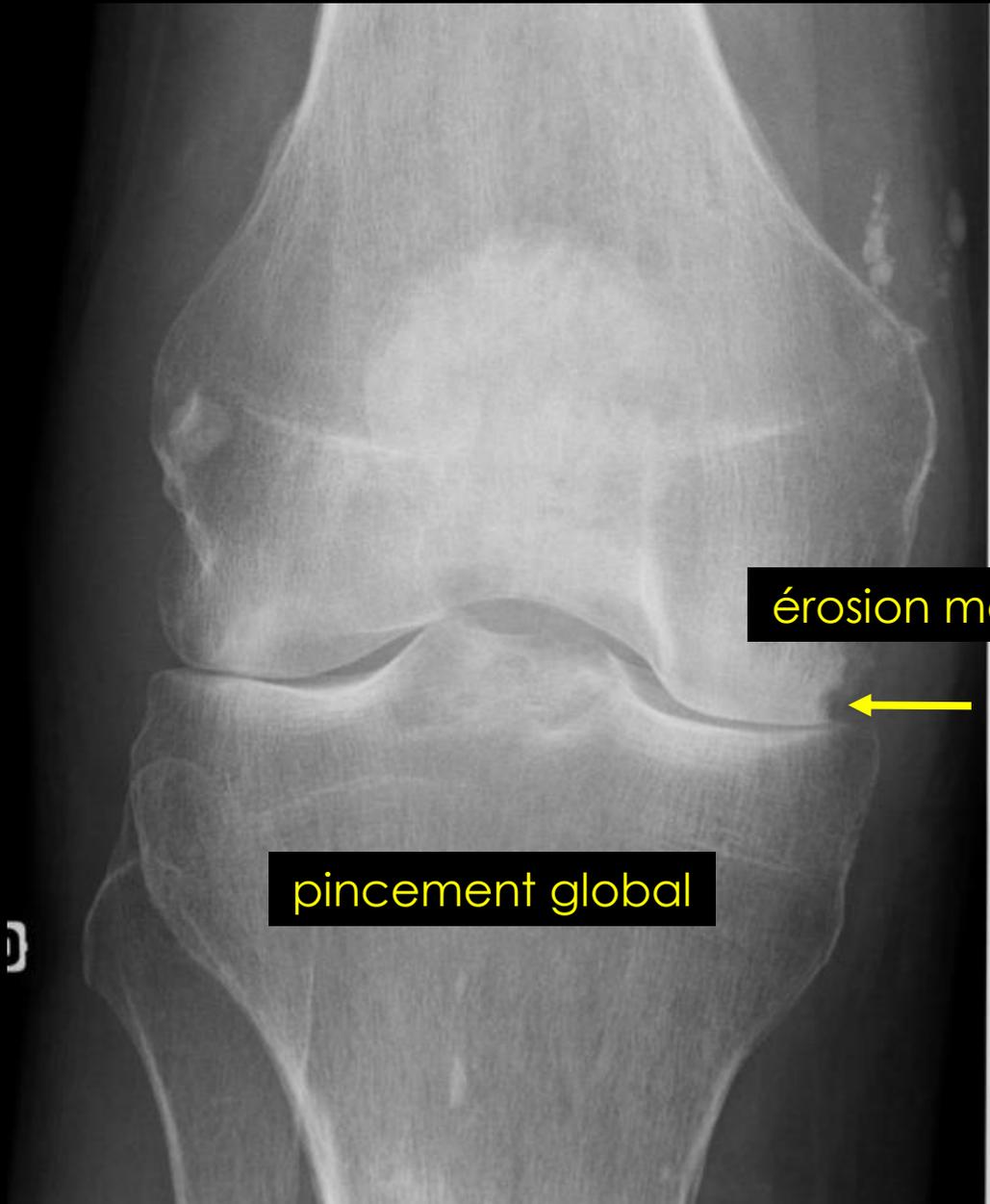
A – Pincement focal

B – **Pincement global**

C – Pas de pincement

Ostéophyte?

Erosion?



5 ans plus tôt



Quel délai entre ces deux examens?

2<sup>e</sup> cliché: 11h37

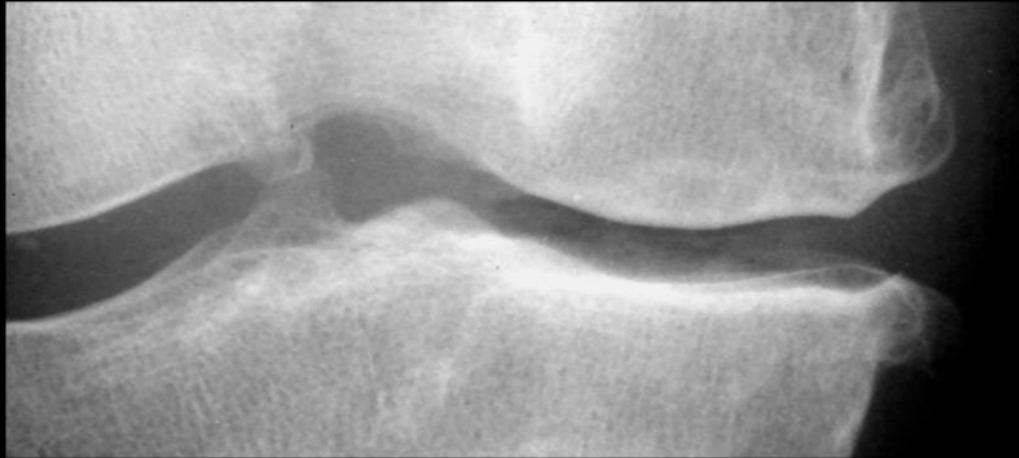


1<sup>er</sup> cliché: 11h05



*artefact technique*

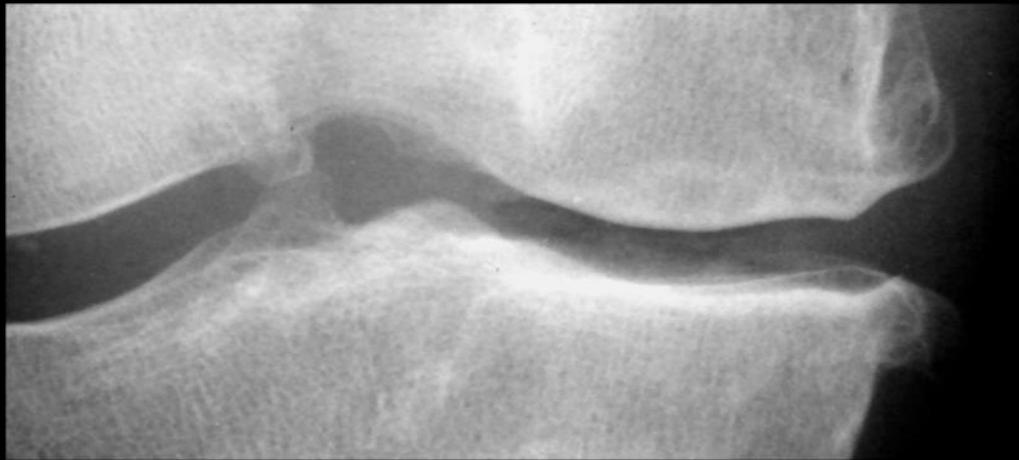
Quel délai entre ces deux examens?



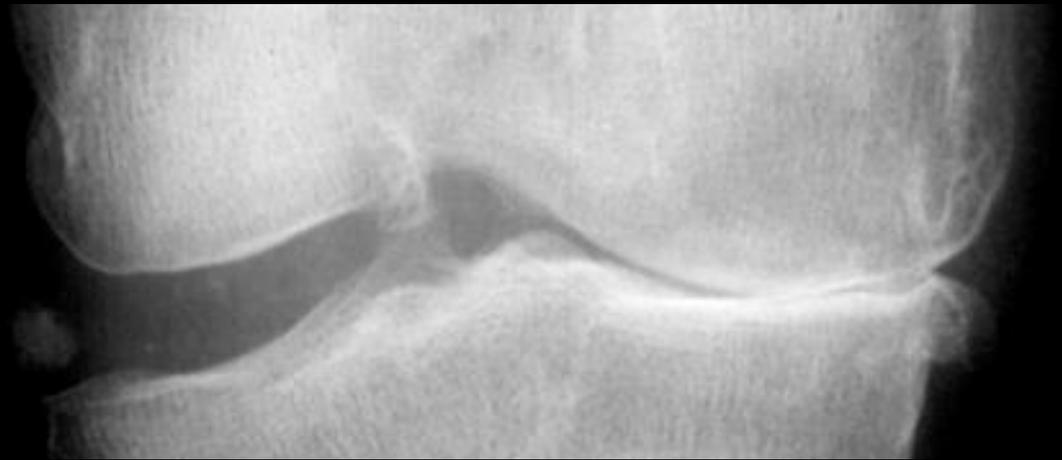
Interligne normal?

A – Oui

B – Non



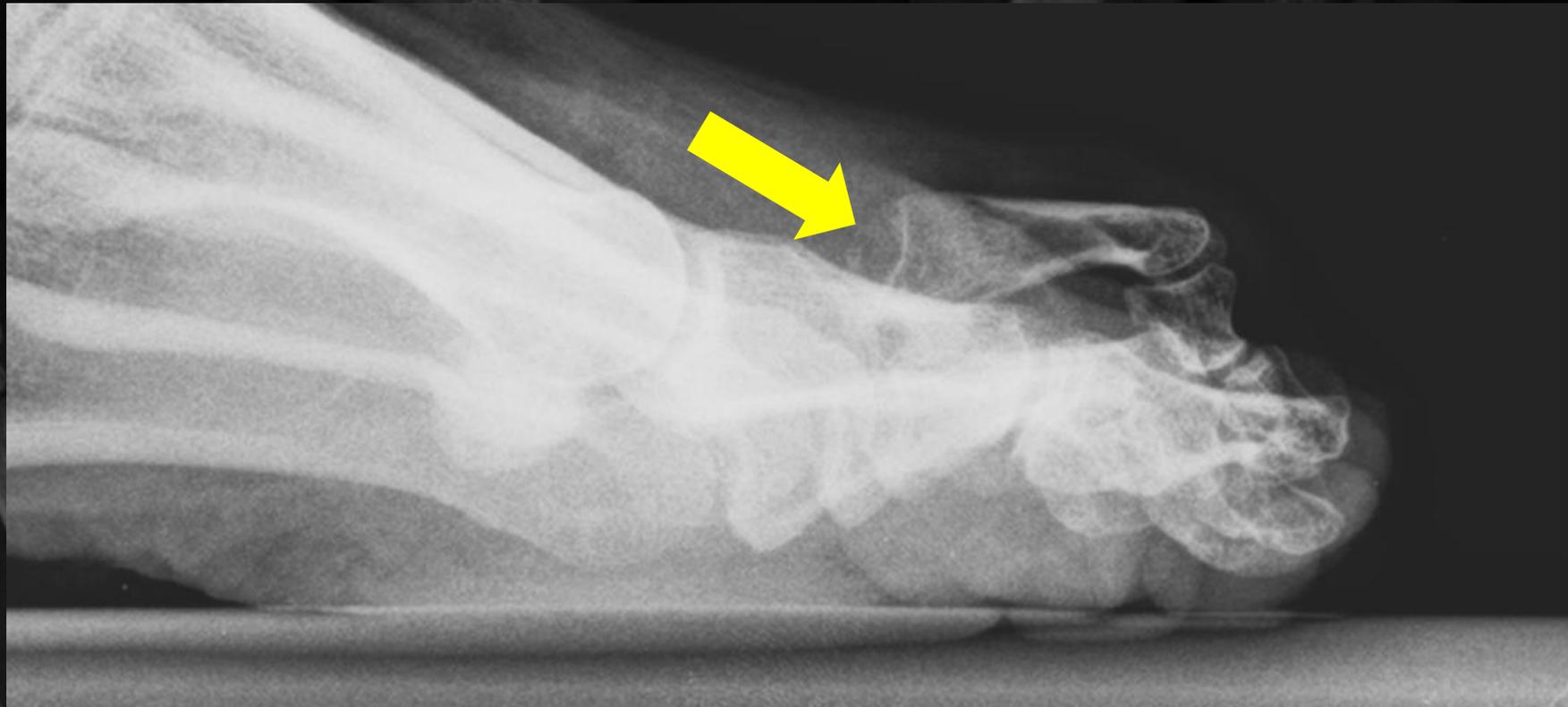
COUCHE



DEBOUT



Pincement de l'interligne MTP R2G?



