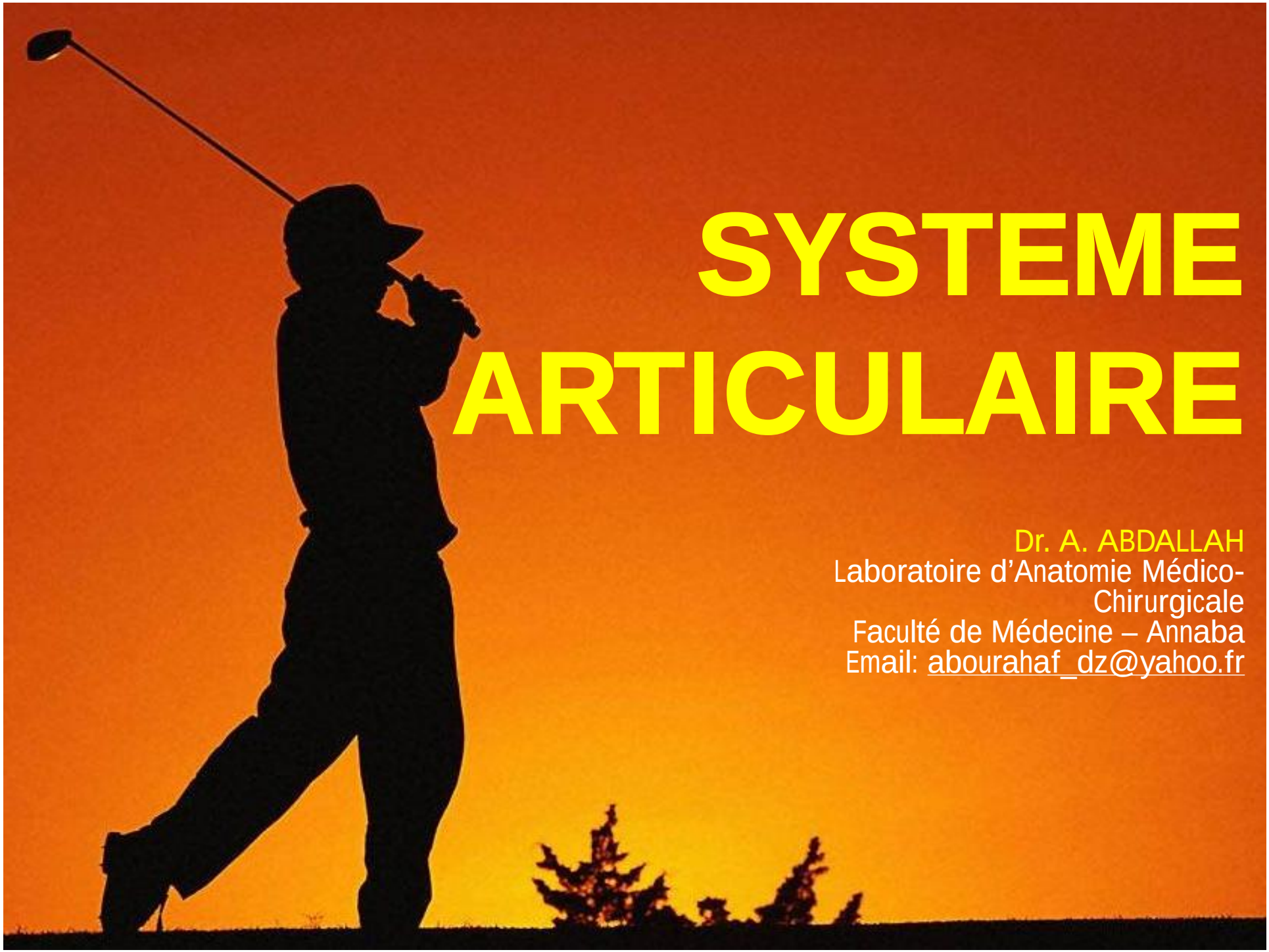


SYSTEME ARTICULAIRE

Dr. A. ABDALLAH
Laboratoire d'Anatomie Médico-Chirurgicale
Faculté de Médecine – Annaba
Email: abourahaf_dz@yahoo.fr


Le joueur du golf…
un mouvement qui fait bouger un grand nombre d'articulations

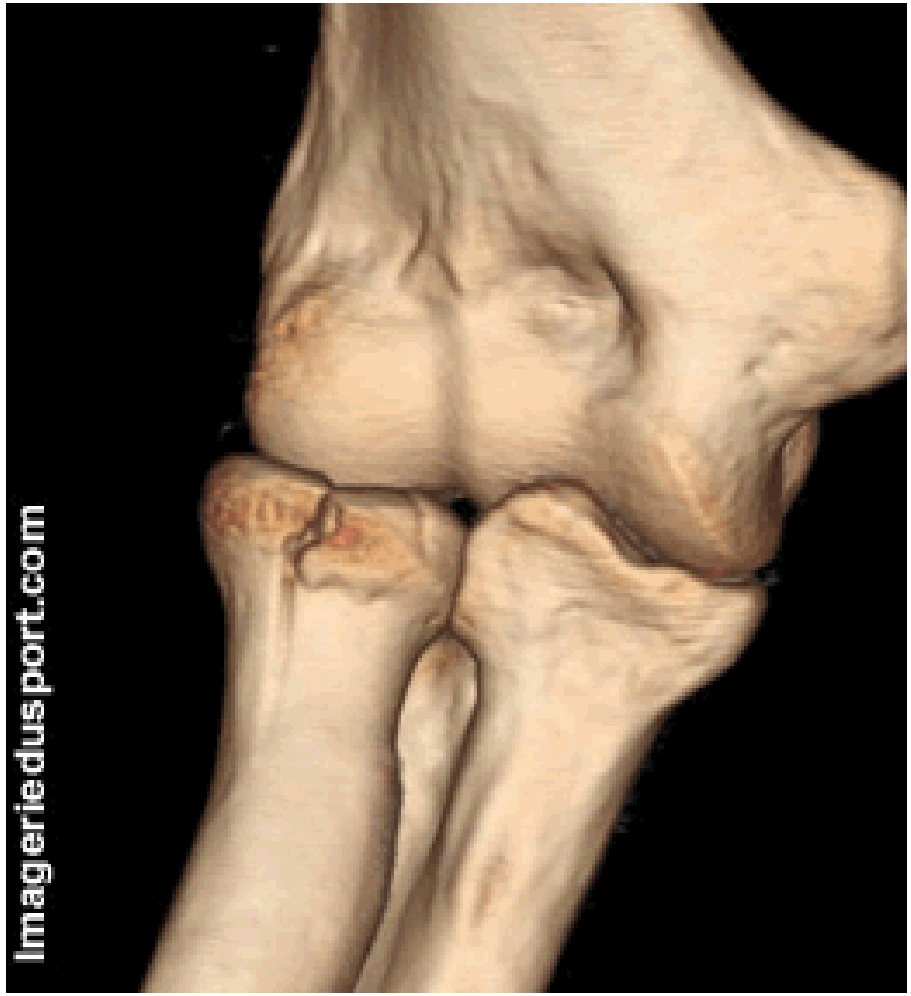
Plan du cours

- Définition.
- Classification des articulations.
- Cartilage et tissu cartilagineux.
- Structures d'adaptation.
- Mécanique articulaire.

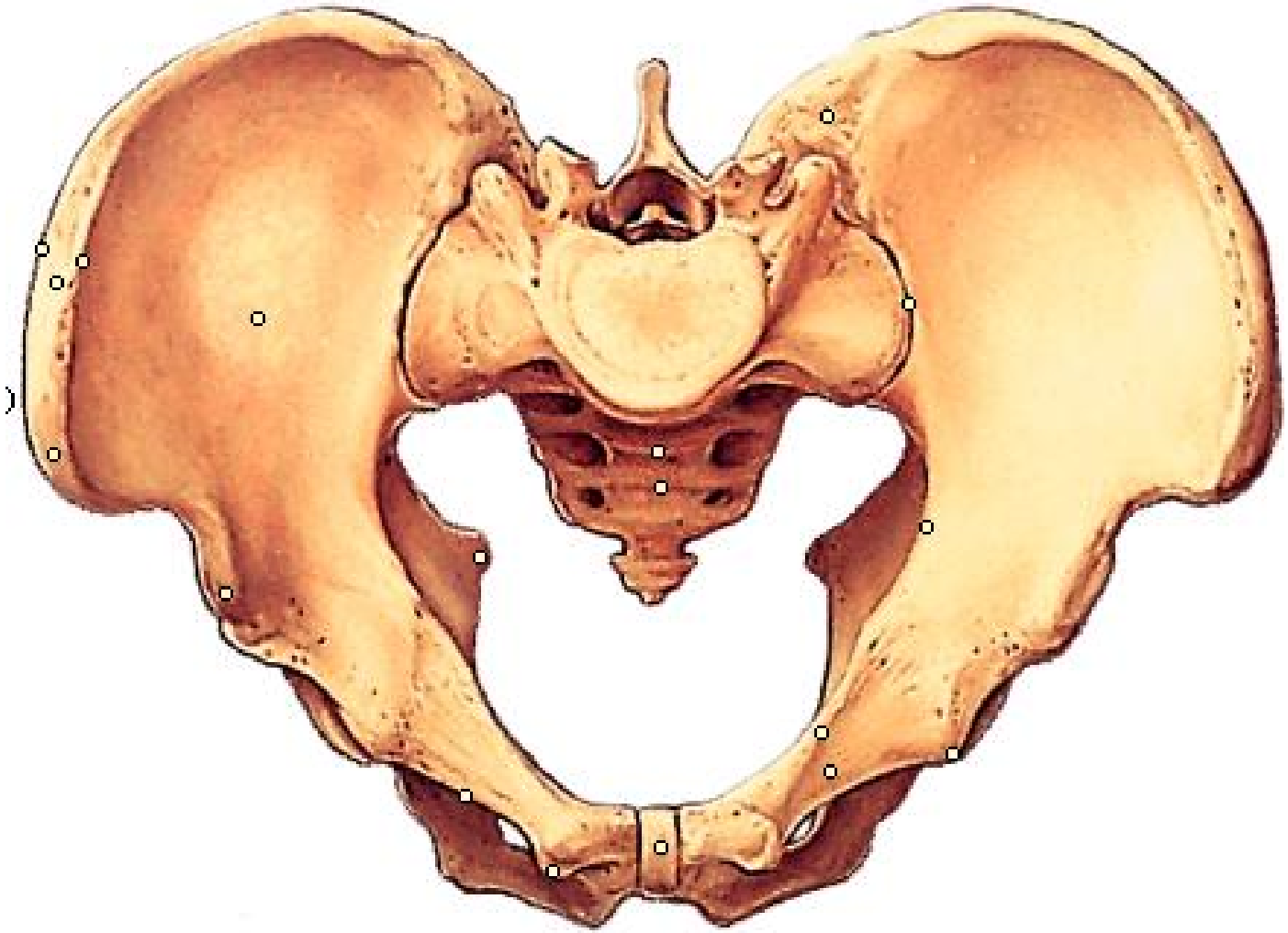

DEFINITION

Articulation ou jointure

- Réunion de 2 ou plusieurs éléments de squelette.
- Elle joue un rôle dans le mouvement.
- L'étude des articulations est l'arthrologie.



Articulation de 2 os



Articulation de 2 cartilages

Articulation entre os et cartilage


Classification
des articulations

Classification des articulations

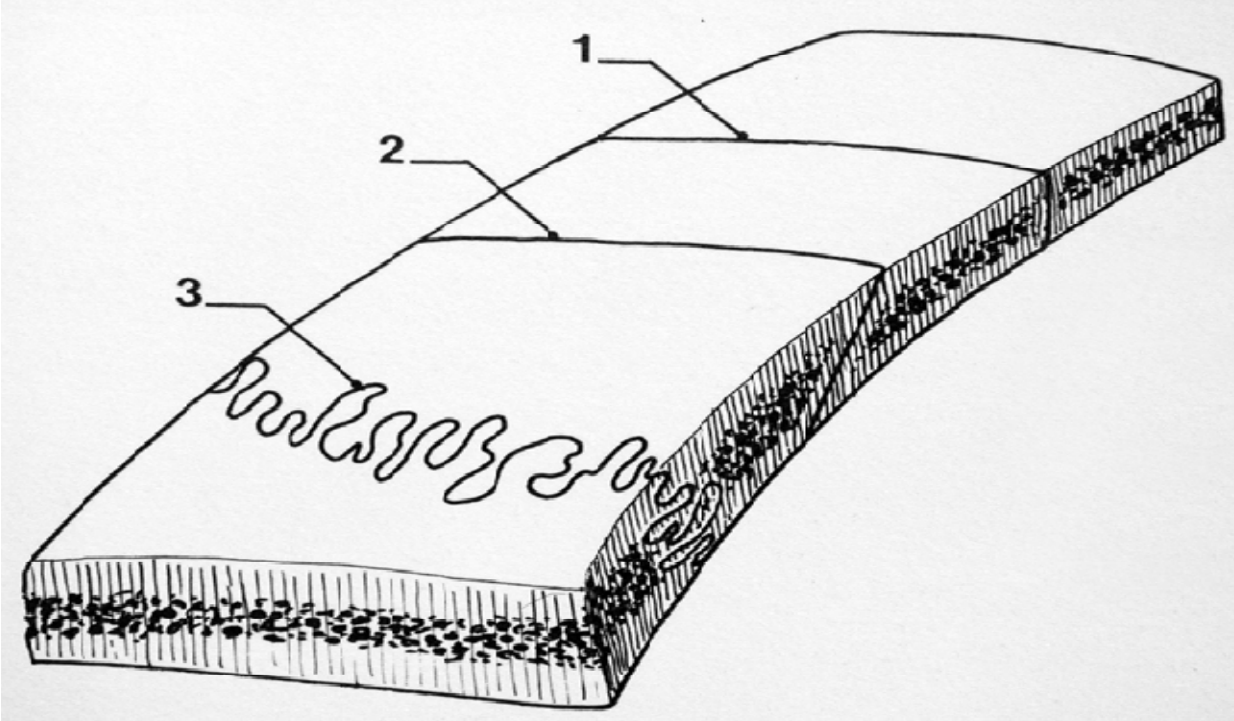
- Articulations immobiles (jointures fibreuses ou sutures) : Synarthroses.
- Articulations semi-mobiles (jointures cartilagineuses): Amphiarthroses
- Articulation mobiles (jointures synoviales) : Diarthroses.