Pincement de l'interligne MTP R2G? *luxation*



Pincement médial?

A – Oui

B – Non

droit



gauche

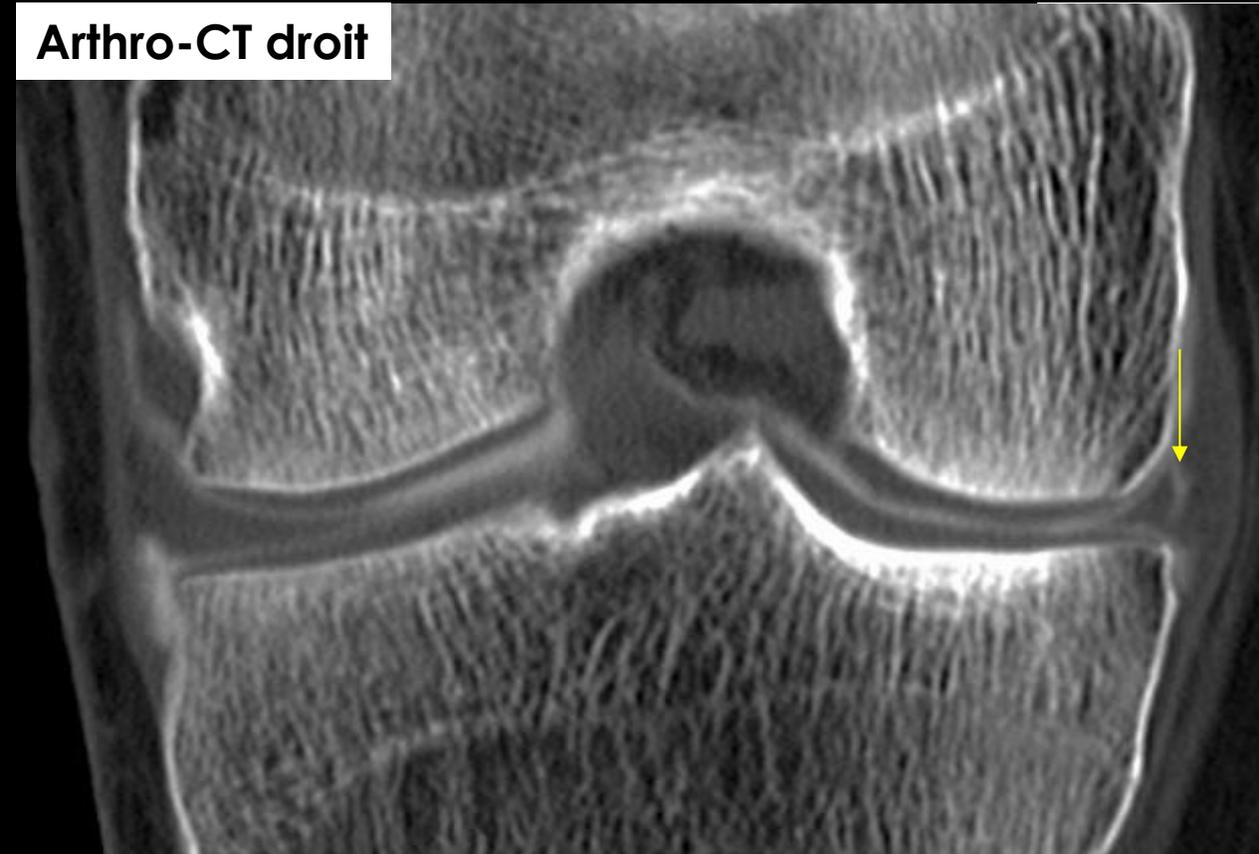


*intérêt des clichés comparatifs*

**RX droit**



**Arthro-CT droit**



*intérêt des clichés comparatifs*



Interligne normal?

A – Oui

B – Non



Interligne normal?

A – Oui

B – Non



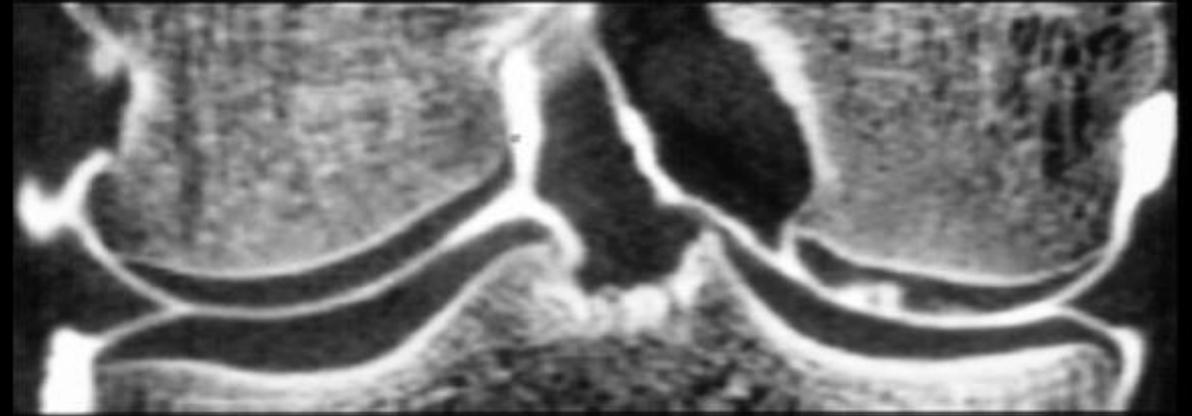
Cartilage normal?

A – Oui

B – Non



Cartilage normal?  
A – Oui  
B – Non



interligne articulaire en RX = reflet indirect du cartilage

interligne normal  $\neq$  cartilage normal

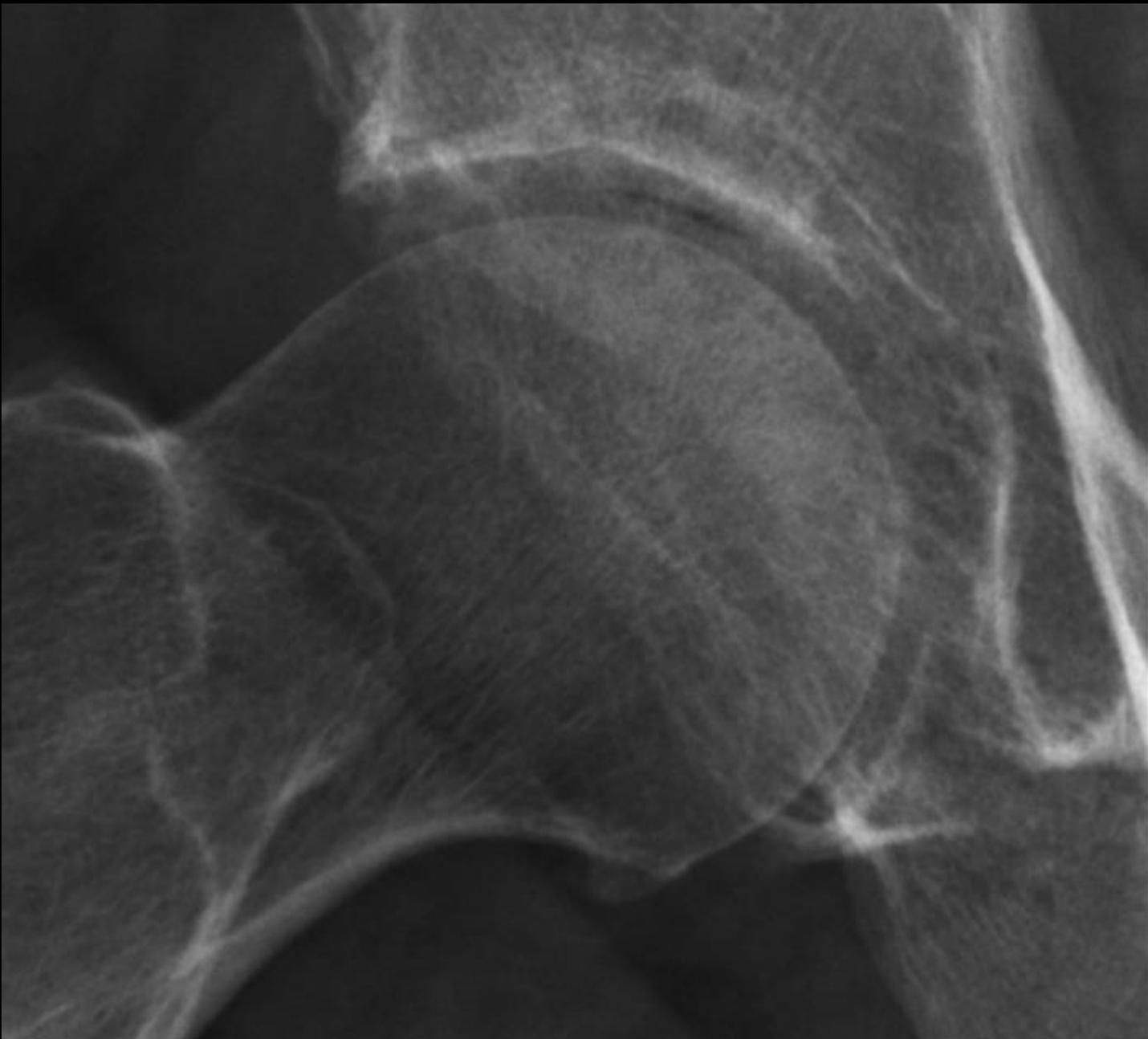


**Peut on voir le cartilage en RX?**

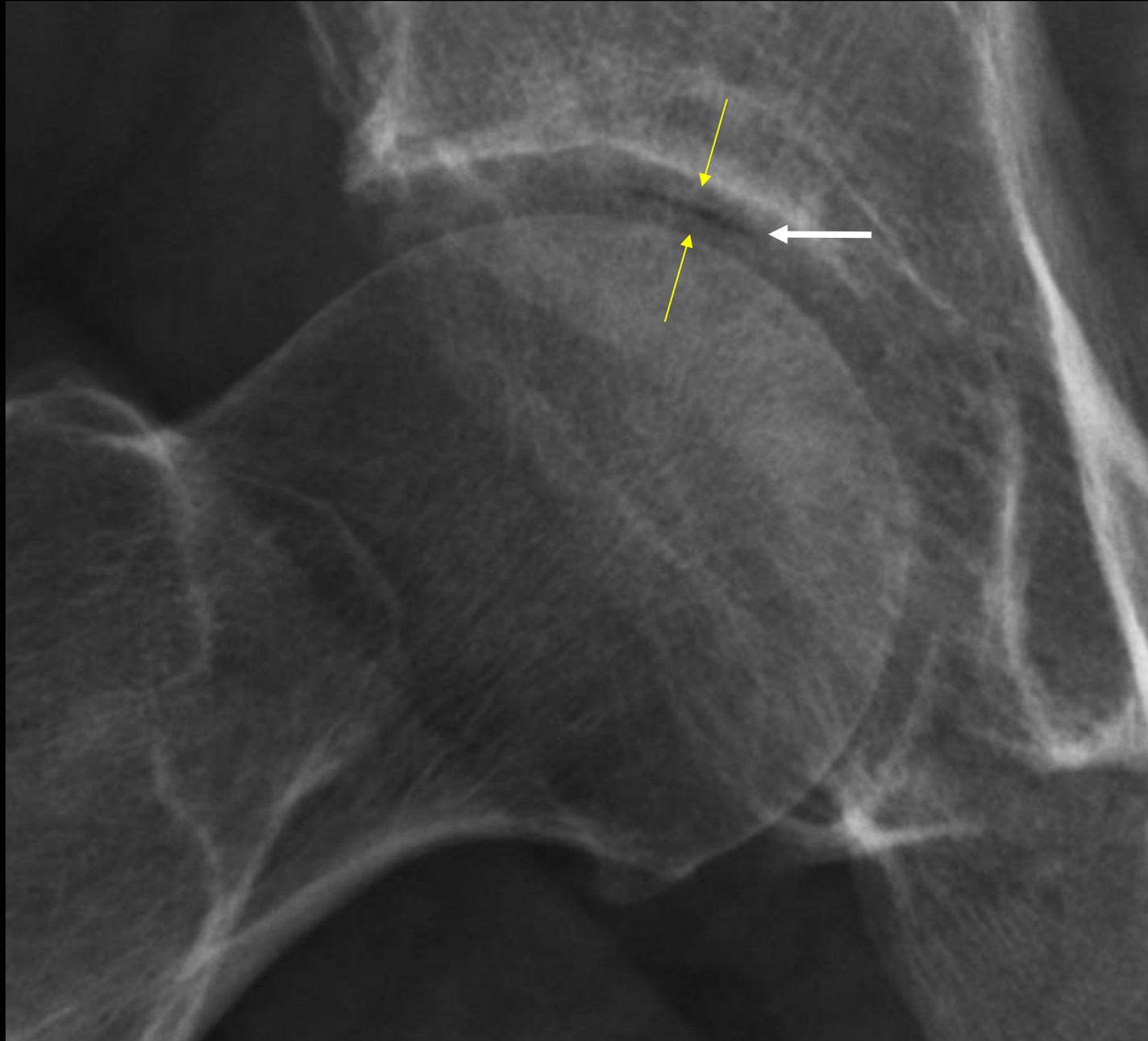
interligne articulaire en RX = reflet indirect du cartilage

interligne normal  $\neq$  cartilage normal





2.



phénomène du vide intra-articulaire

visibilité indirecte du cartilage



Normal?



6 mois plus tard... Toujours normal?



6 mois plus tard...



6 mois plus tard...



Pré-érosif

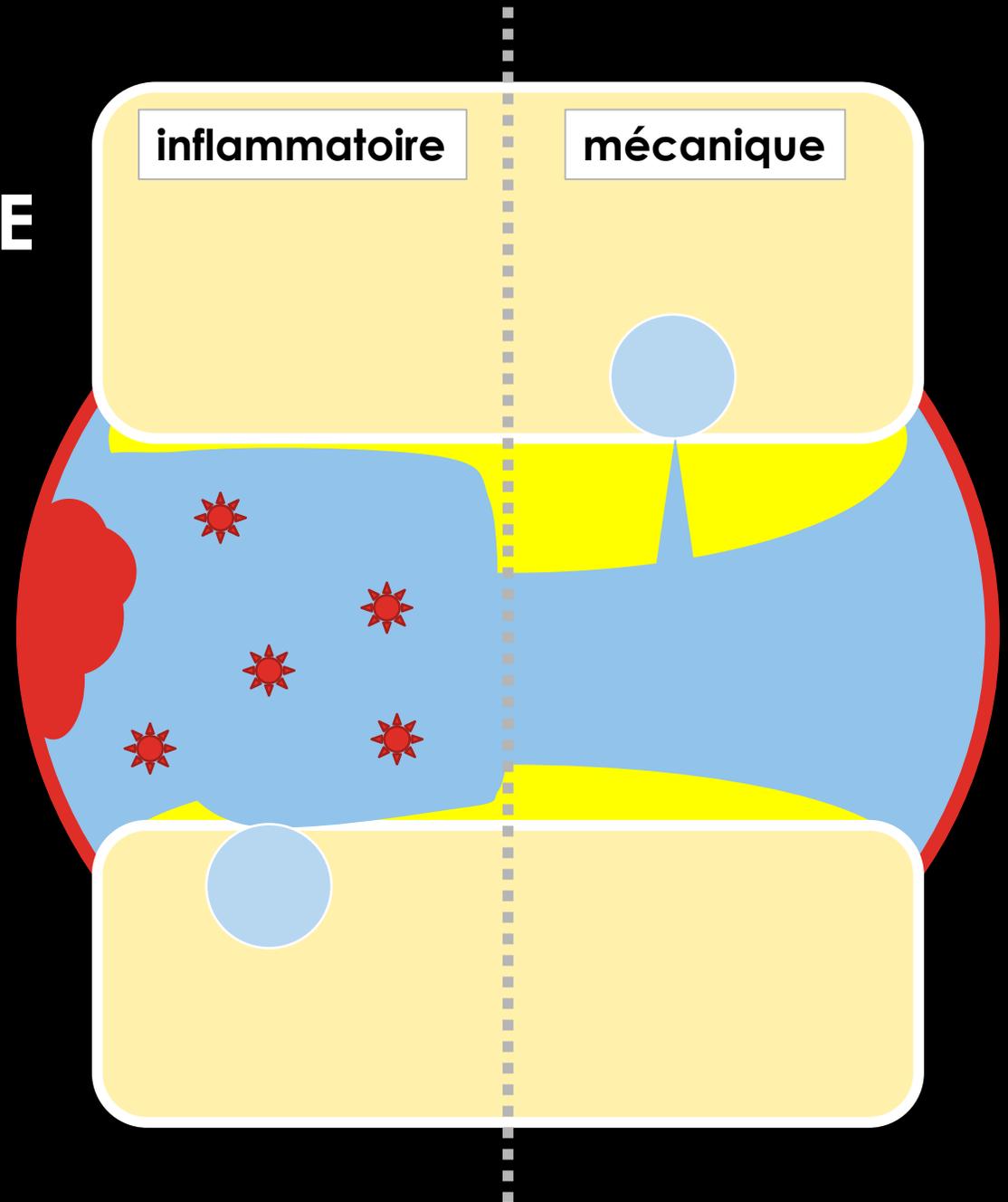
+ 6 mois



Erosif

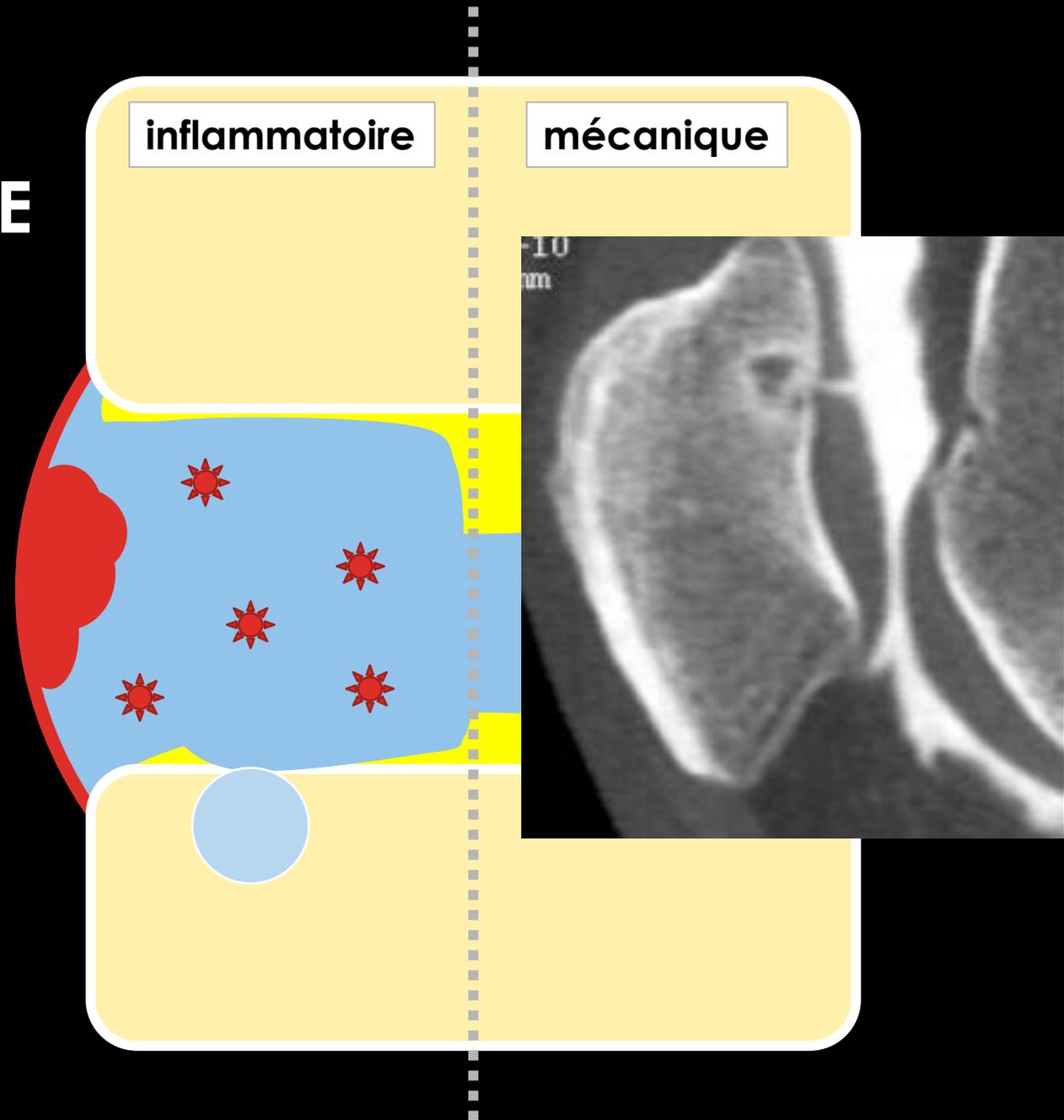
# EROSION SOUS-CHONDRALE

- Zone de contact, d'hyperpression
- Pathologie du cartilage qu'elle soit mécanique ou inflammatoire....
- Non spécifique



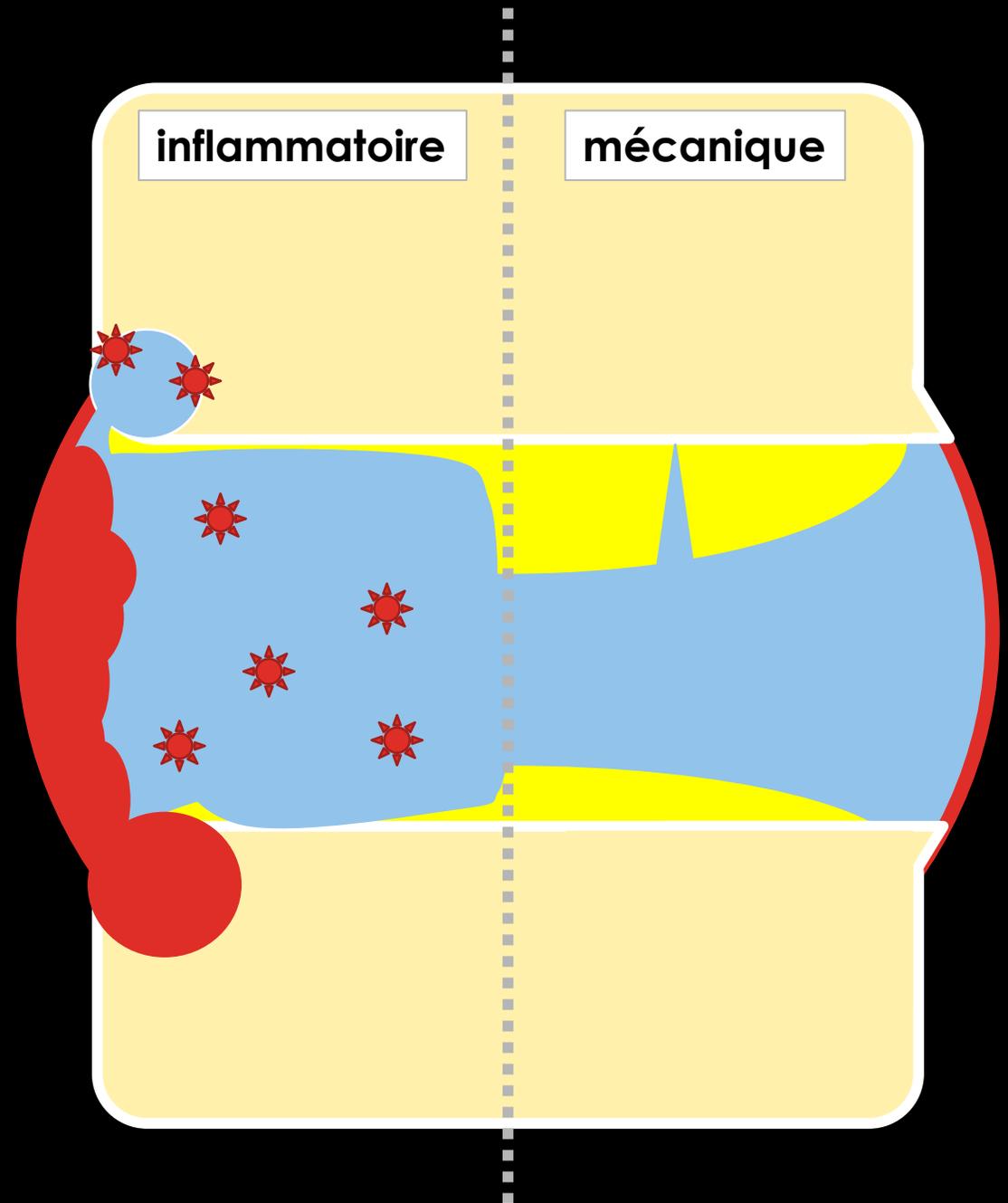
# EROSION SOUS-CHONDRALE

- Zone de contact, d'hyperpression
- Pathologie du cartilage qu'elle soit mécanique ou inflammatoire....
- Non spécifique