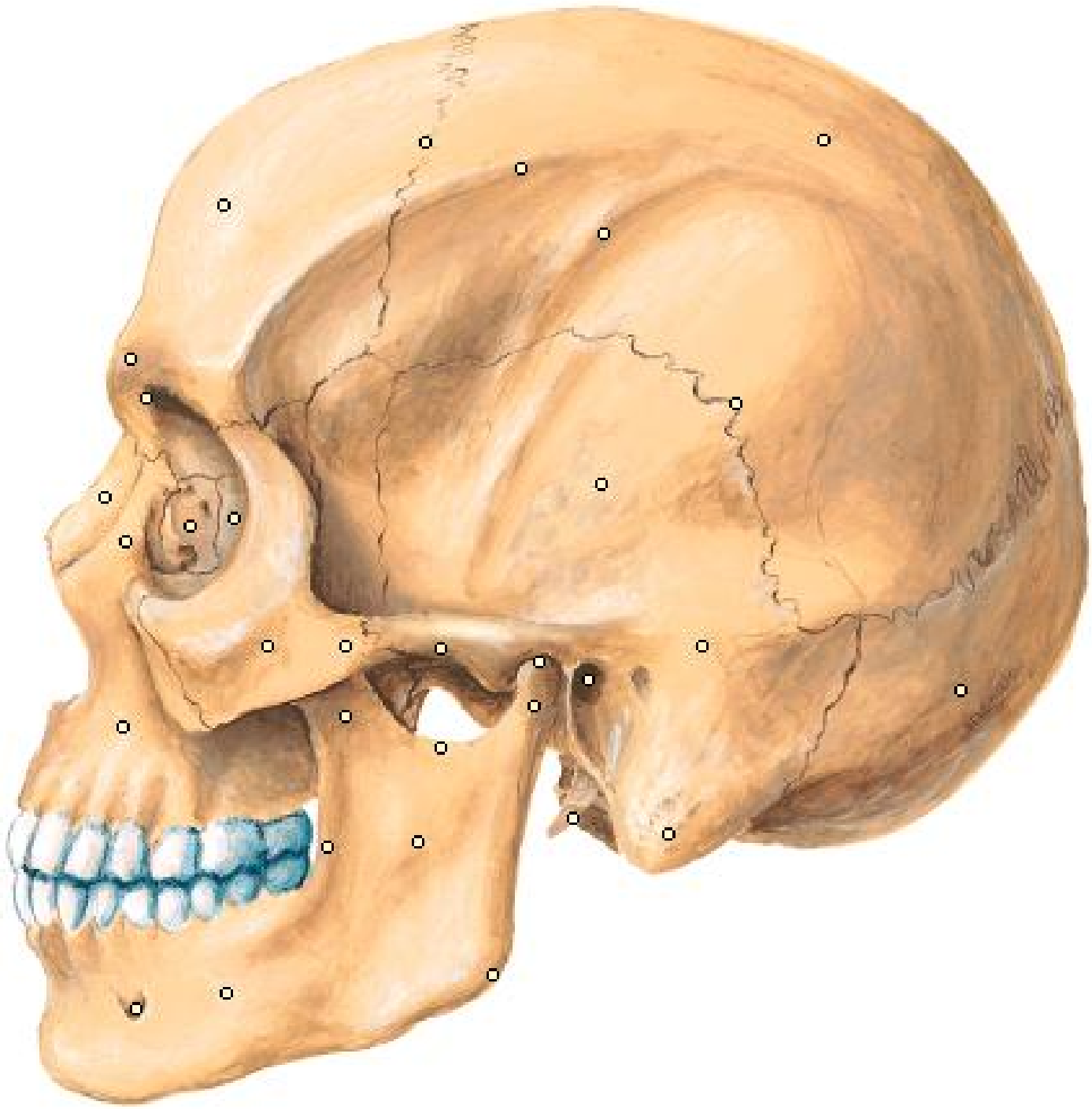
Classification des articulations

Synarthroses

Synarthroses

- Les pièces osseuses sont réunies par un tissu fibreux.
- Exp: sutures du crâne et de la face.





Classification des articulations

Amphiarthroses

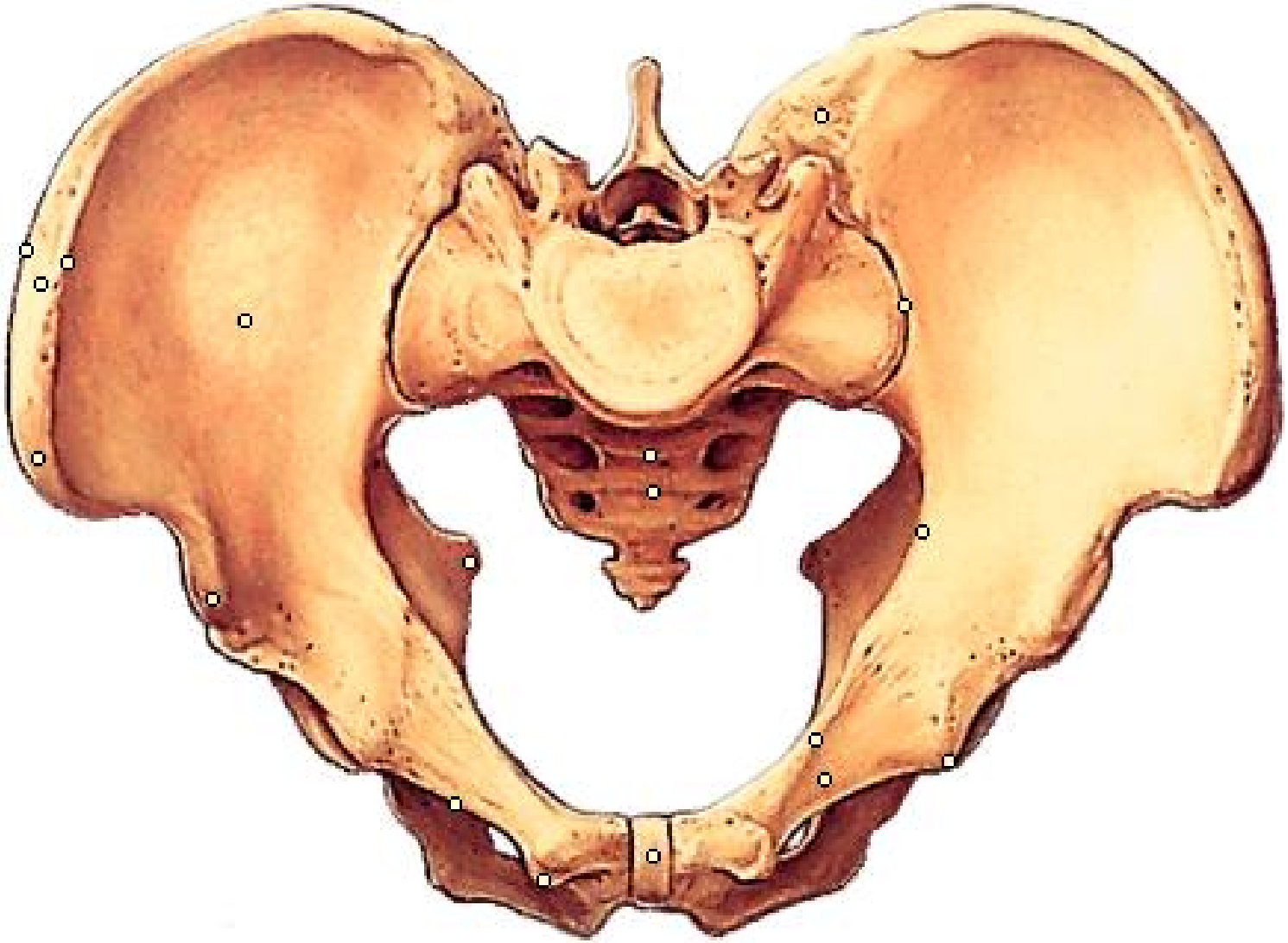
Amphiarthroses

- Les os sont réunis par un bloc de tissu fibro-cartilagineux.
- Elles sont généralement médianes.
- Exp: symphyse pubienne, articulations intervertébrales.

Disques inter-vertébraux

IRM

Symphyse pubienne

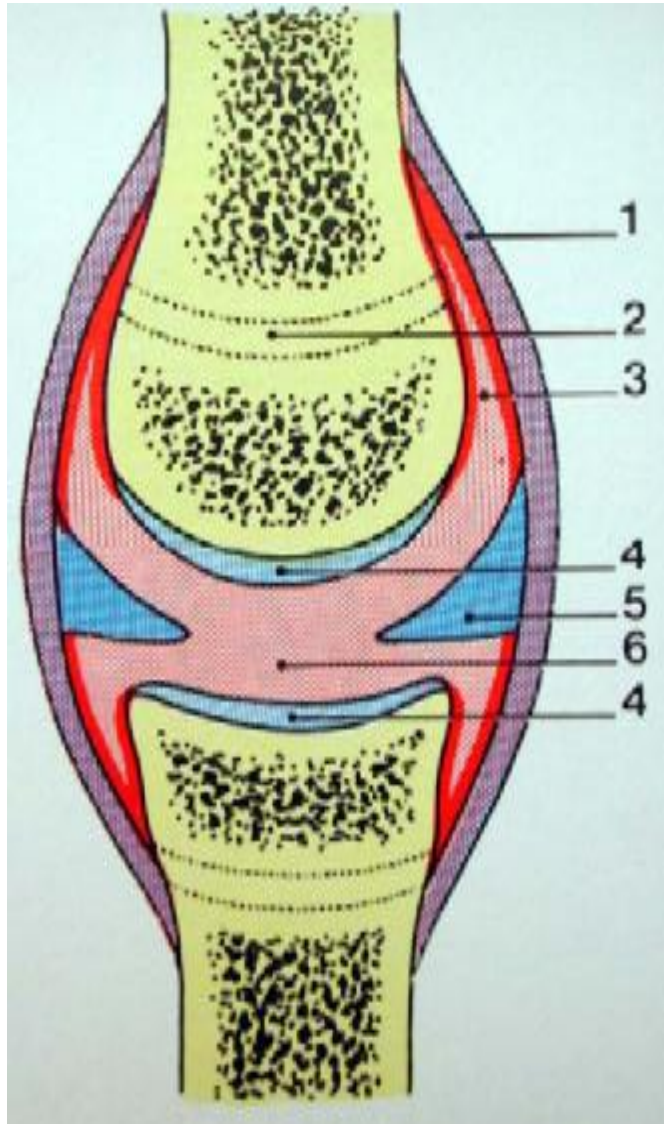


Classification des articulations

Diarthroses

Caractéristiques (1)

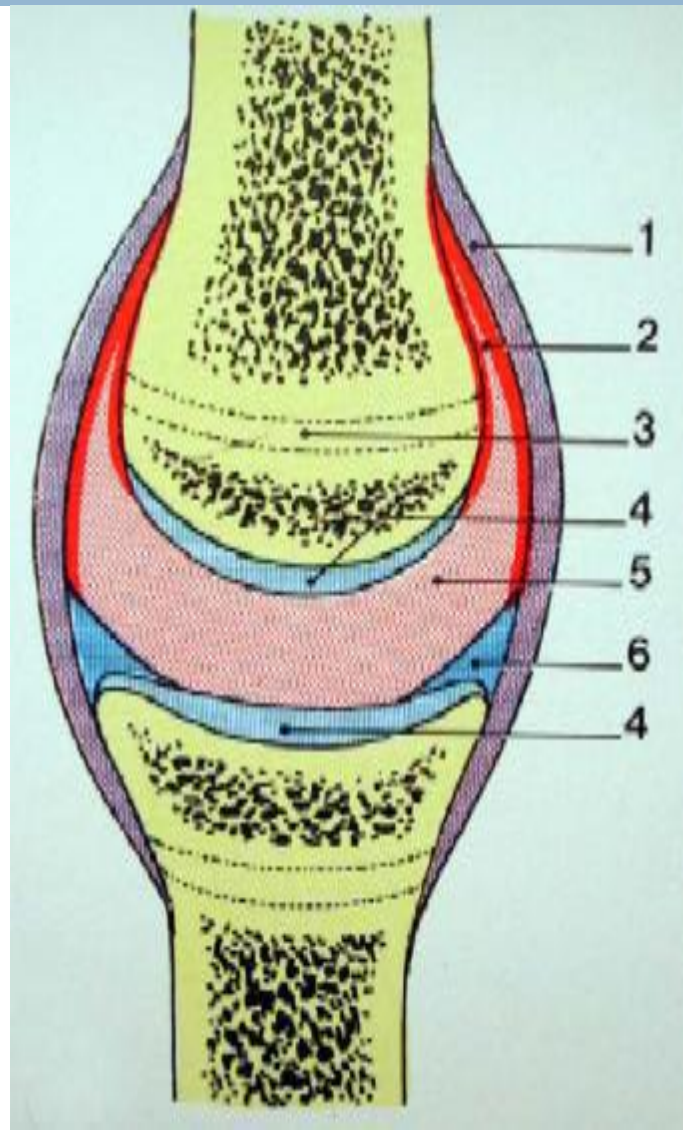
- Mobilité importante.
- Surfaces articulaires:
  - Épiphysaires.
  - Géométriques.
  - Cartilagineuses et lisses.
  - Adaptées en cas de discordance.
- Cavité articulaire : sépare les surfaces articulaires.