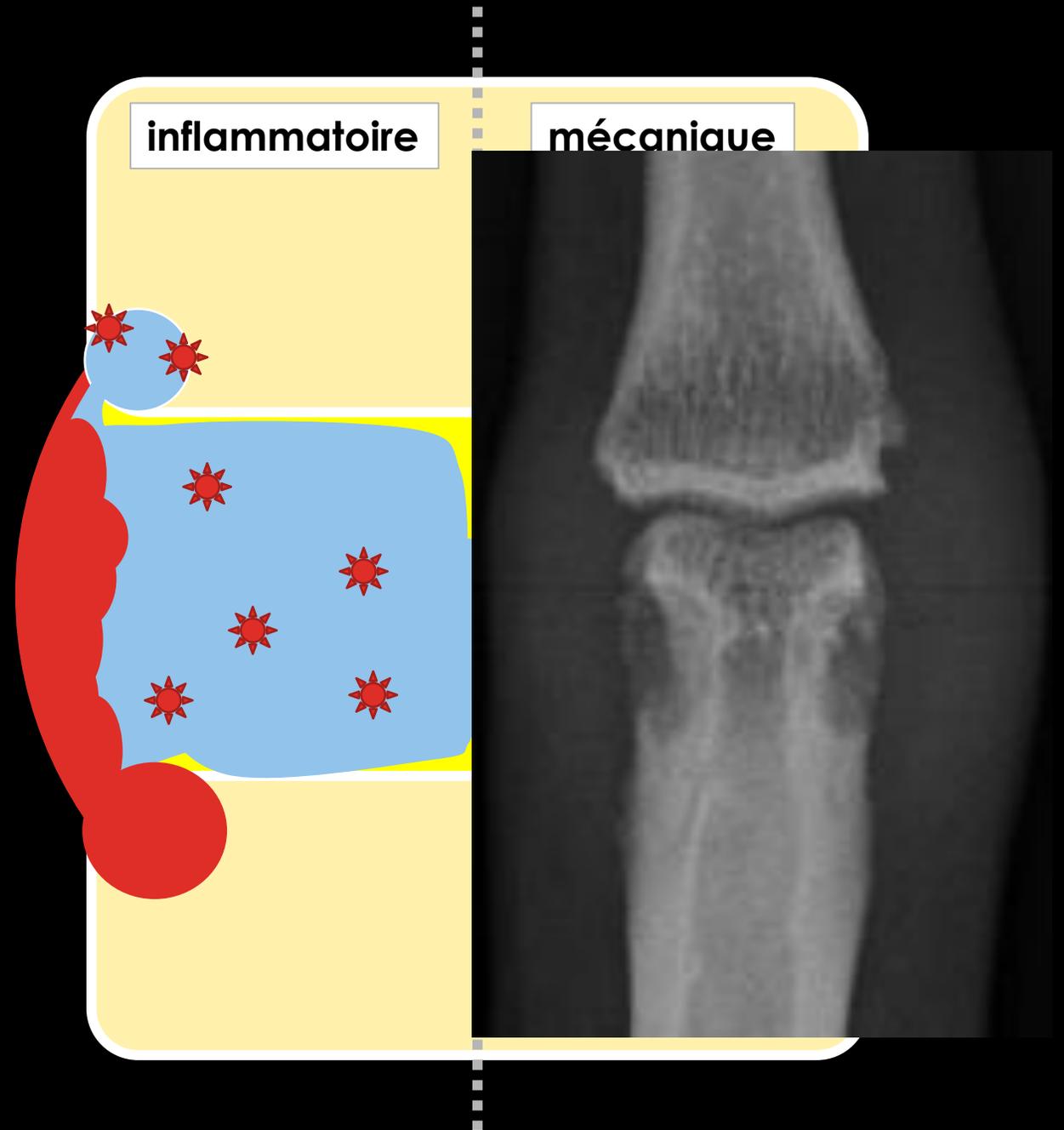
# EROSION MARGINALE

- Pas de contact ni d'hyperpression
- Pathologie de la synoviale
- Localisée à l'os marginal non recouvert par le cartilage
- Spécifique (= non mécanique)



# EROSION MARGINALE

- Pas de contact ni d'hyperpression
- Pathologie de la synoviale
- Localisée à l'os marginal non recouvert par le cartilage
- Spécifique (= non mécanique)





Erosions

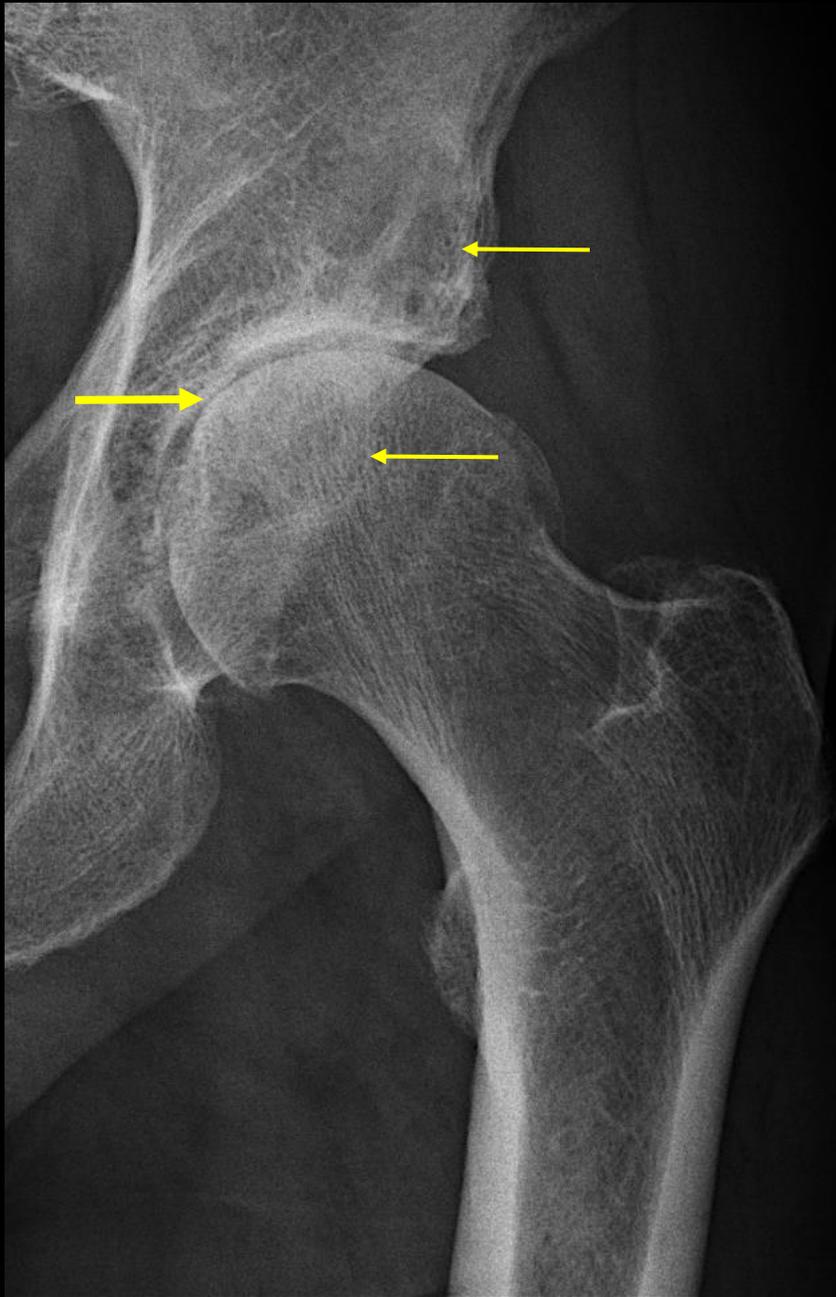
A – marginale?

B – sous-chondrale?

Pincement

A – focal?

B – global?



Pincement focal  
Géodes sous-chondrales  
→ Coxarthrose



PR débutante < 1 an

A – tuméfaction?

B – érosion?

C – chondrolyse?

D – normal?

Y0



PR débutante < 1 an

A – tuméfaction?

B – érosion?

C – chondrolyse?

D – **normal**

Y0



Y0



Y1

PR débutante < 1 an

A – tuméfaction?

B – érosion?

C – chondrolyse?

D – normal?



Y0



Y1

PR débutante < 1 an

- A – tuméfaction
- B – érosion marginale
- C – chondrolyse?
- D – normal?



Y0



Y1



Y2



Y0



Y1



Y2



Y0

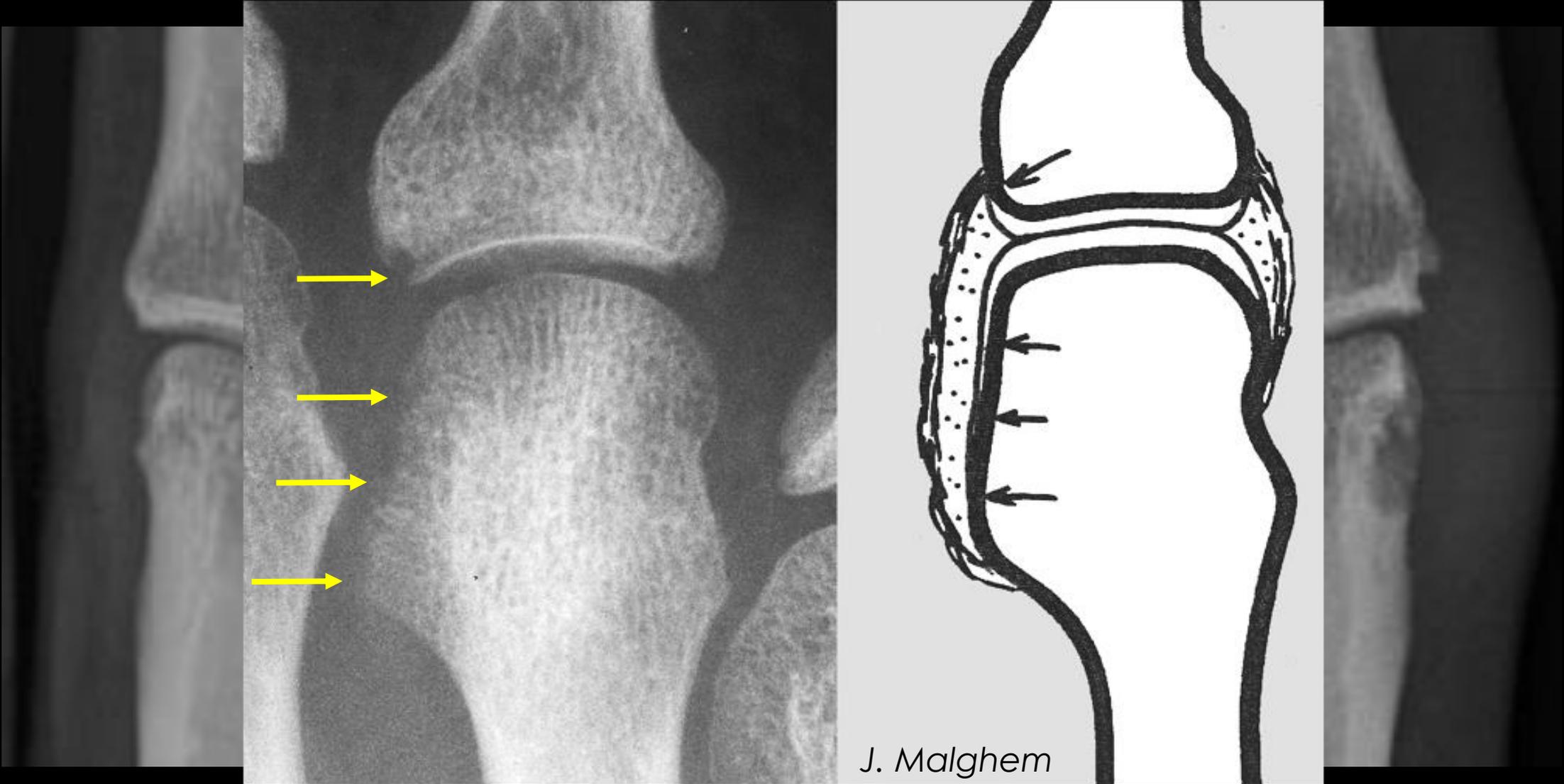


**Pourquoi?**

Y1



Y2



Y0

Y1

Y2



Erosion marginale?

A – Oui

B – Non



Erosion marginale?

A – Oui

B – Non

*proliférations osseuses*



Tumescence des tissus mous?

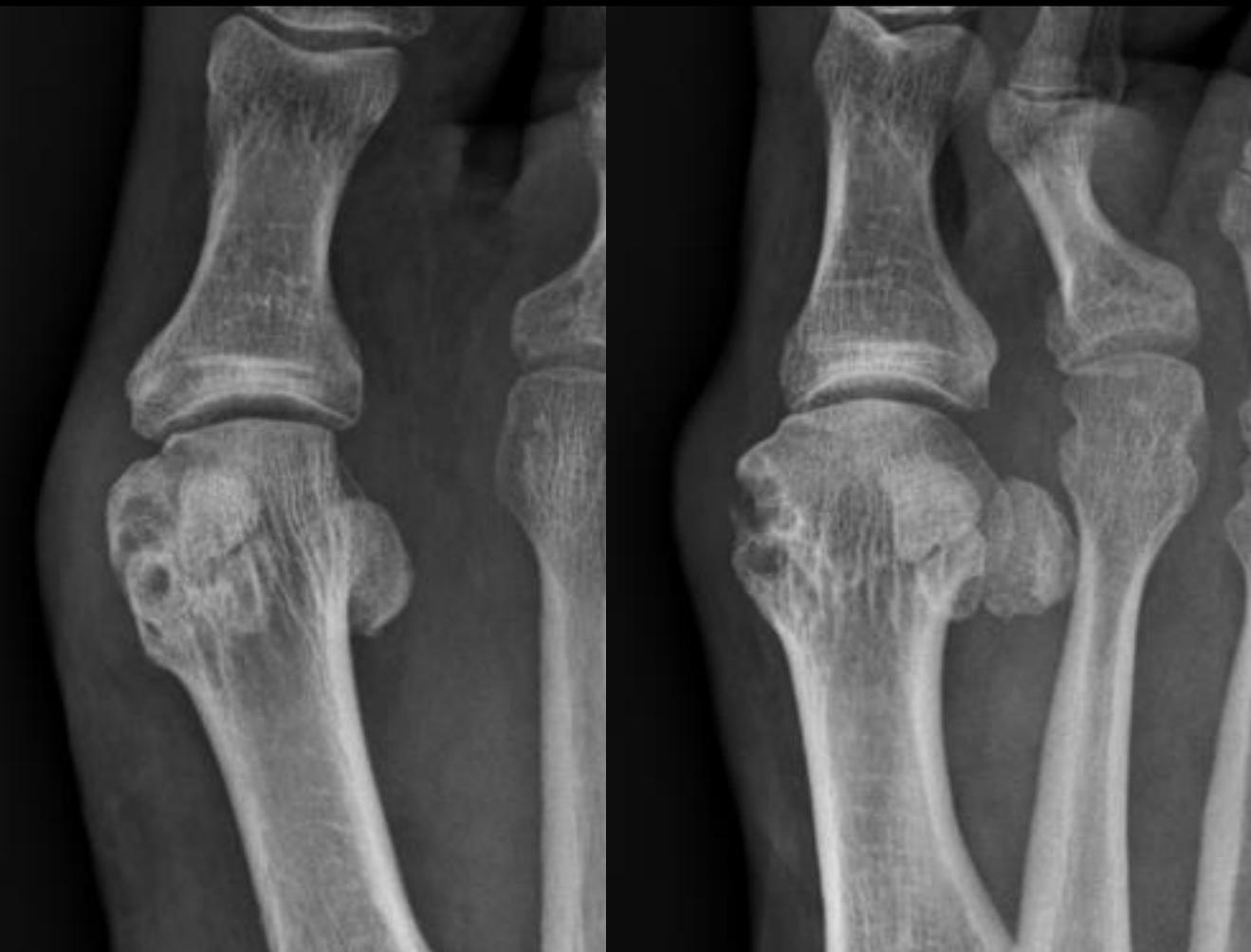
A – Oui

B – Non

Topographie des érosions?

A – Marginale

B – Sous-chondrale



Tuméfaction des tissus mous?

A – Oui

B – Non

Topographie des érosions?

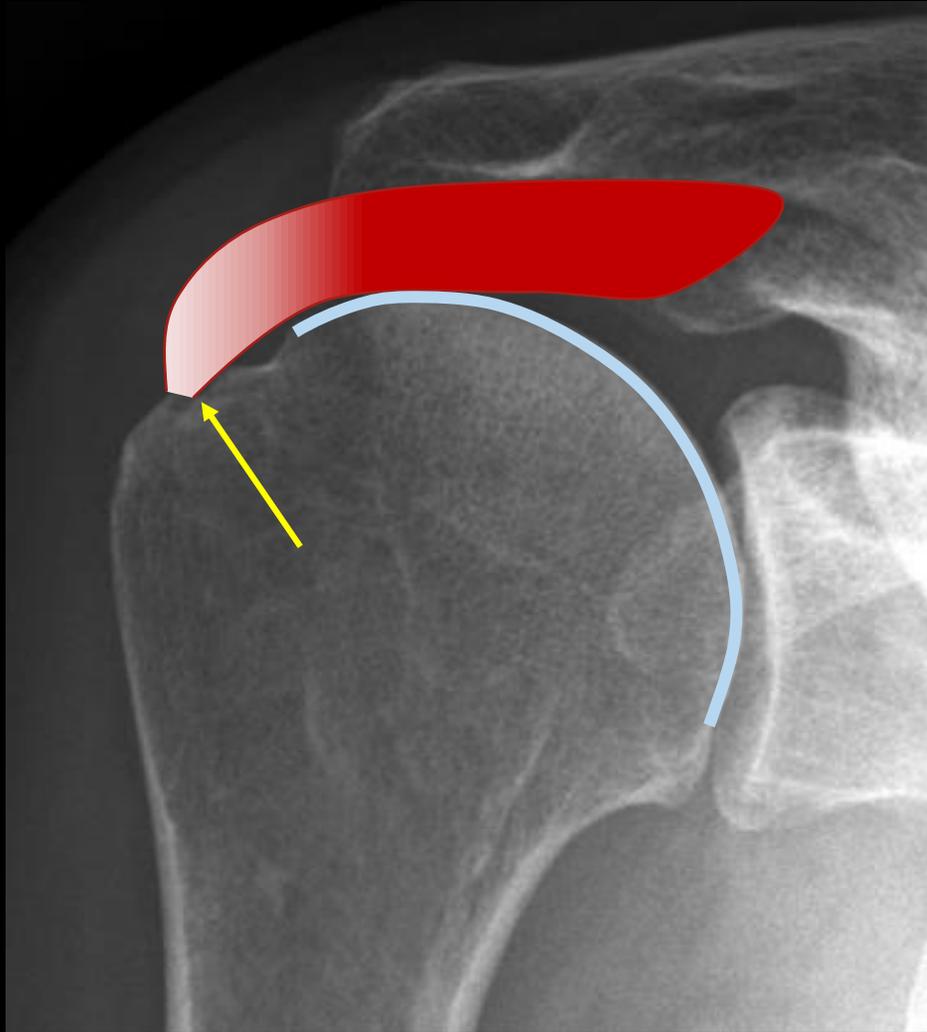
A – Marginale

B – Sous-chondrale

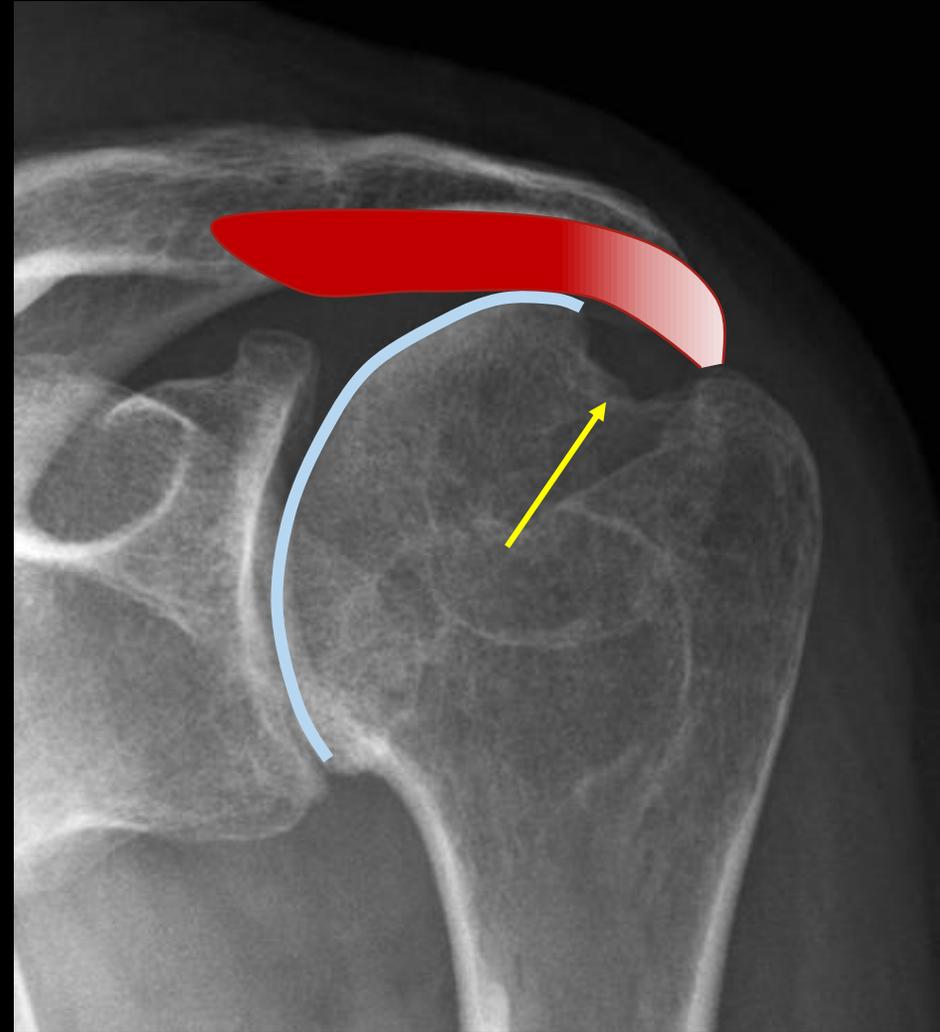
*remaniement mécanique  
conflit extrinsèque  
(chaussage)*



Laquelle est mécanique? Laquelle est inflammatoire?



remaniement mécanique  
enthèse (supra-épineux)



remaniement inflammatoire  
os marginal (PR)



Erosion marginale?

A – Oui

B – Non

Pincement articulaire?

A – Focal

B – Global



Erosion marginale?

A – Oui

B – Non

Pincement articulaire?

A – Focal

B – Global



Erosion marginale?

A – Oui

B – Non

Pincement articulaire?

A – Focal

B – Global

C – Subluxation



Rhumatisme inflammatoire?



4 mois plus tôt...

3 CAS POUR TERMINER...



Pincement?

A – focal

B – global



Pincement?

A – focal

B – global

Erosions marginales?

A – oui

B – non



Pincement?

A – focal

B – **global**

Erosions marginales?

A – oui

B – **non**

Arthropathie?