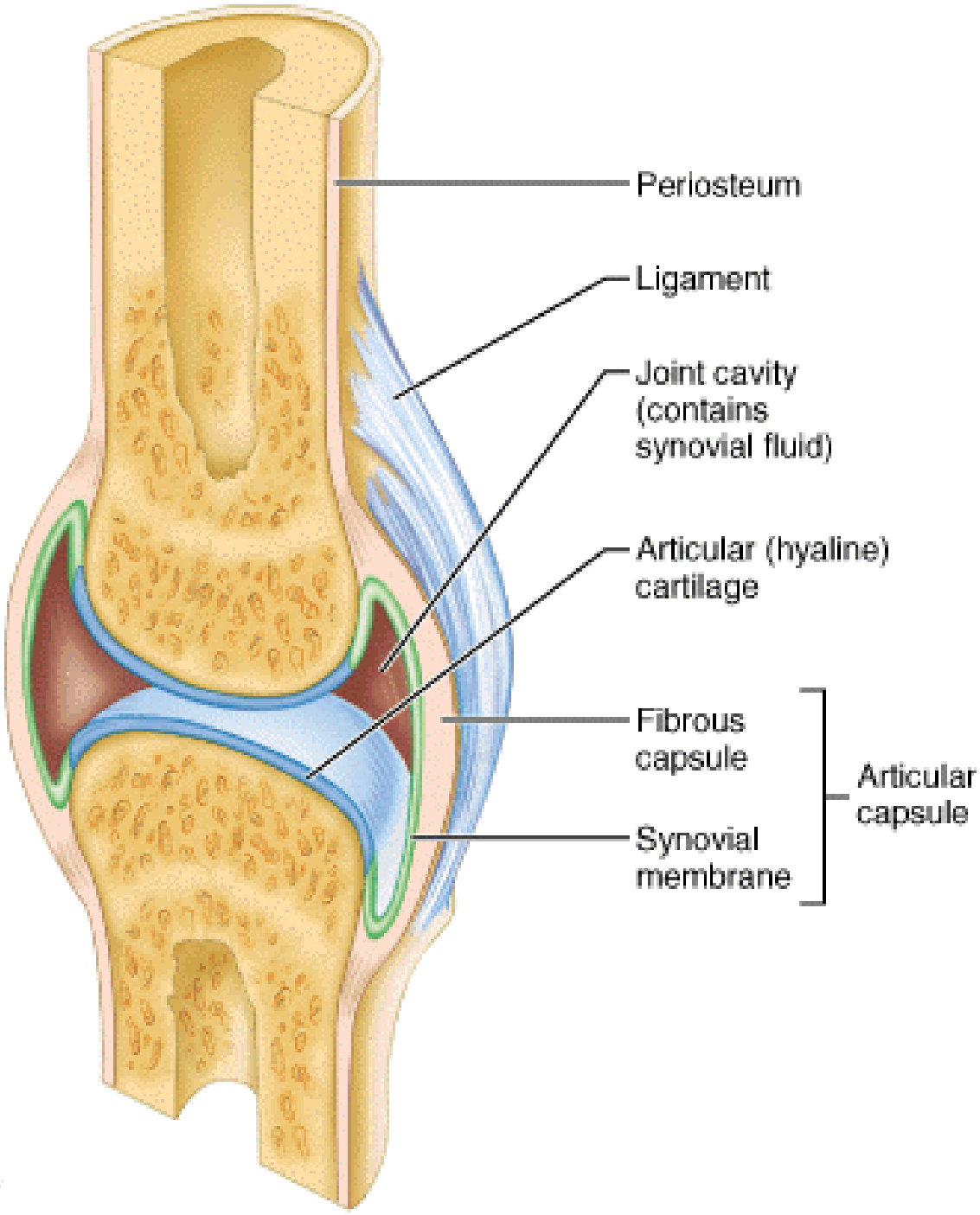


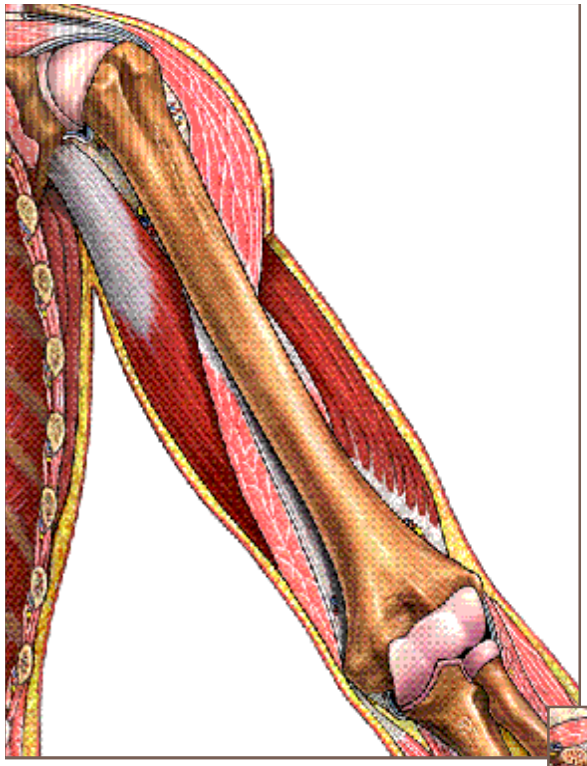
Caractéristiques (2)

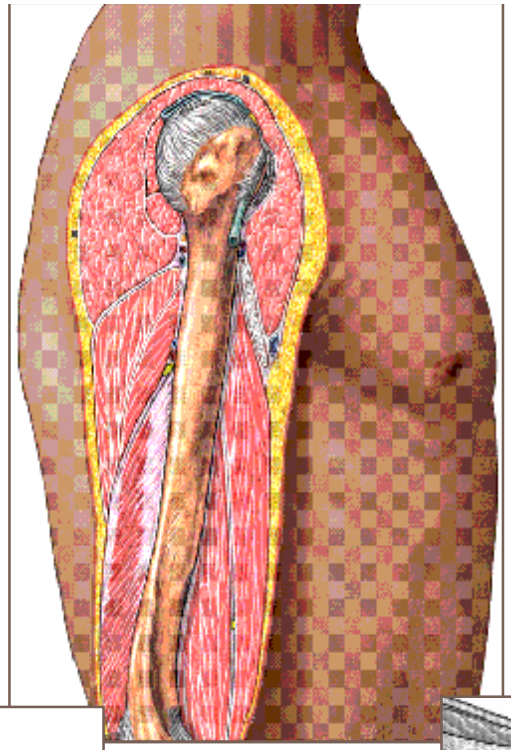
- Moyens d'union :
  - Entourent les surfaces articulaires,
  - Représentés par un manchon fibreux, la capsule articulaire renforcée par les ligaments.
- Synoviale : membrane tapissant la face profonde de la capsule jusqu'au pourtour du cartilage.

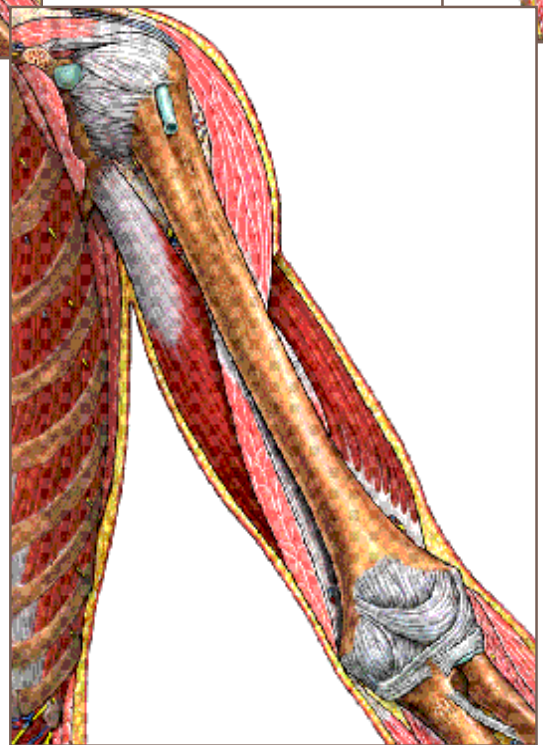
Elle sécrète la synovie à triple rôle (nutrition, lubrification et résorption des déchets).

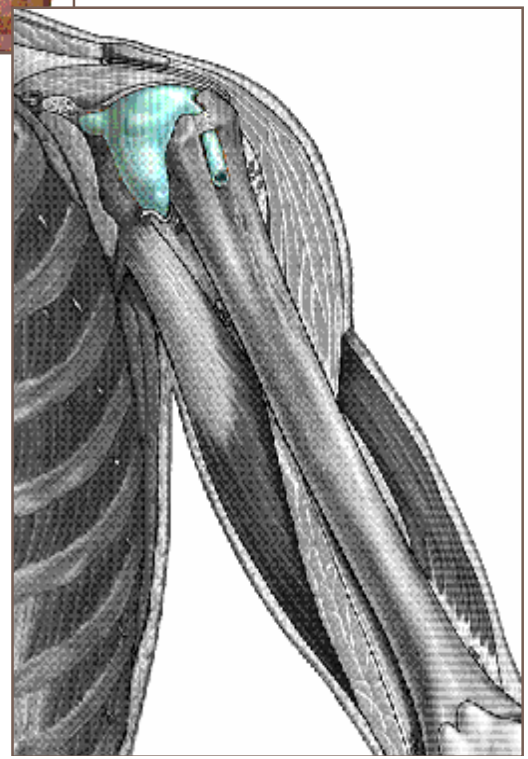



Periosteum
Ligament
Joint cavity (contains synovial fluid)
Articular (hyaline) cartilage
Fibrous capsule
Synovial membrane
Articular capsule







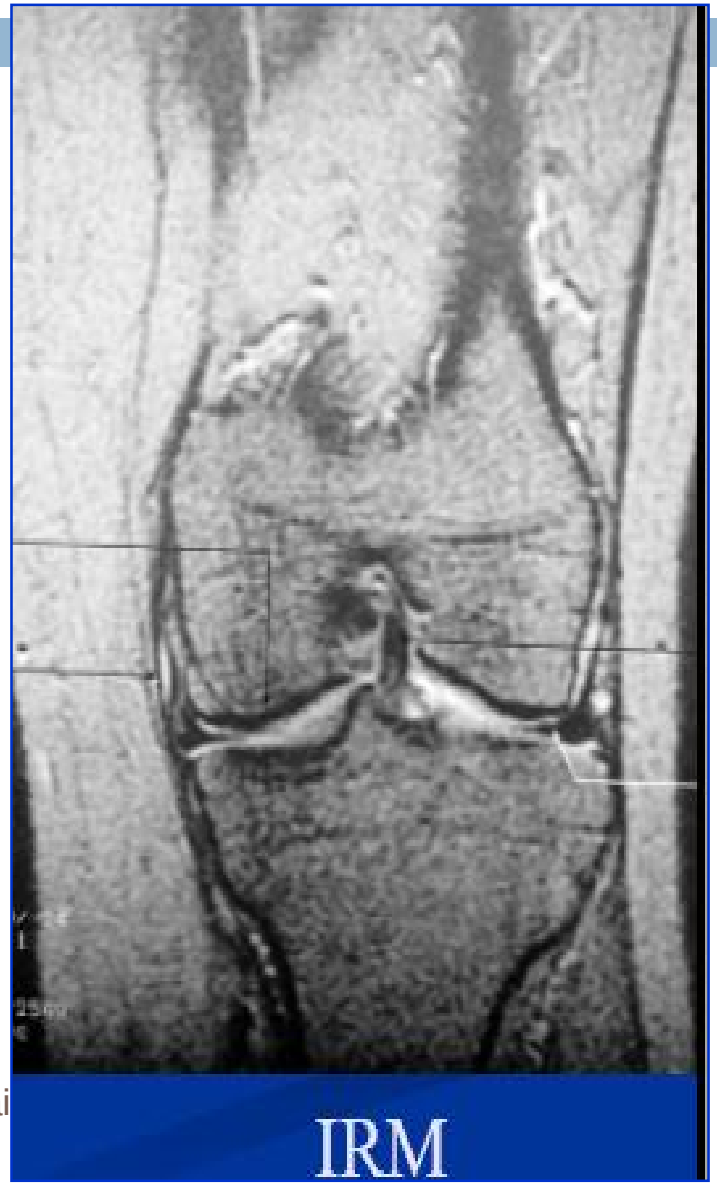


Surfaces articulaires (fémur)

Cavité articulaire (genou)