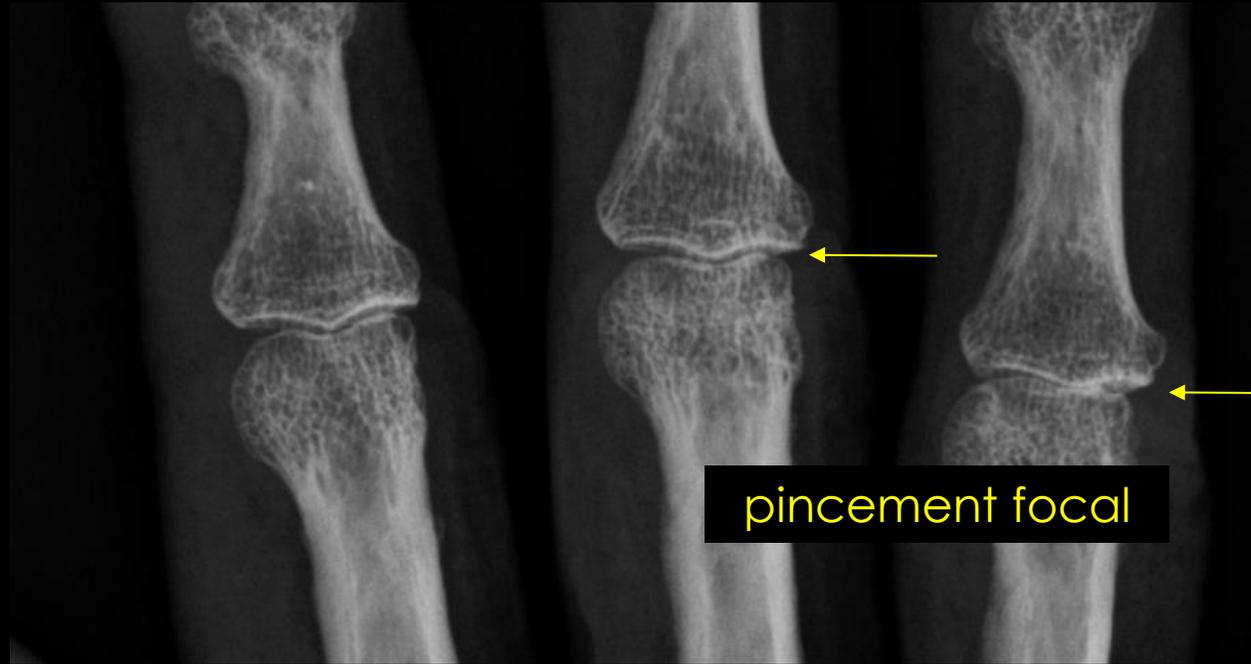
A – mécanique

B – inflammatoire



*Arthrose interphalangiennne évoluée*

Pincement? A – focal B – <b>global</b>	Erosions marginales? A – oui B – <b>non</b>	Arthropathie? A – <b>mécanique</b> B – inflammatoire
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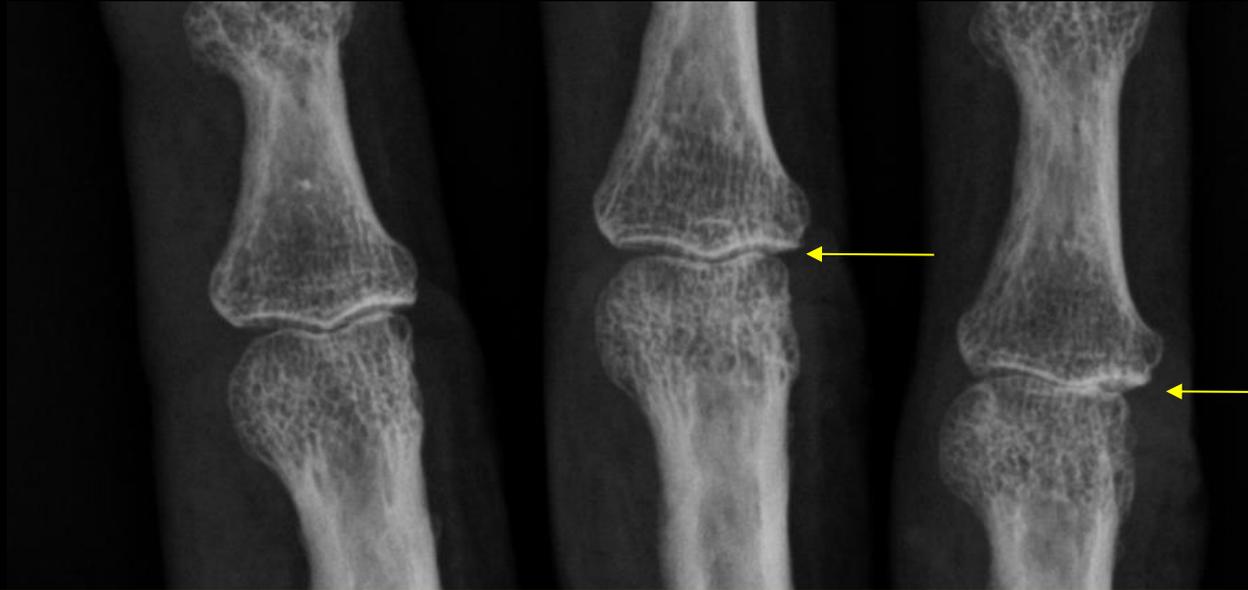


*8 ans plus tôt*

**pincement focal**

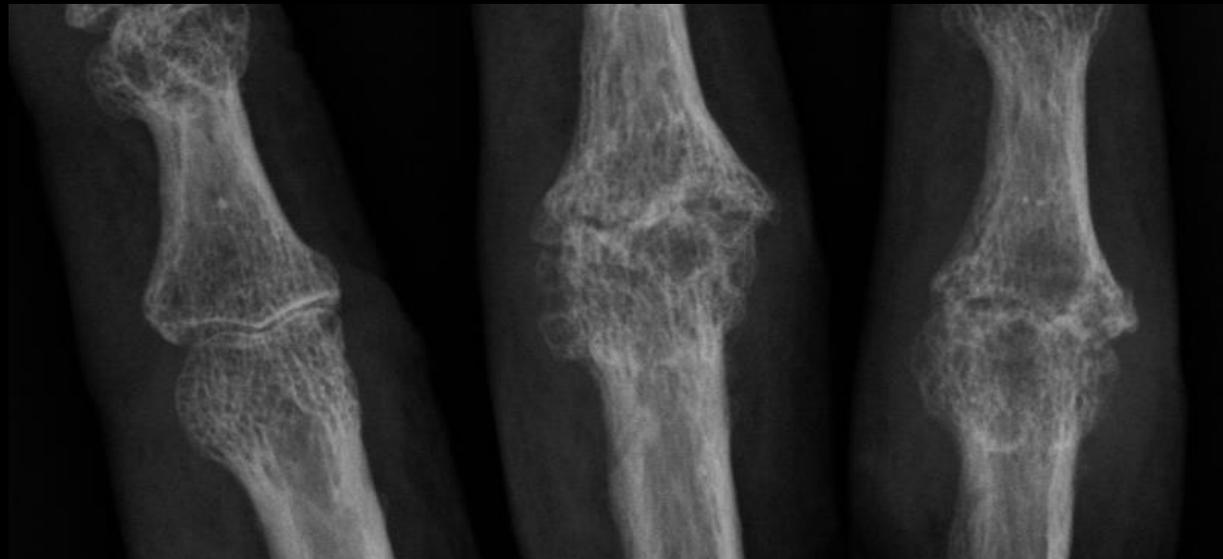


*aujourd'hui*



*8 ans plus tôt*

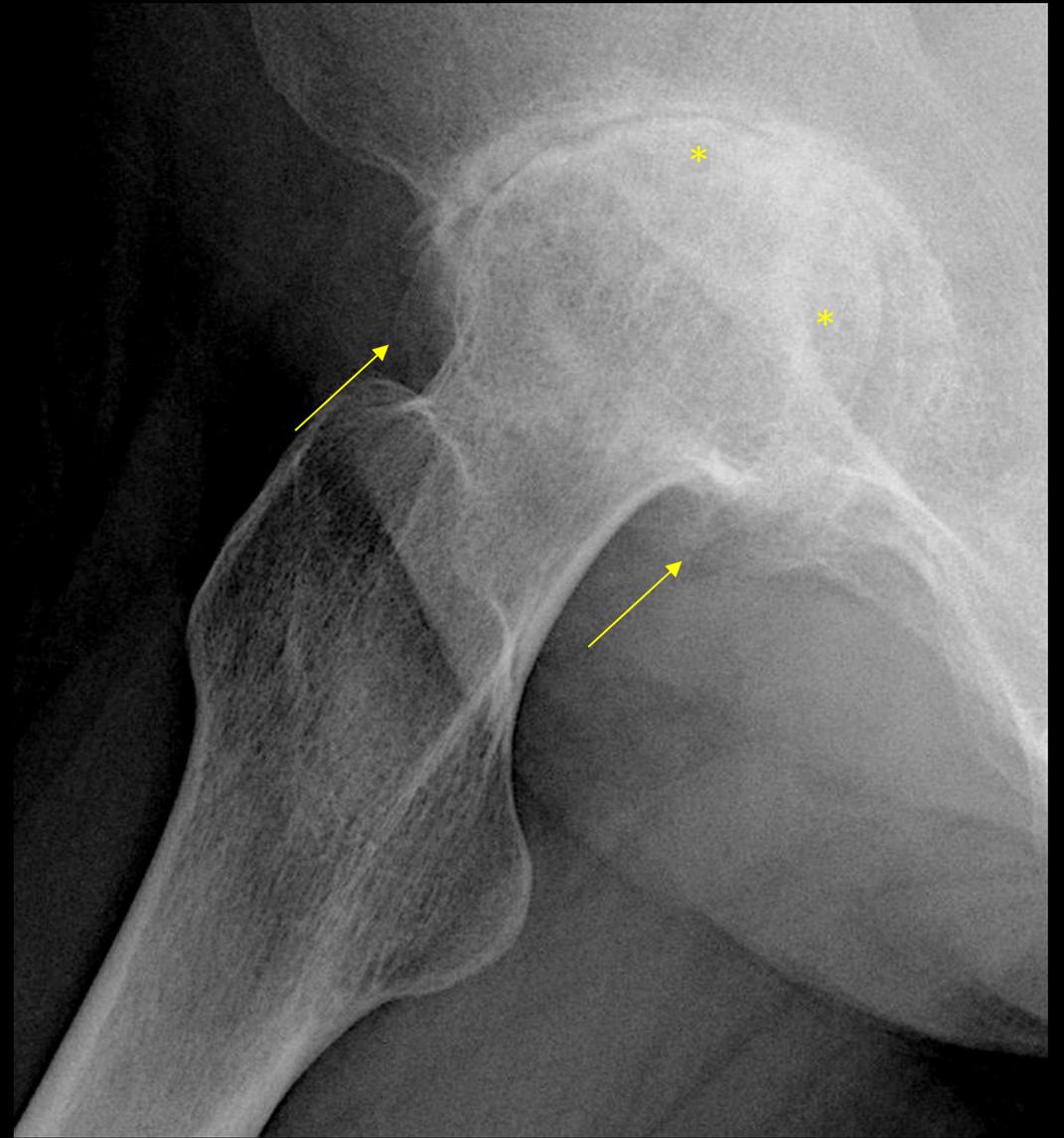
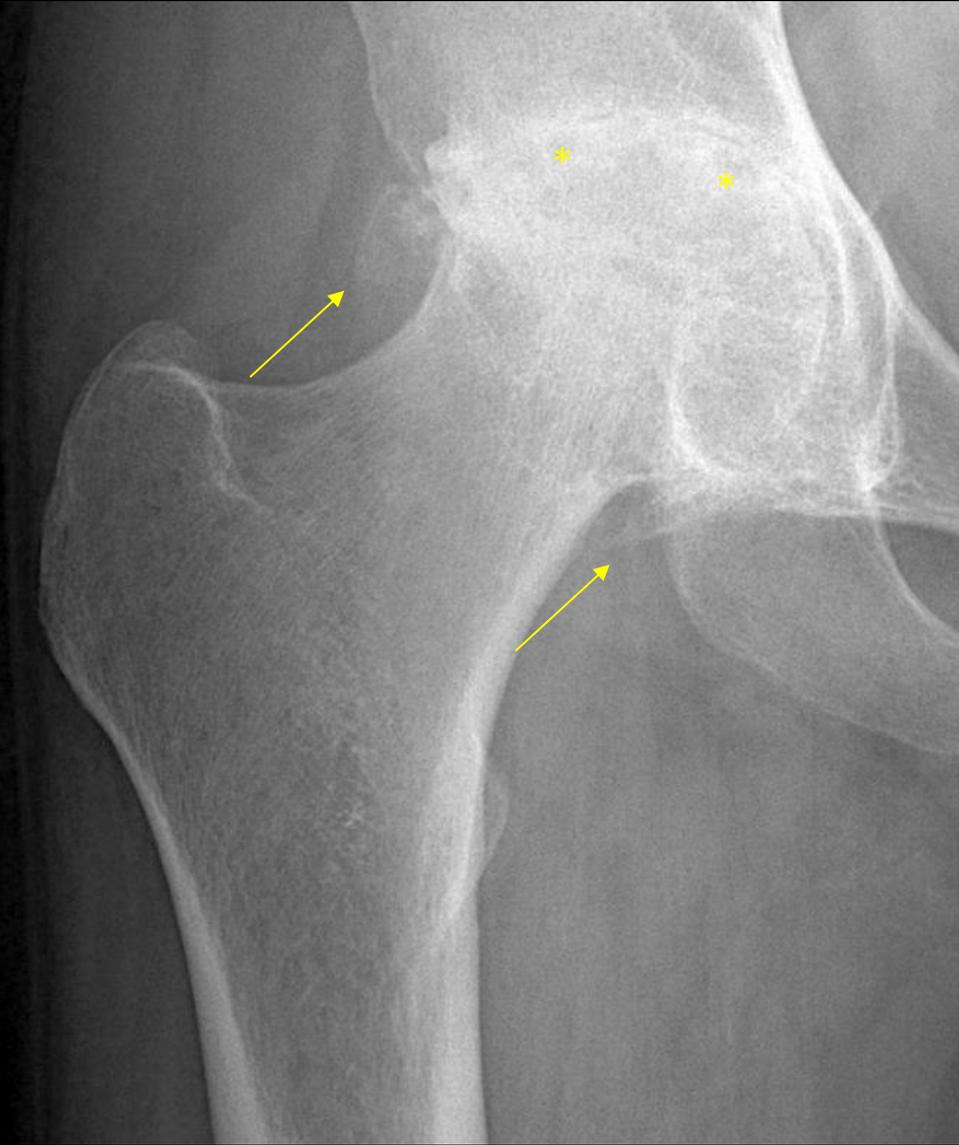
**Pincement global ne veut pas toujours dire arthrite!**