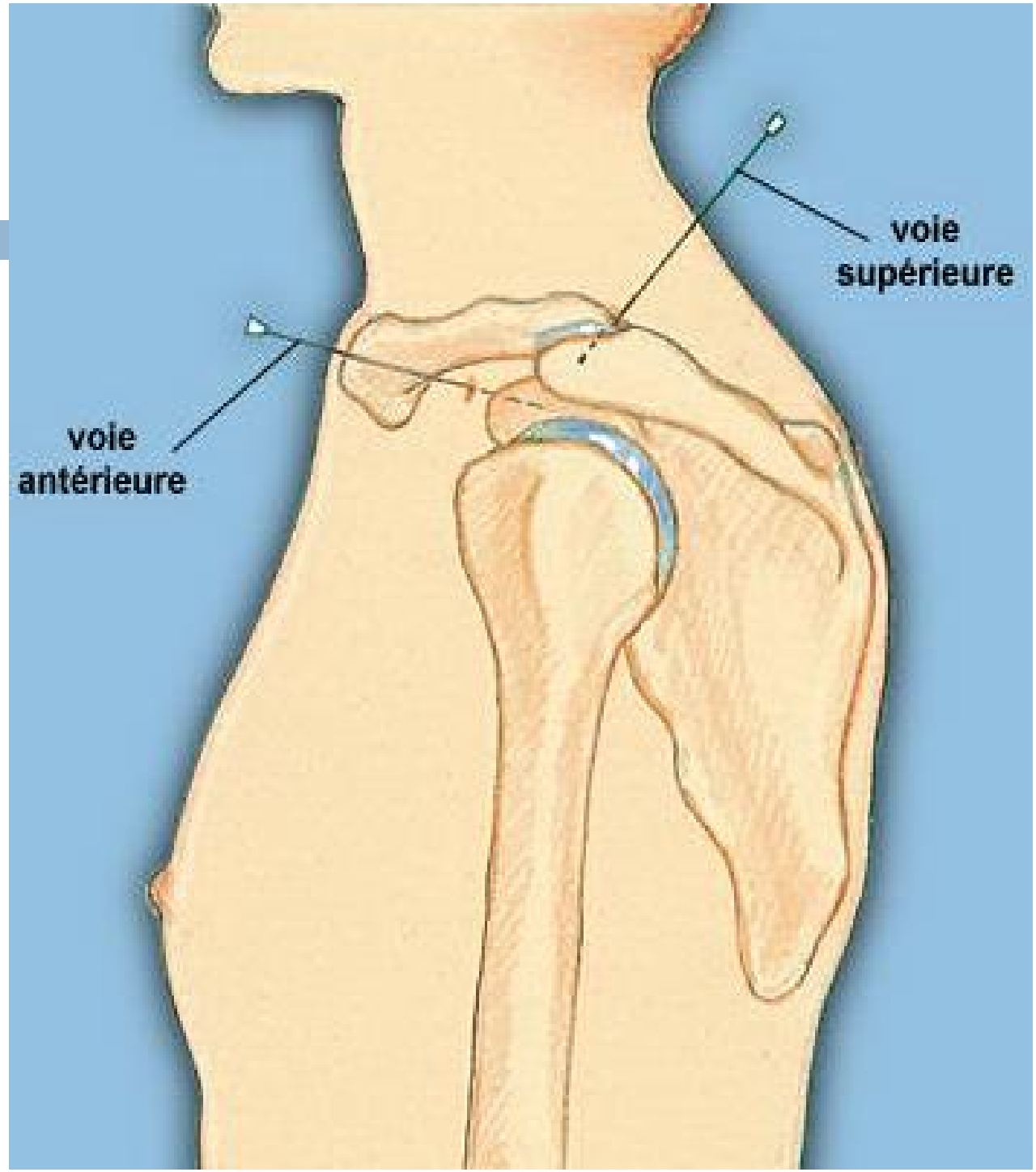
RX

Scanner
avec arthrographie



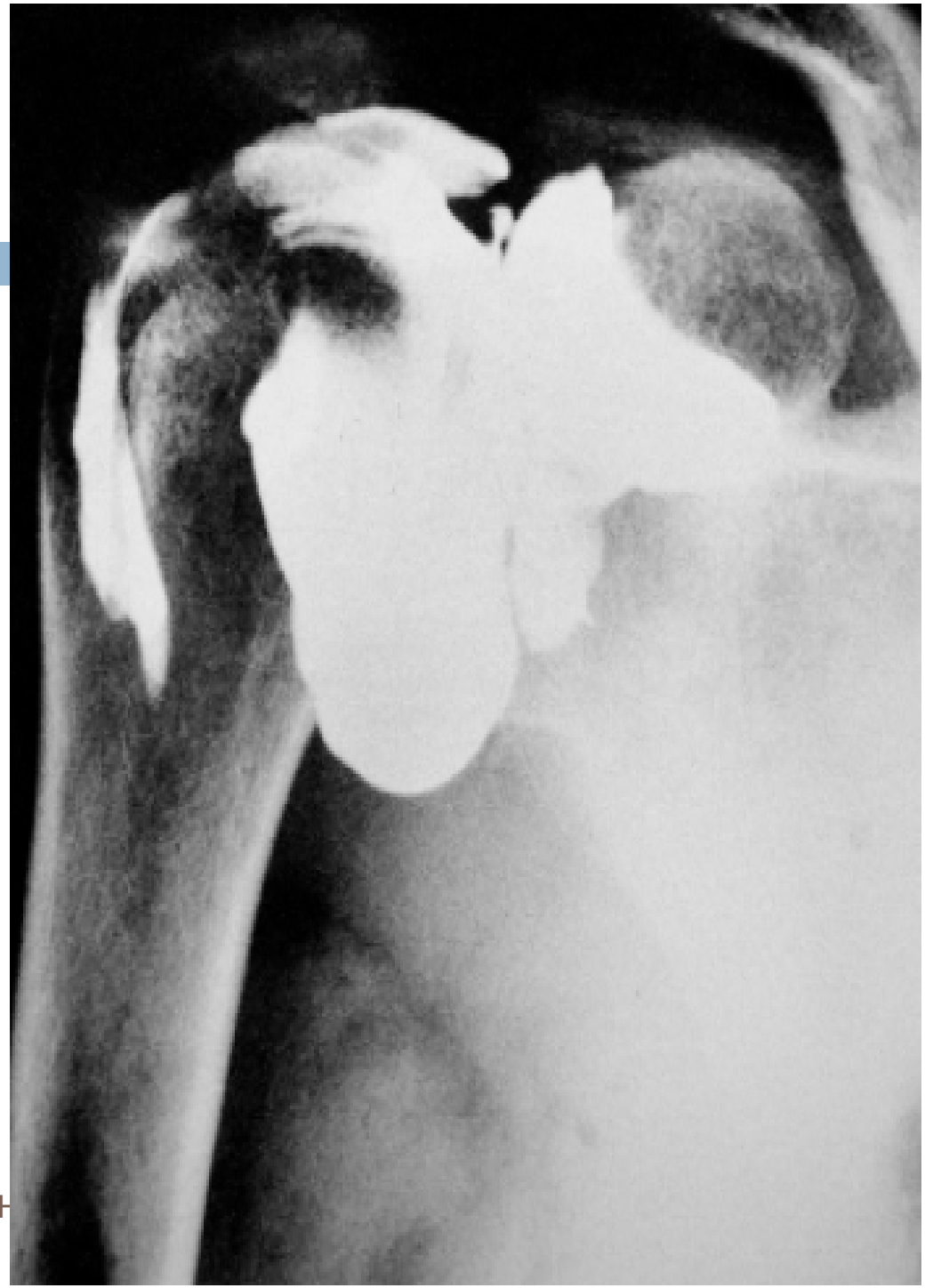
IRM

Infiltration intra-articulaire



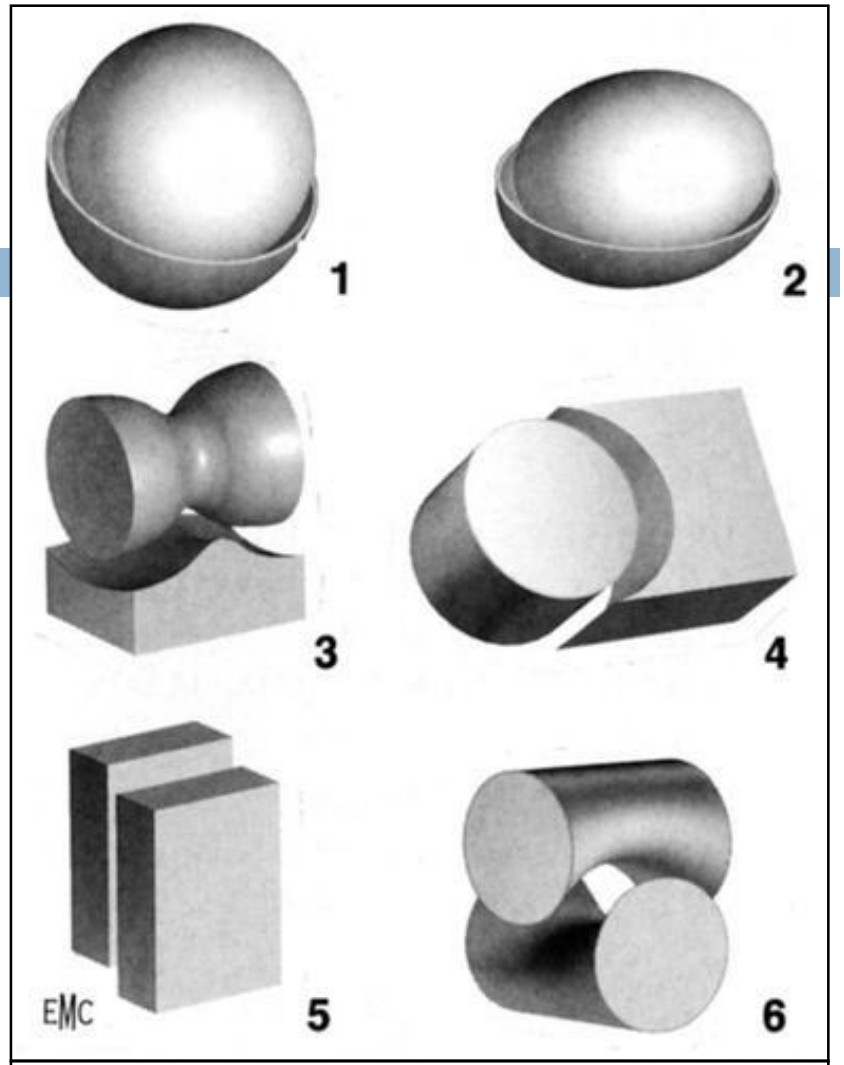
Capsule et ligaments
(coude et épaule)

Synoviale (arthrographie de l'épaule)



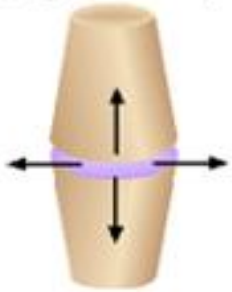
Classification

- Articulation sphéroïde (énarthrose).
- Articulation ellipsoïde (condylienne).
- Articulation ginglyme (trochléenne).
- Articulation cylindrique (trochoïde).
- Articulation plane (arthrodie).
- Articulation en selle (emboîtement réciproque).

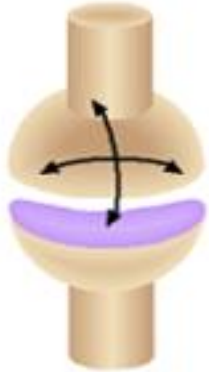


11 *Principaux types d'articulations mobiles.*
1. *Énarthrose.*
2. *Condylienne.*
3. *Trochléenne.*
4. *Trochoïde.*
5. *Arthrodie.*
6. *Emboîtement réciproque.*

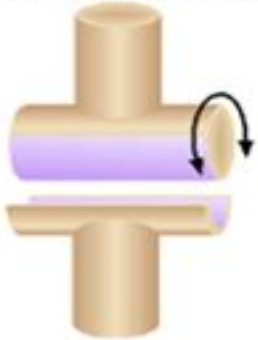
Articulation plane
(à glissement)



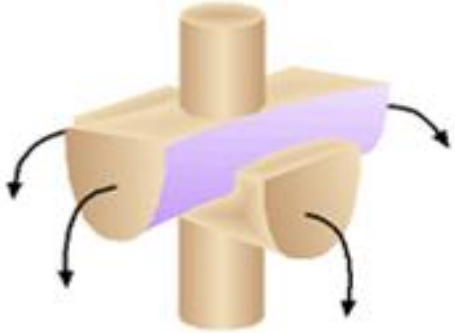
Articulation ellipsoïde
(biaxialle)



Articulation à charnière
(trochléène, uniaxialle)



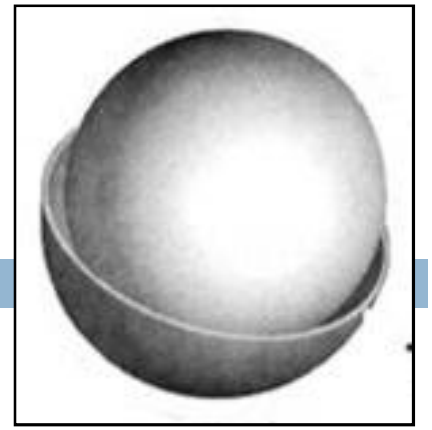
Articulation en selle
(biaxialle)



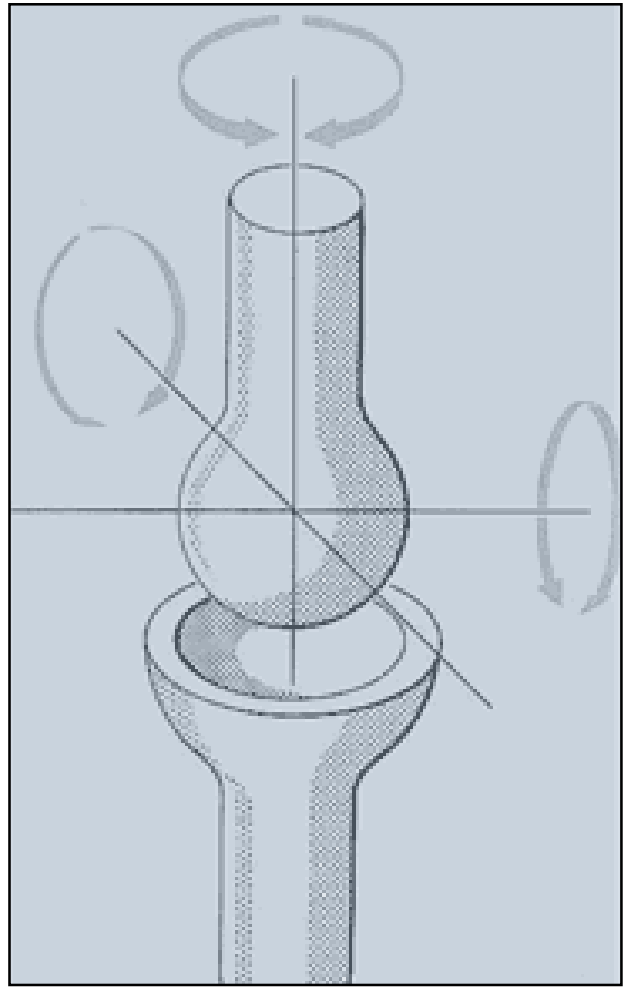
Articulation à pivot
(trochoïde, uniaxialle)

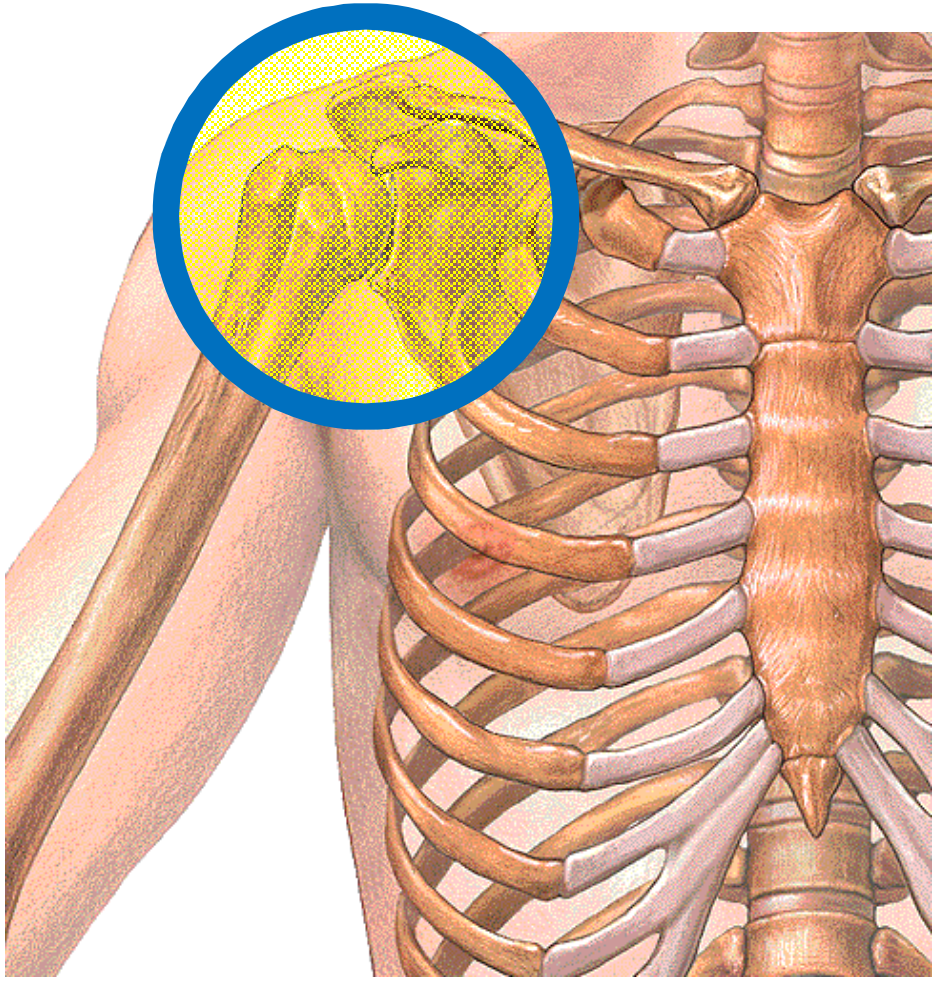
Articulation sphéroïde
(multiaxialle)

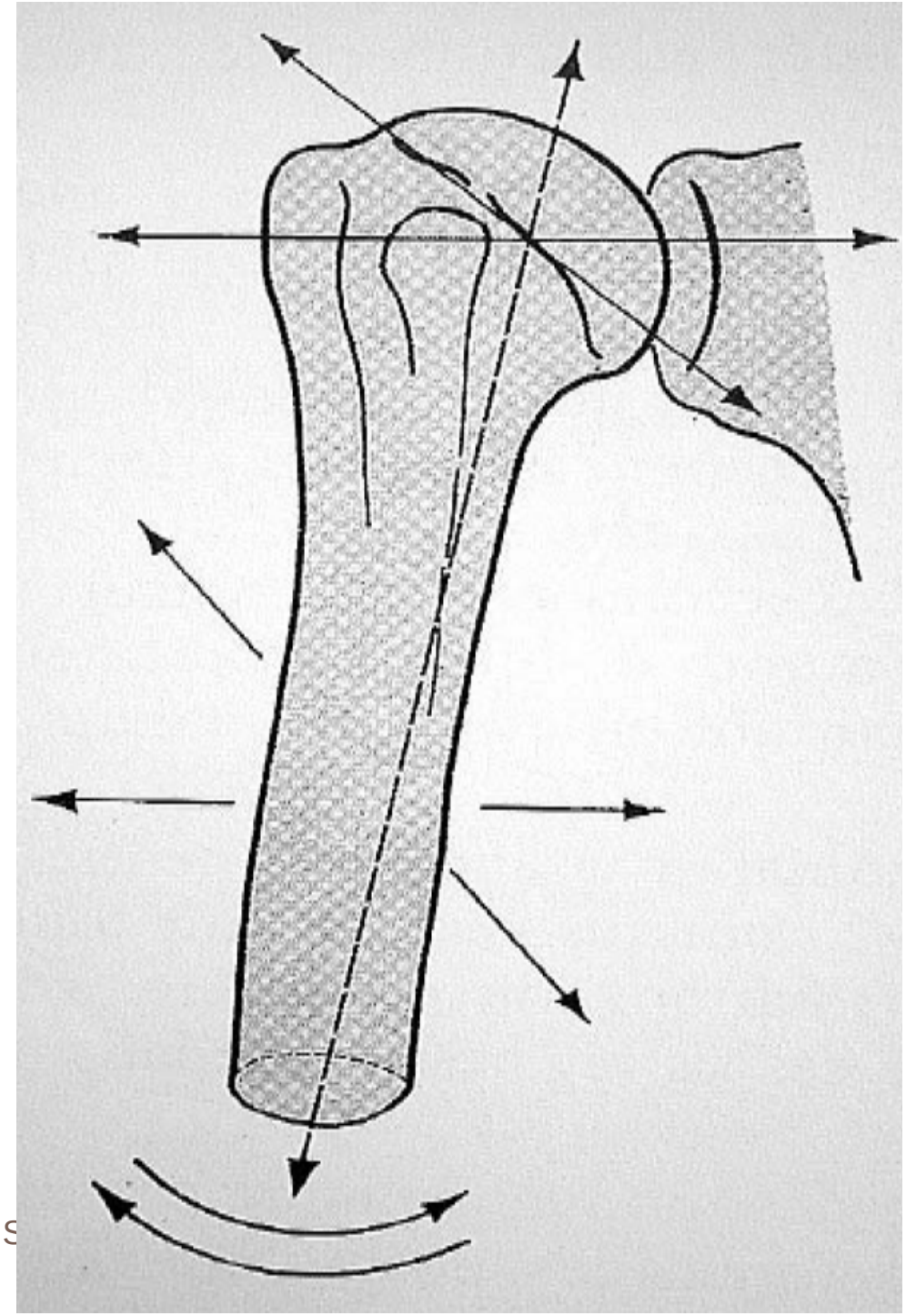
Articulation sphéroïde

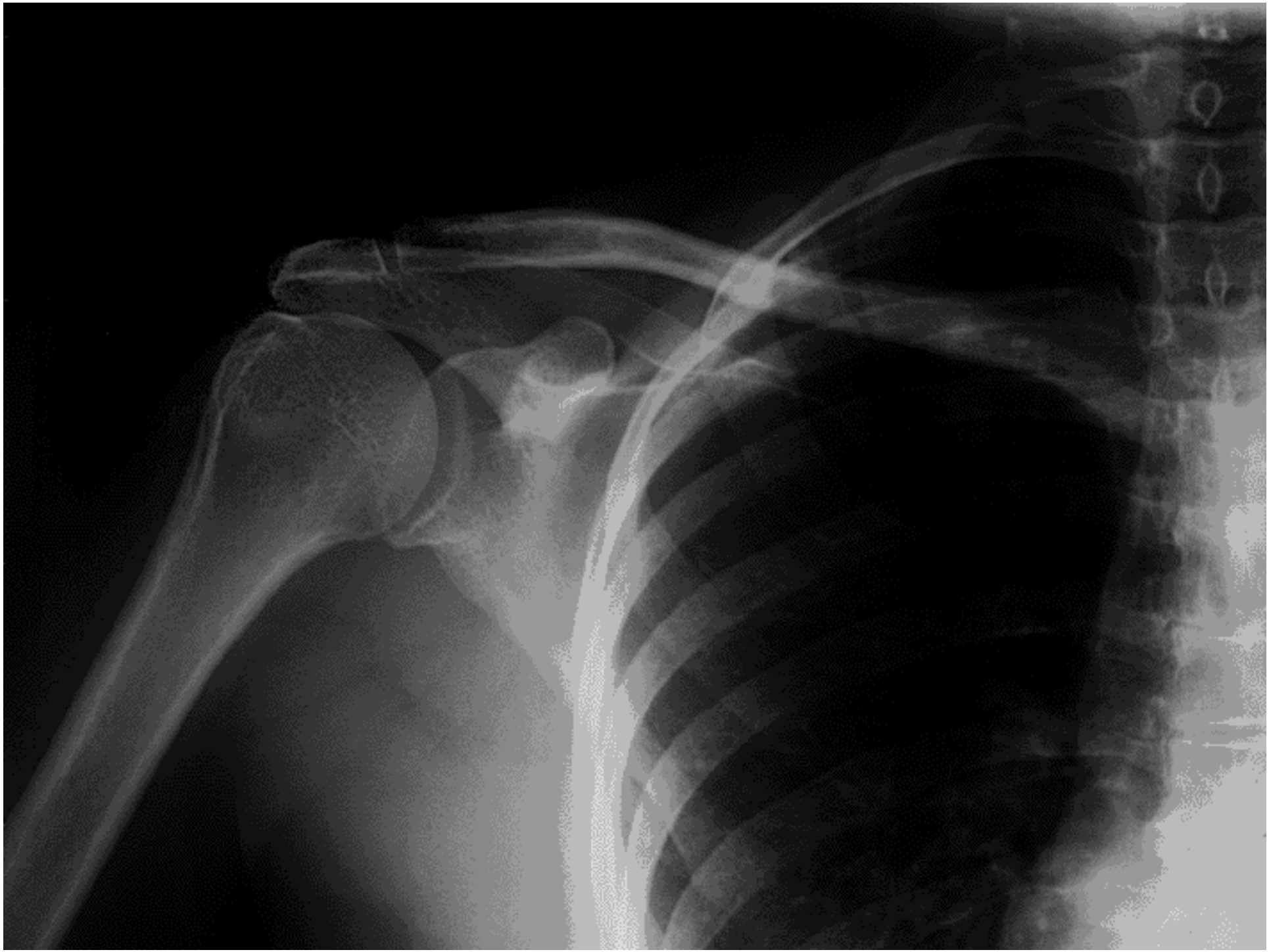


- Les surfaces articulaires sont des segments de sphère, plein et creux.
- Très mobile, à 3 axes de mobilité.
- Exp : articulation scapulo-humérale.