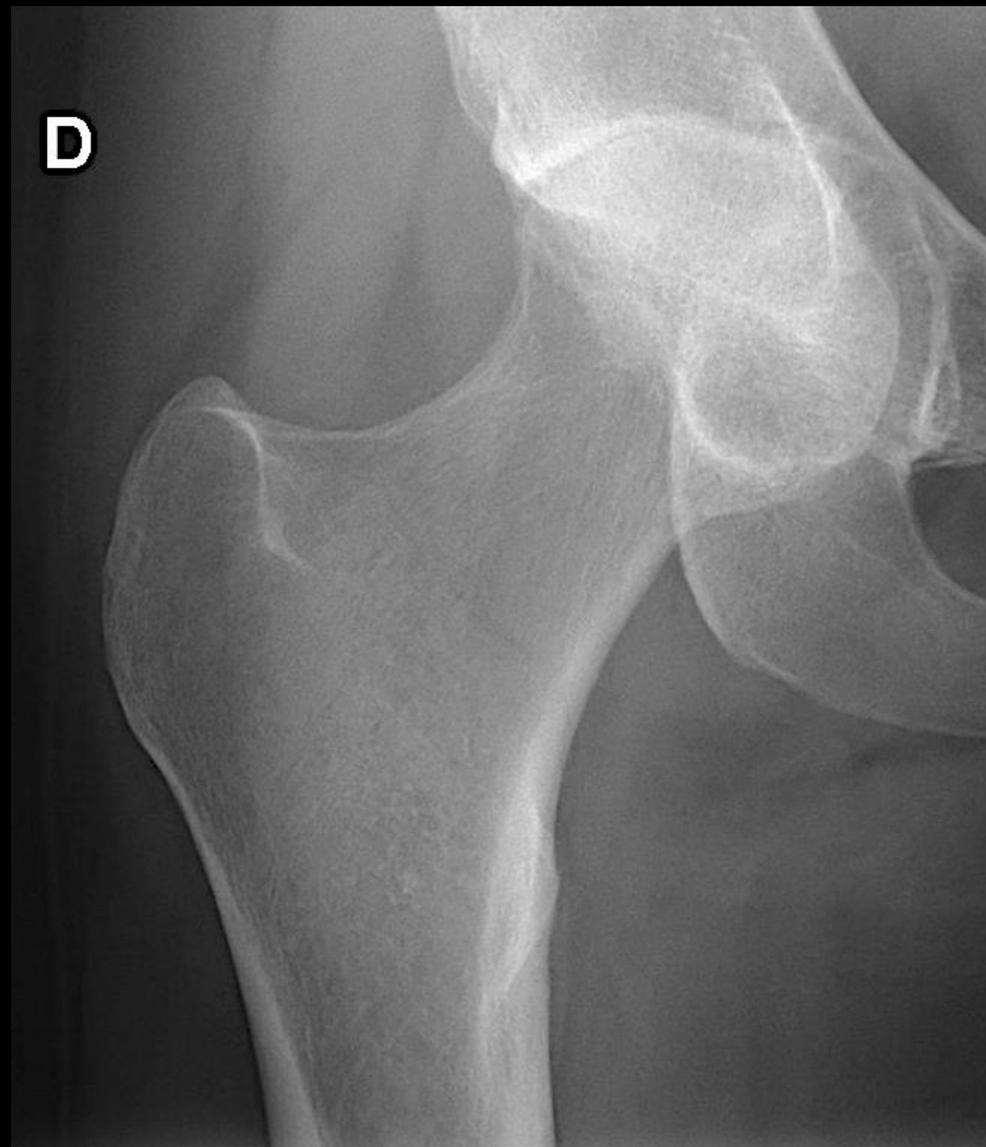
*aujourd'hui*



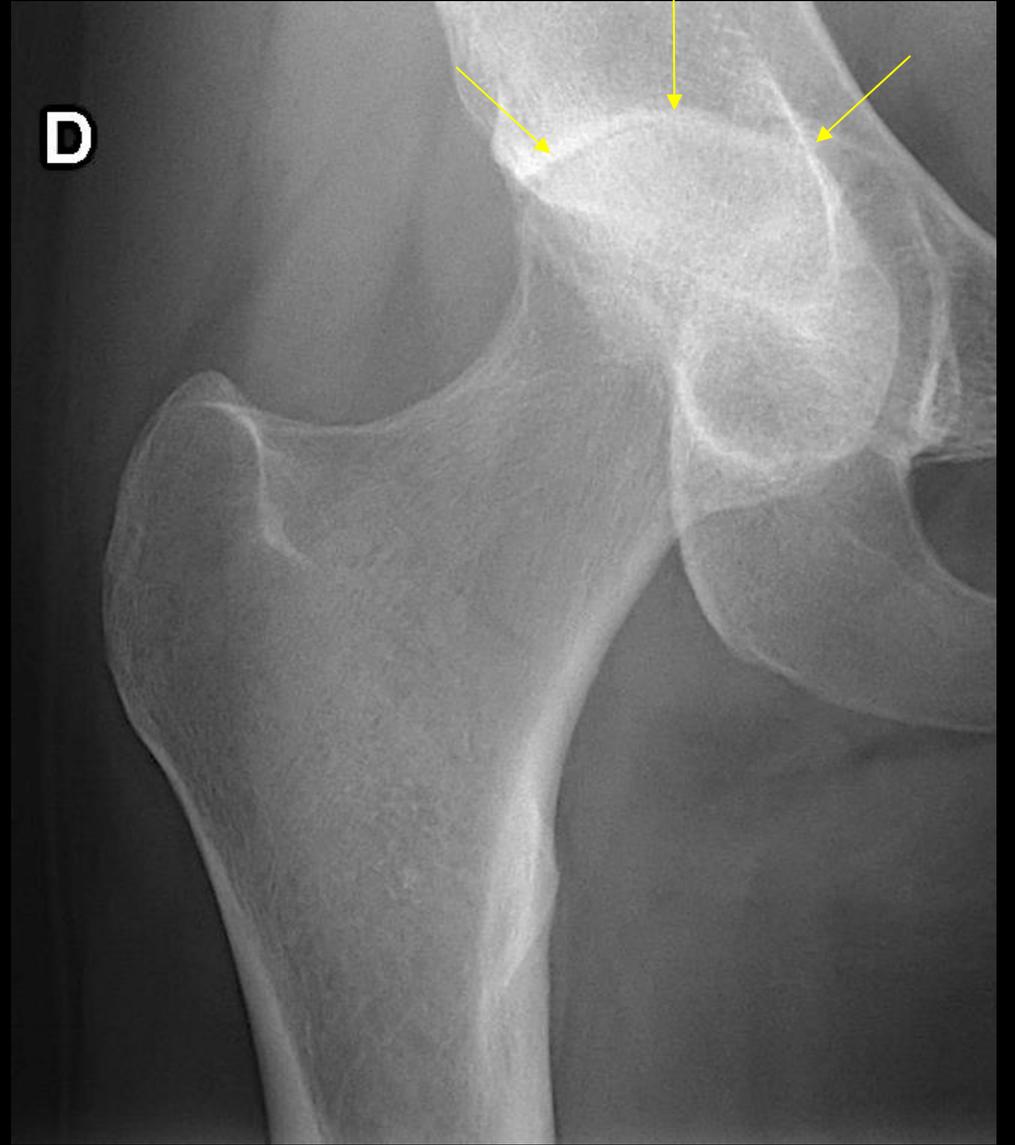
Arthrose? Arthrite?



pincement de l'interligne + géodes sous-chondrales + ostéophytose = arthrose



9 ans plus tôt...



coxite (pincement global)



2005



2005



2006



2005



2006



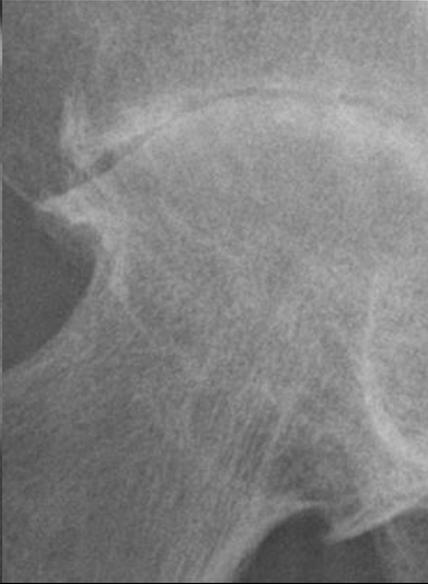
2009



2005



2006



2009



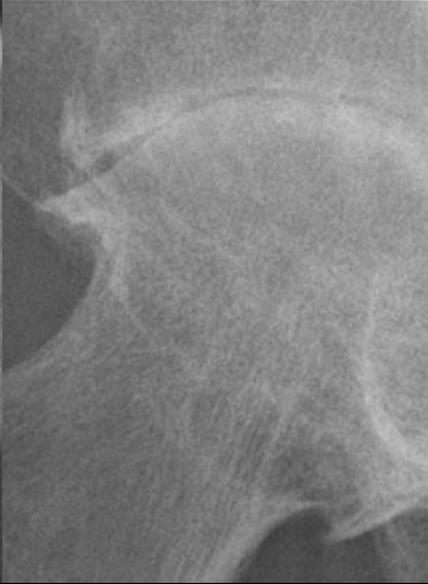
2013



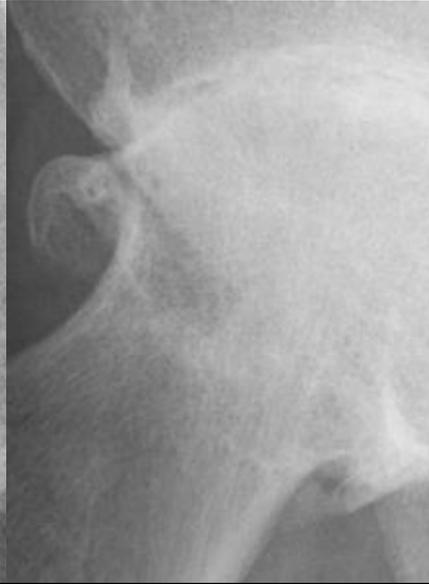
2005



2006



2009



2013



2015



**Avec le temps, une arthrite peut évoluer sur un mode dégénératif mécanique et une arthrose**

arthrose secondaire à une arthrite



Suspicion de PR  
débutante

A – Tissus mous?