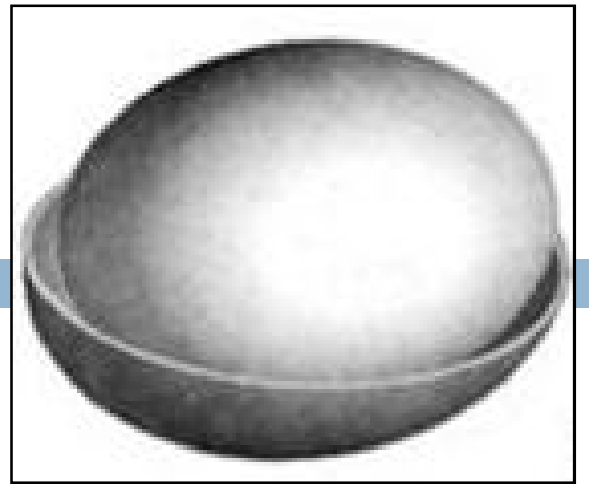




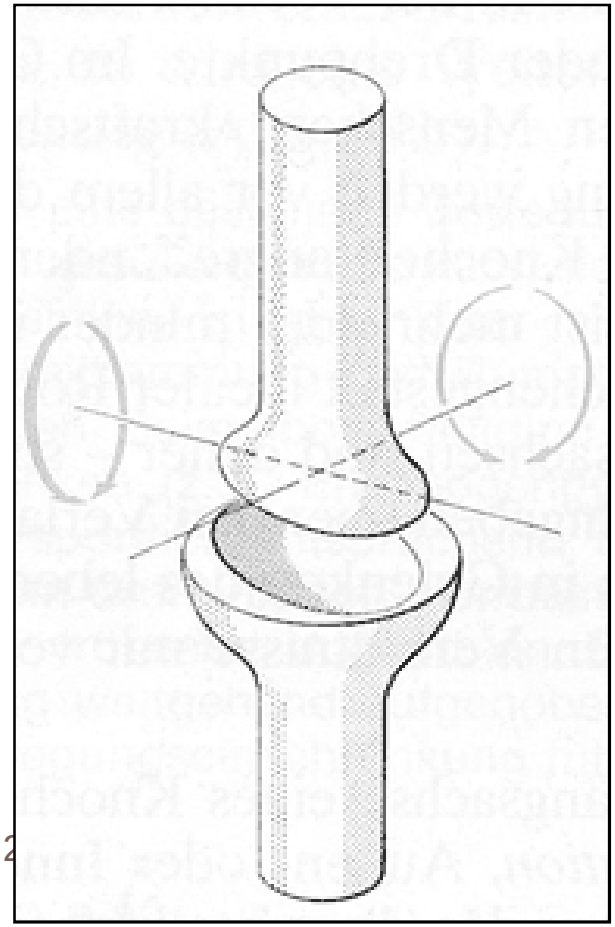


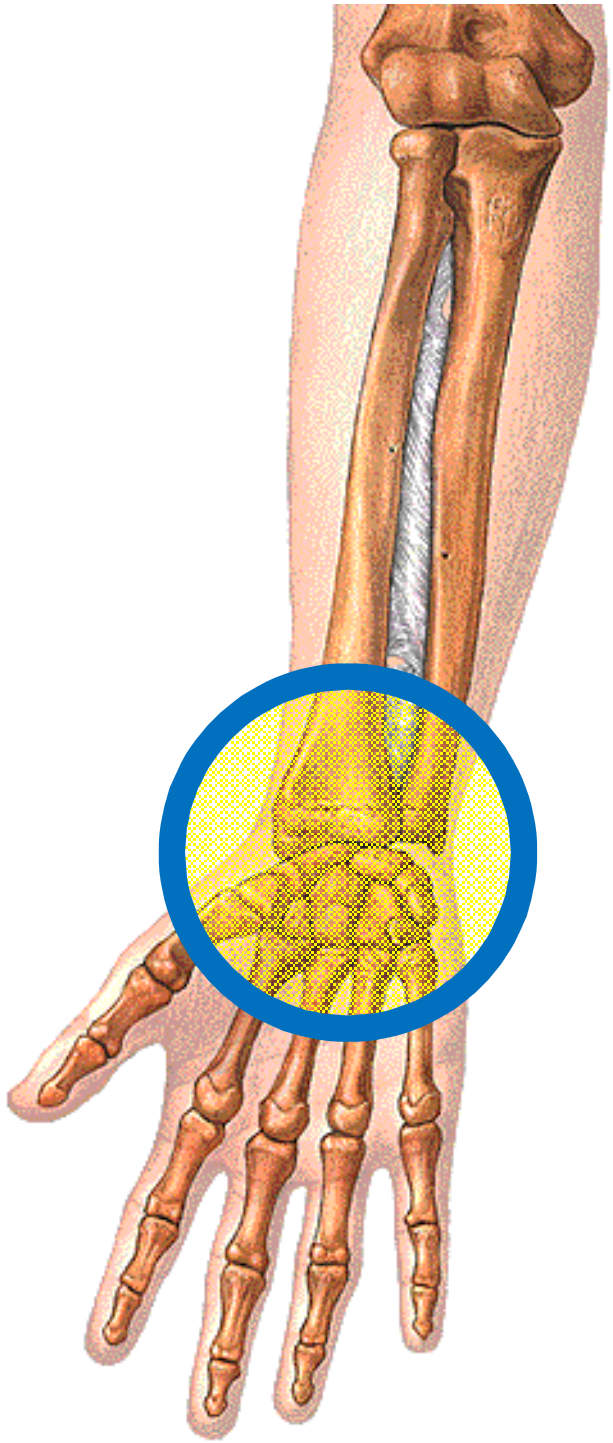


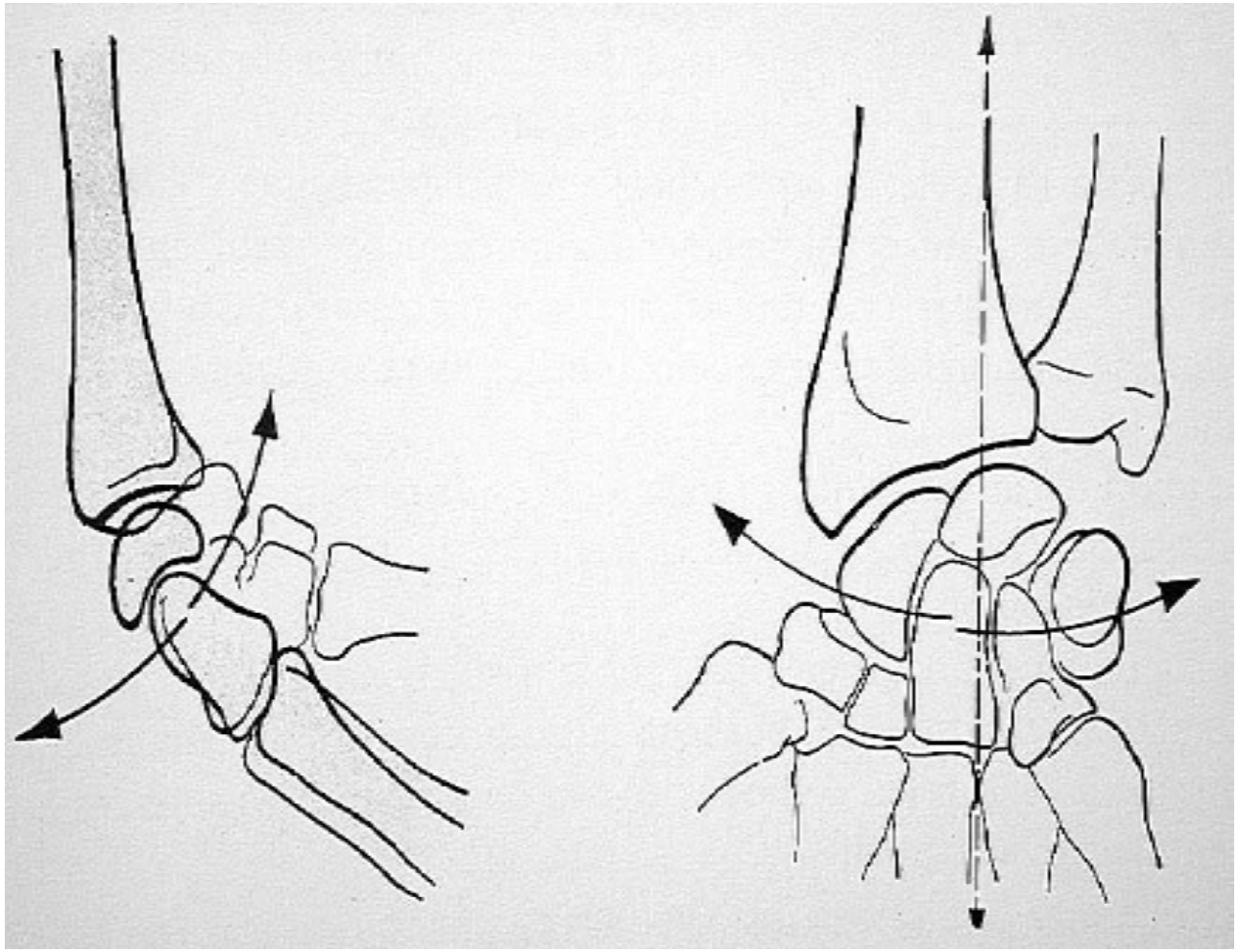
Articulation ellipsoïde



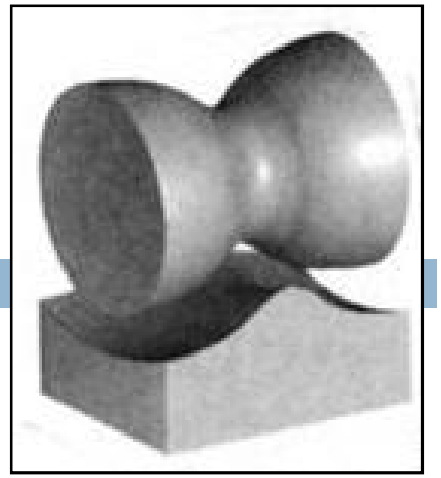
- Les surfaces articulaires sont des segments d'ellipsoïde, concave et convexe.
- 2 axes de mobilité.
- Exp: articulation radio-carpienne.



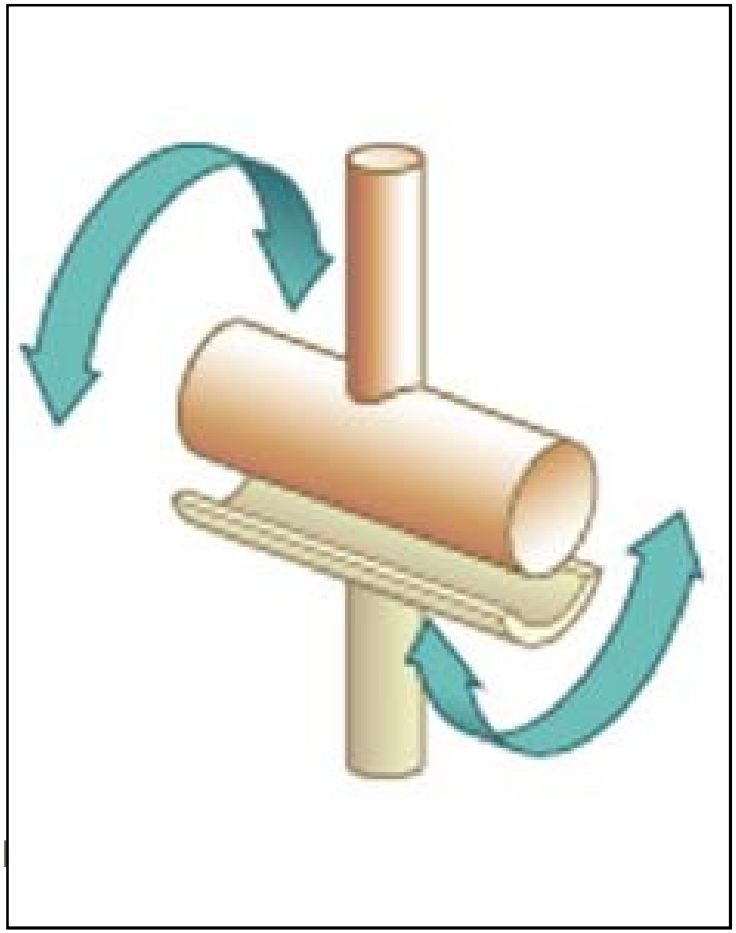


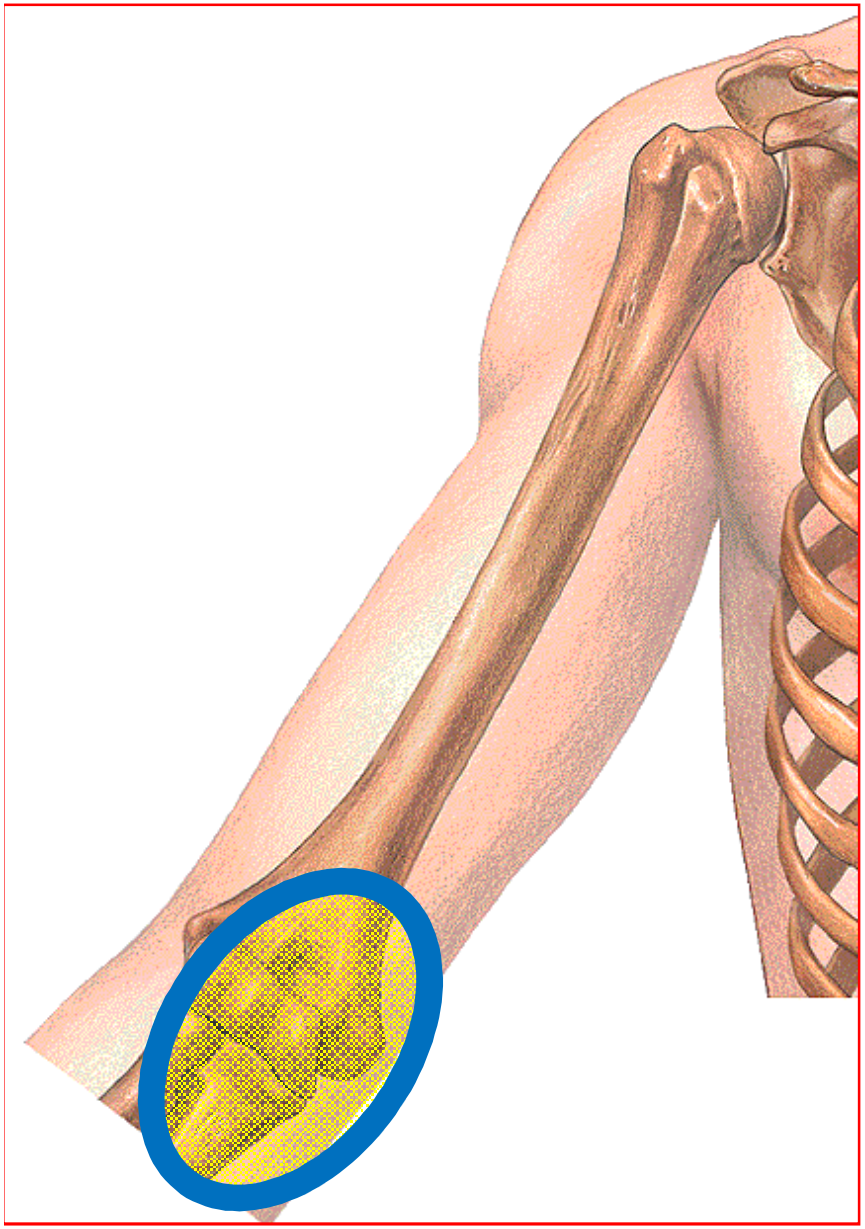


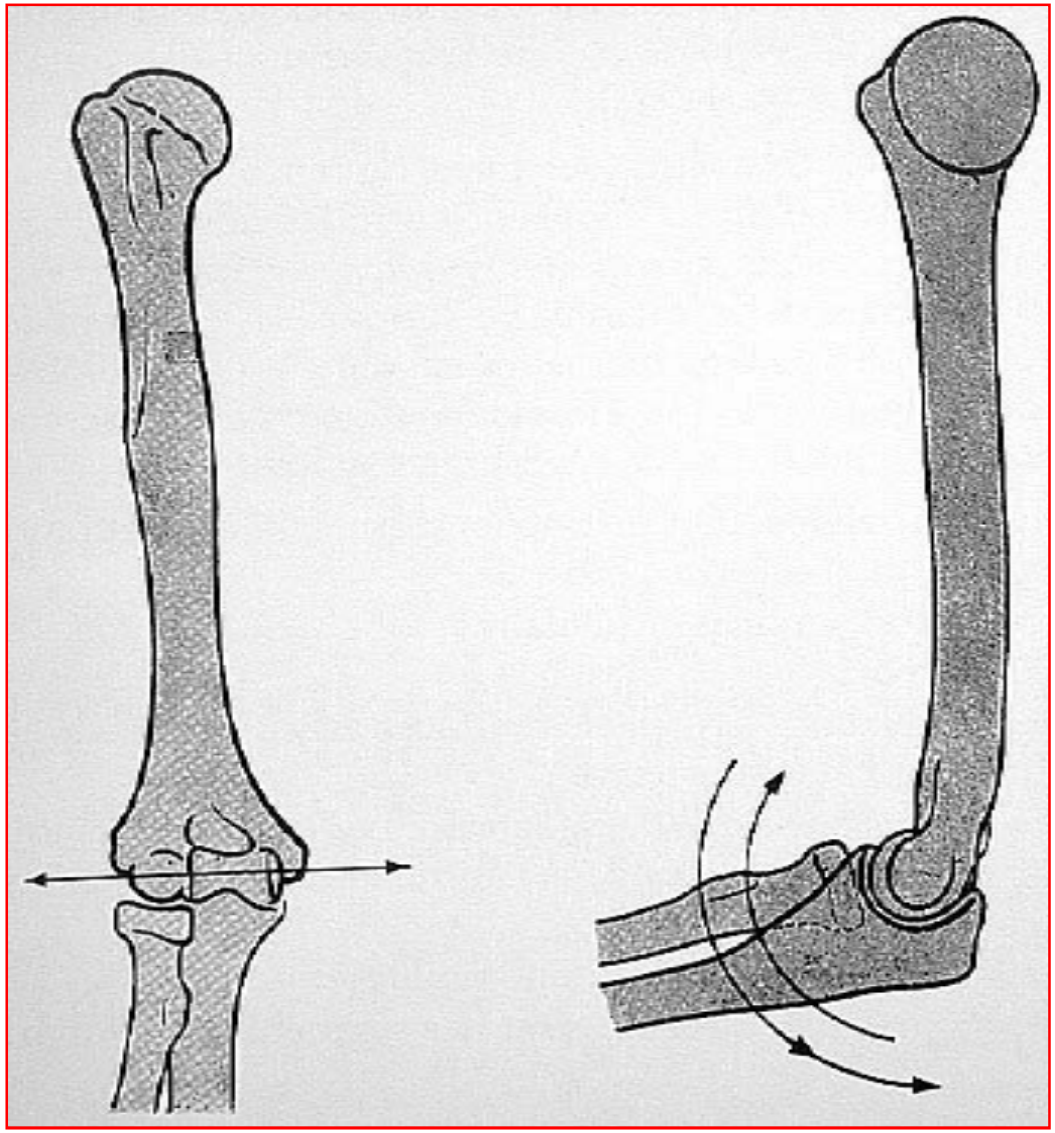
Articulation ginglyme



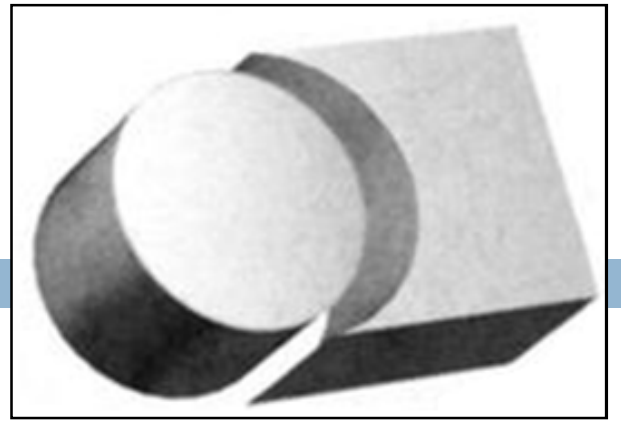
- Surface articulaire en forme de poulie.
- Un seul axe de mobilité.
- Exp : articulation huméro-cubitale.



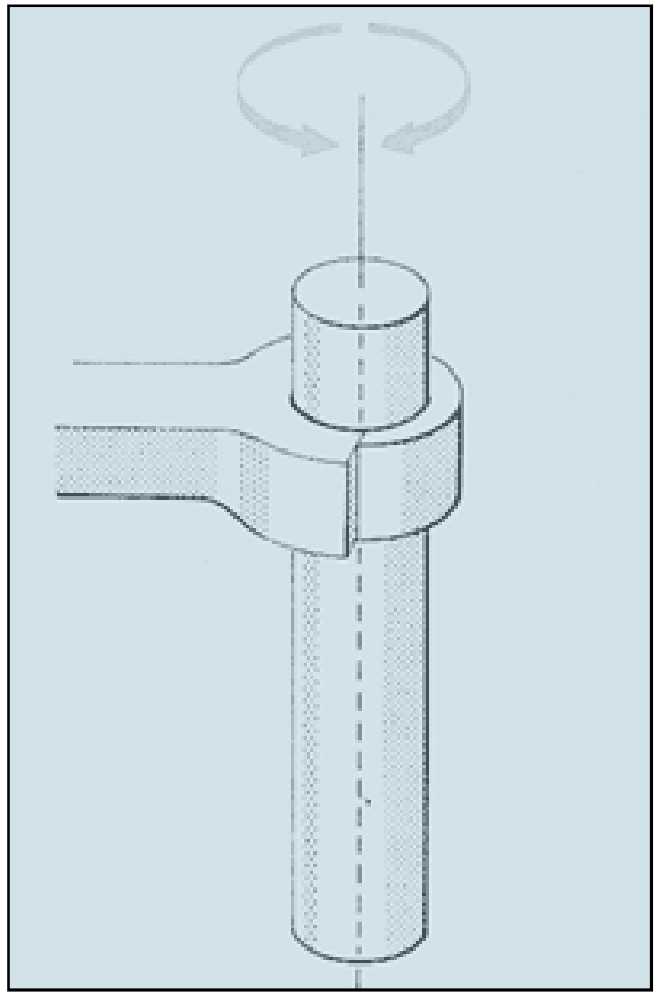


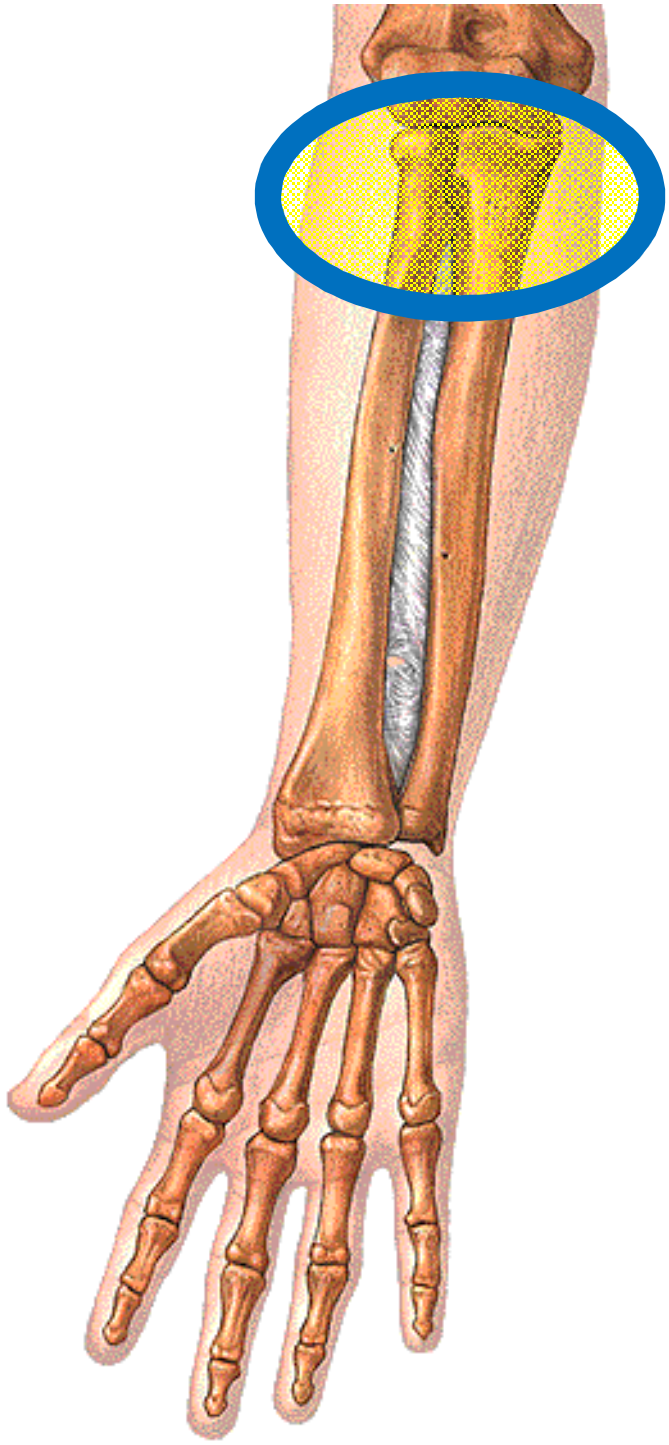


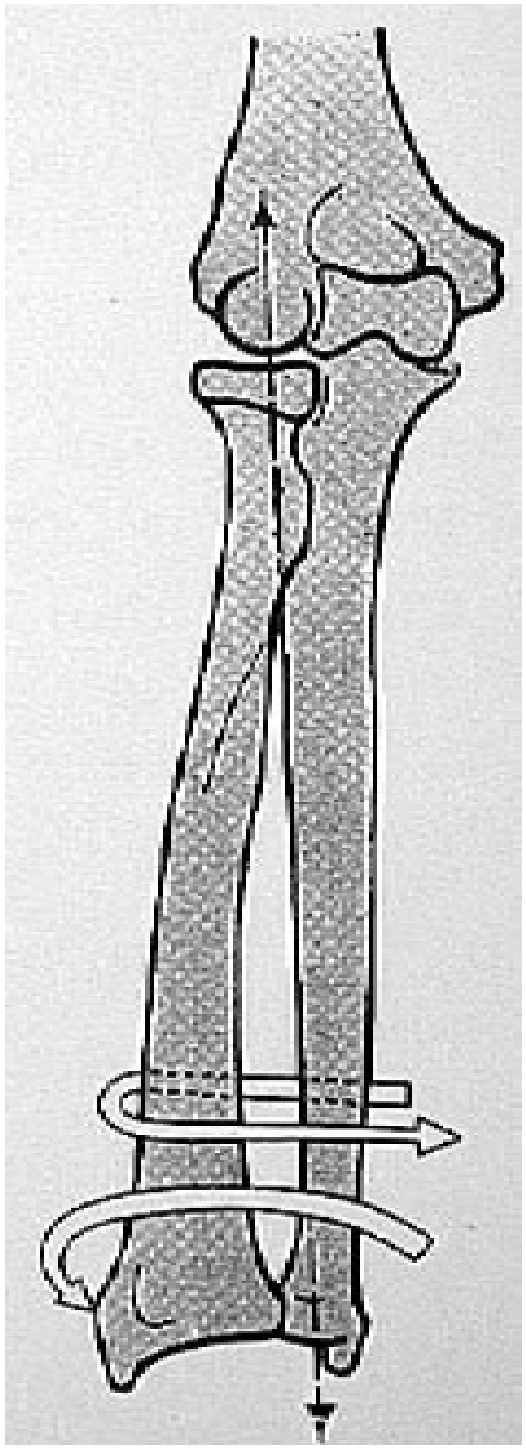
Articulation cylindrique



- Surfaces articulaires cylindriques, creuse et pleine.
- Un seul axe de mobilité.
- Exp : articulation radio-cubitale.