B – Erosion?

C – Chondrolyse?

D



oblique

G



Suspicion de PR  
débutante

A – Tissus mous?

B – Erosion?

C – Chondrolyse?



Suspicion de PR  
débutante

A – Tissus mous?

B – Erosion?

C – Chondrolyse?

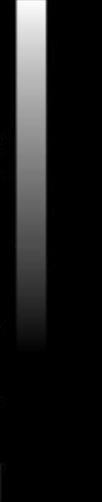
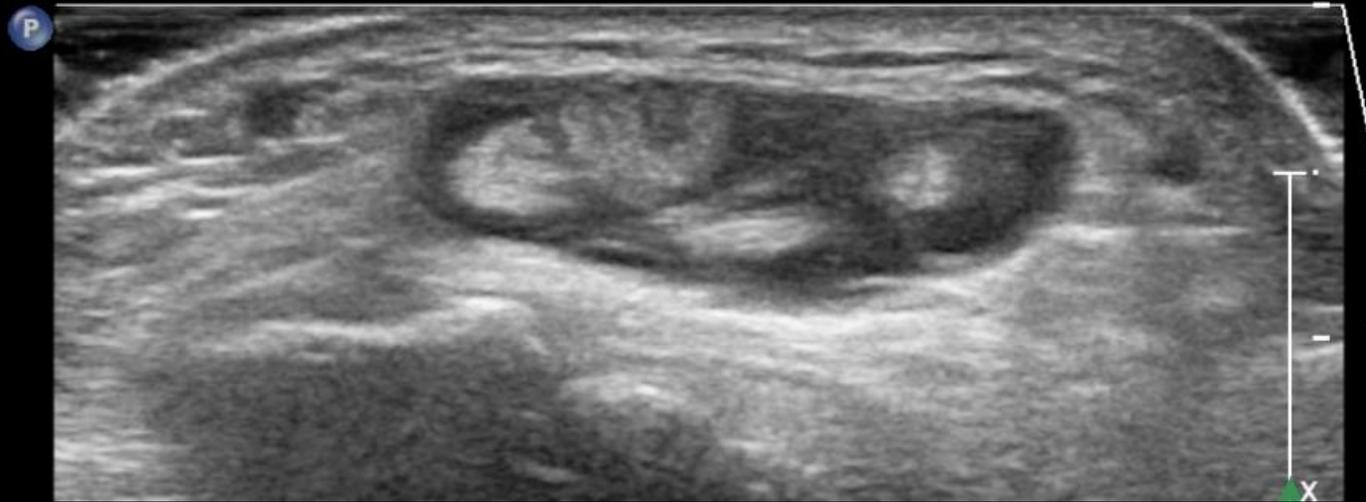


Suspicion de PR  
débutante

- A – Tissus mous
- B – Erosion
- C – Chondrolyse

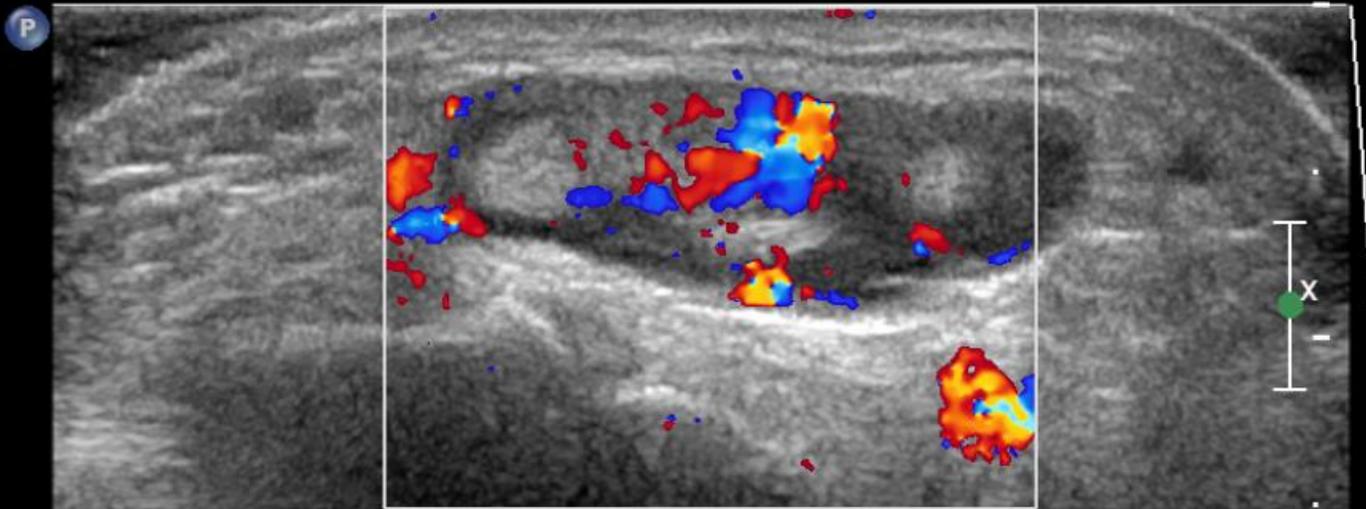
Face dorsale – plan axial – mode B

**2D**  
84%  
C 60  
P Moy  
Rés



**2D**  
87%  
C 60  
P Moy  
Rés

**Coul**  
75%  
541Hz  
FP 29Hz  
Bas



Face dorsale – plan axial – mode Doppler couleur



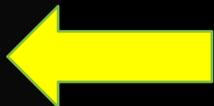
Comment ne pas rater cette anomalie?

- A – Bien lire la demande d'examen
- B – Multiplier les incidences
- C – Autre



		DEPARTEMENT D'IMAGERIE MEDICALE 10 avenue ...		2016
<b>DEMANDE D'</b>				
<b>SERVICE PRESCRIPTEUR :</b>		<b>IDEN</b>		
<b>CACHET DU MEDECIN PRESCRIPTEUR</b>		Nom		
Nom : .....		Préc		
Prénom : .....		Date		
N° INAMI : .....		Numé		
Adresse : .....		Sexe : <input type="checkbox"/> Masculin <input type="checkbox"/> Féminin		
ou Bip : .....		<b>Transport :</b>		
		Volontariat : <input type="checkbox"/> ambulat <input type="checkbox"/> chaise		
		Brancardier : <input type="checkbox"/> chaise + perfusion <input type="checkbox"/> lit <input type="checkbox"/> oxygène <input type="checkbox"/> pompe		
		<input type="checkbox"/> A faire en chambre		
<b>INFORMATIONS OBLIGATOIRES (Annexe 82 - art. 17 et 17bis NPS)</b>				
<b>EXAMEN PROPOSE :</b> <i>Rx main - gauche</i>				
Informations cliniques pertinentes et explications de la demande de diagnostic				
<i>polyarthrite</i>				
RENDEZ-VOUS PREVU LE :				
<b>Examen(s) pertinent(s) précédent(s) relatif(s) à la demande de diagnostic :</b>				
<input type="checkbox"/> CT <input type="checkbox"/> IRM <input type="checkbox"/> ECHO <input type="checkbox"/> RX <input type="checkbox"/> AUTRES : .....				
<input type="checkbox"/> INCONNU				
<b>Principales observations :</b>				
<i>Joindre CD et/ou compte-rendu</i>				
<b>Informations supplémentaires pertinentes :</b>				
<input type="checkbox"/> GROSSESSE <input type="checkbox"/> ALLAITEMENT <input type="checkbox"/> DIABETE <input type="checkbox"/> IMPLANT				
<input type="checkbox"/> INSUFFISANCE RENALE <input type="checkbox"/> ALLERGIE <input type="checkbox"/> AUTRES				
<b>Pour tous les examens nécessitant une injection de produit de contraste :</b>				
<input type="checkbox"/> CREATININE : <input type="checkbox"/> FILTRATION GLOMERULAIRE :				
<input type="checkbox"/> ARRET DE LA MEDICATION ANTI-DIABETIQUE (glucophage, glucovance, metformine, metformax) 48h avant et après l'examen				

... cette anomalie?  
... de d'examen  
... nces



Comment ne pas

A – Bien lire la densité

B – Multiplier les inc

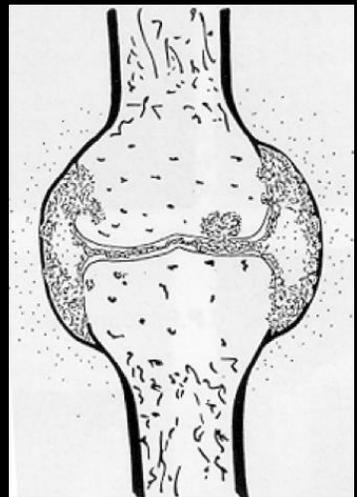
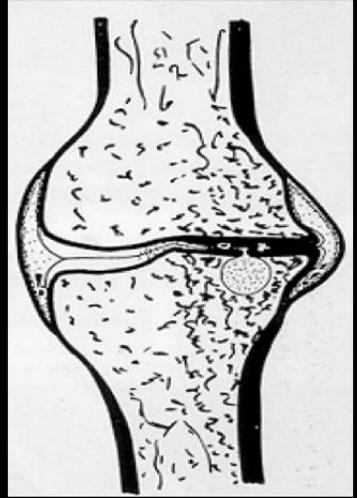
C – Autre

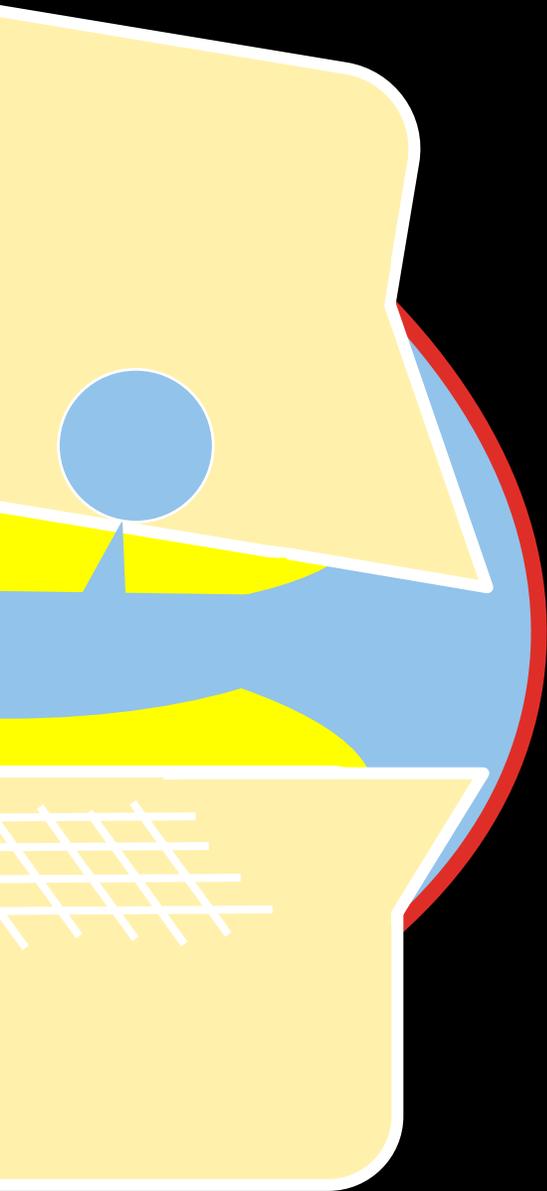


alio?

# TAKE HOME MESSAGE

- « Mécanique vs. Inflammatoire? »
- Arthrose : pincement focal
- Arthrite : érosions marginales
- Nombreux pièges
  - Interligne (technique, luxation...)
  - Erosion (inclusion synoviale, conflit mécanique...)





Gonflement inconstant	TISSUS MOUS	Gonflement fréquent
<b>Pincement focal</b>	INTERLIGNE ARTICULAIRE	<b>Pincement global</b>
Erosions Géodes Hyperostose	OS SOUS- CHONDRAL	Erosions Géodes
Ostéophytes	OS MARGINAL	<b>Erosions</b>