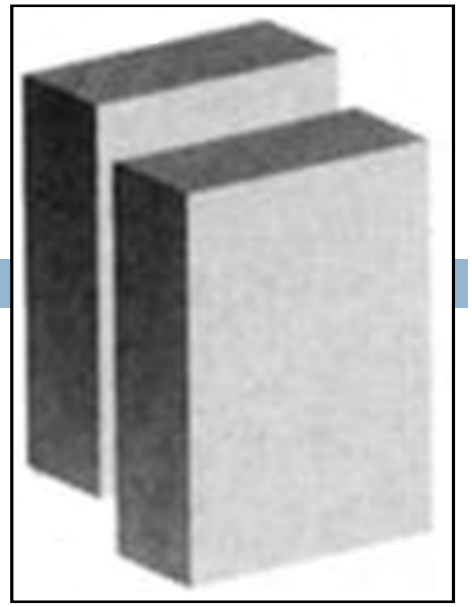


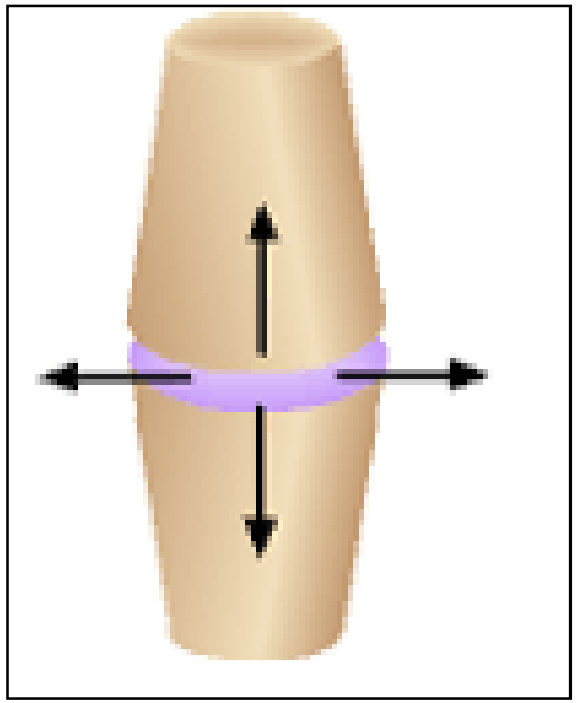


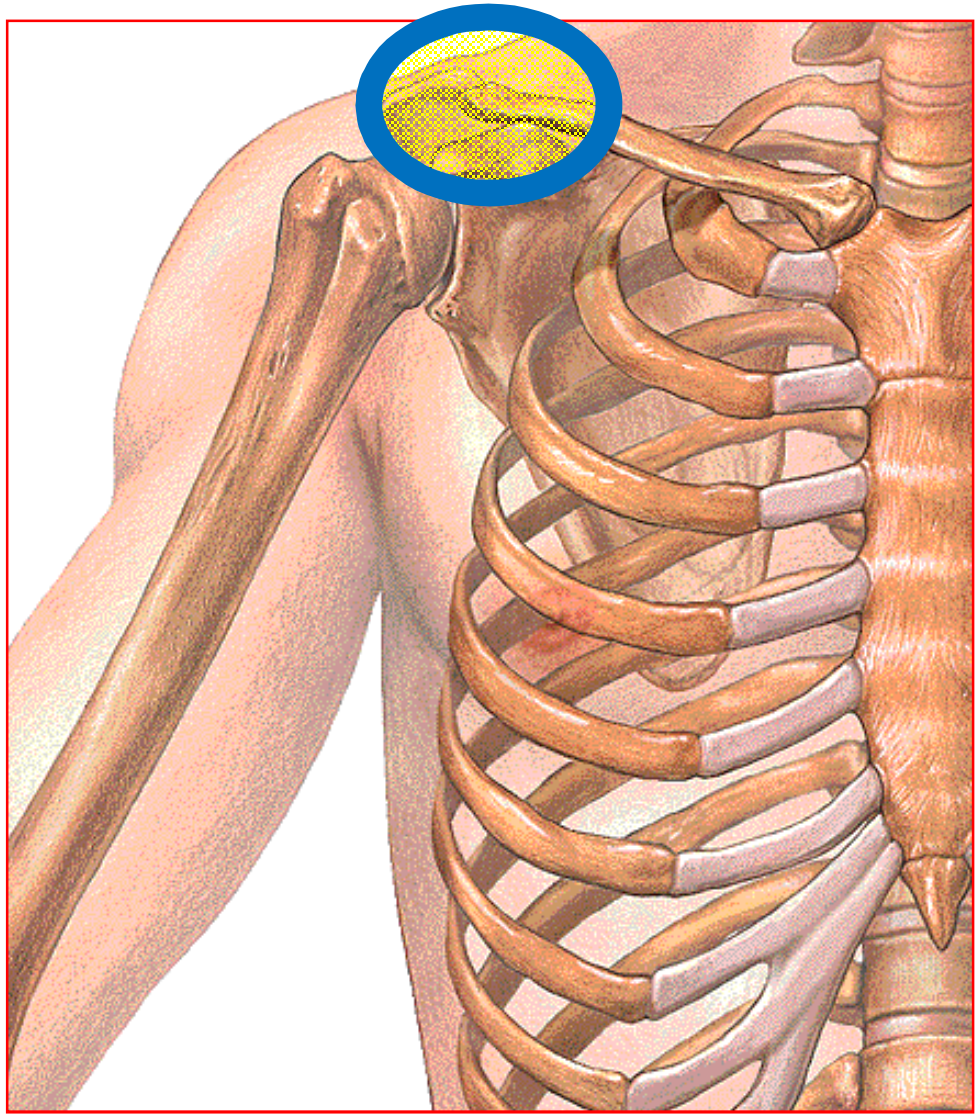


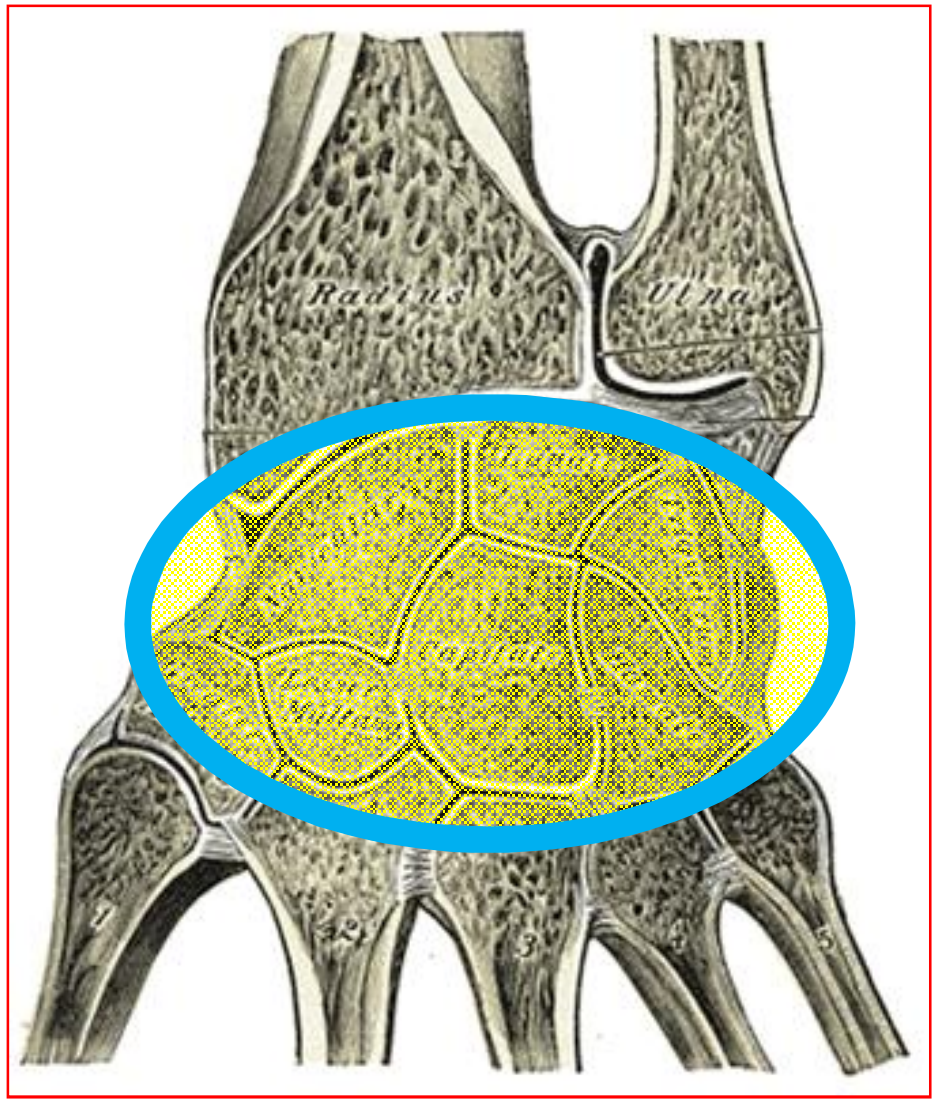
Articulation plane

- Surfaces articulaires planes.
- 3 axes de mobilité.
- Exp : articulation acromio-claviculaire, articulations du carpe.

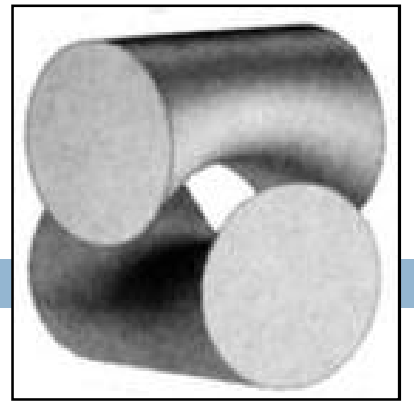




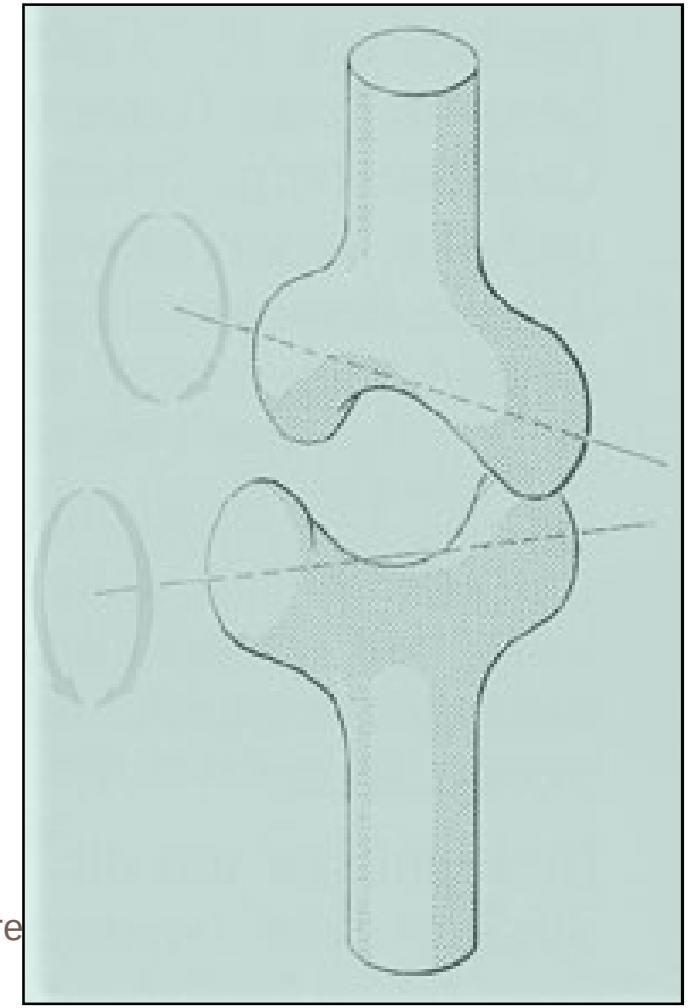



Radius
Ulna

Articulation en selle



- Surfaces articulaires concaves disposées « comme un chevalier sur un cheval ».
- 2 axes de mobilité.
- Exp : articulation carpo-métacarpienne.

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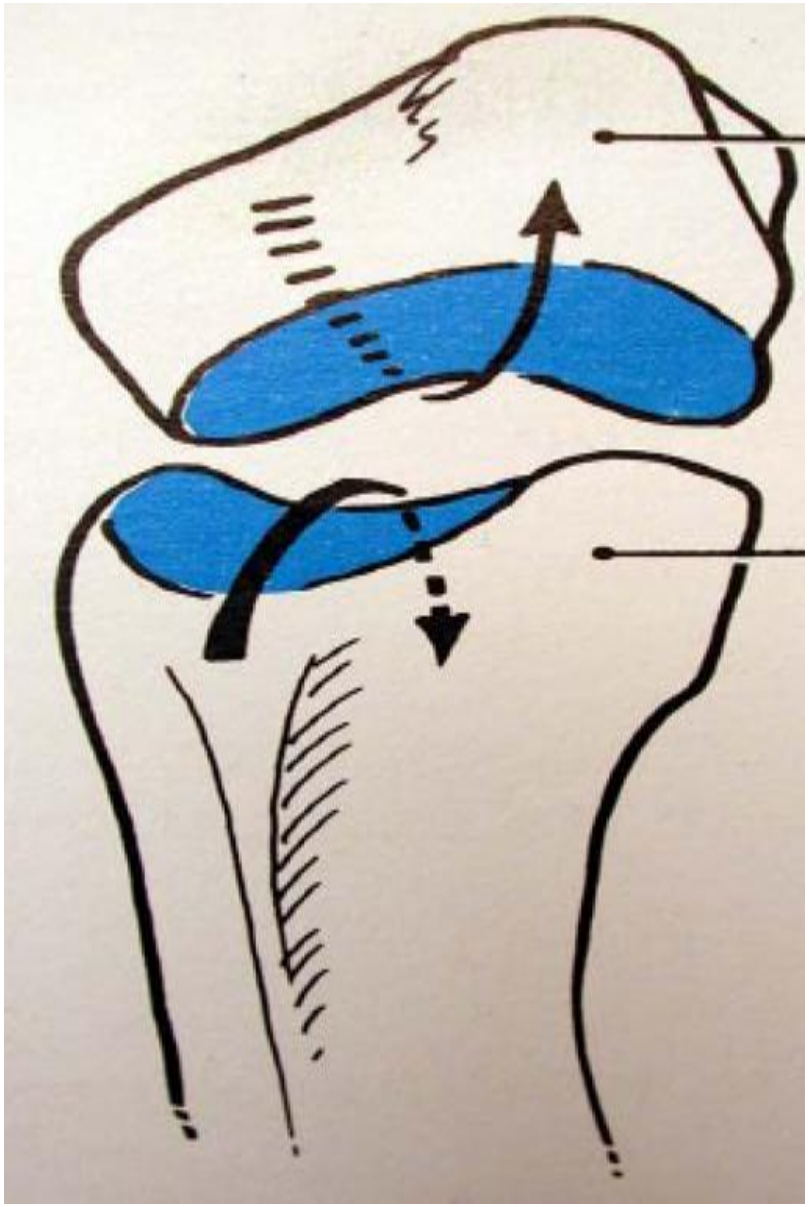
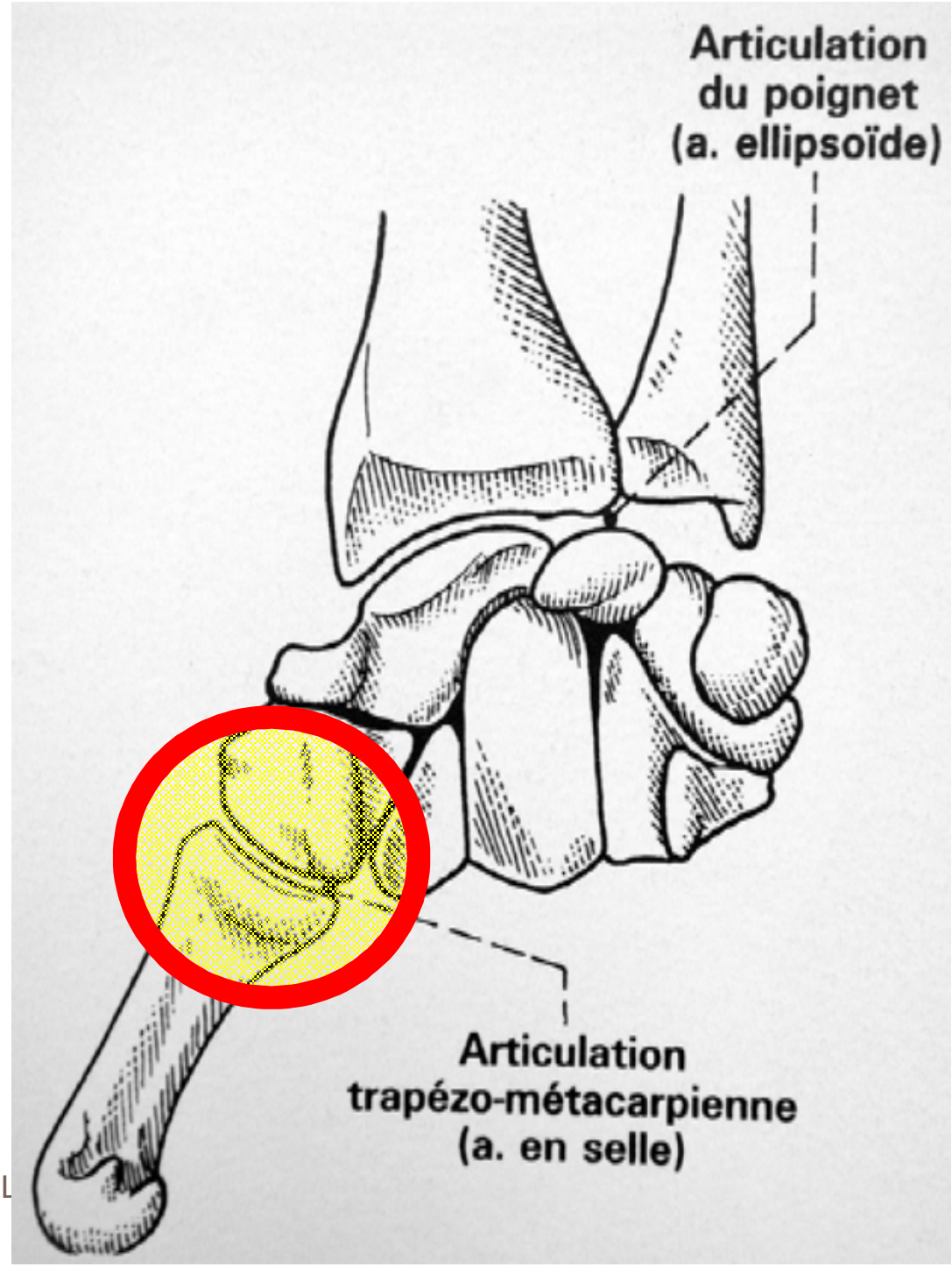
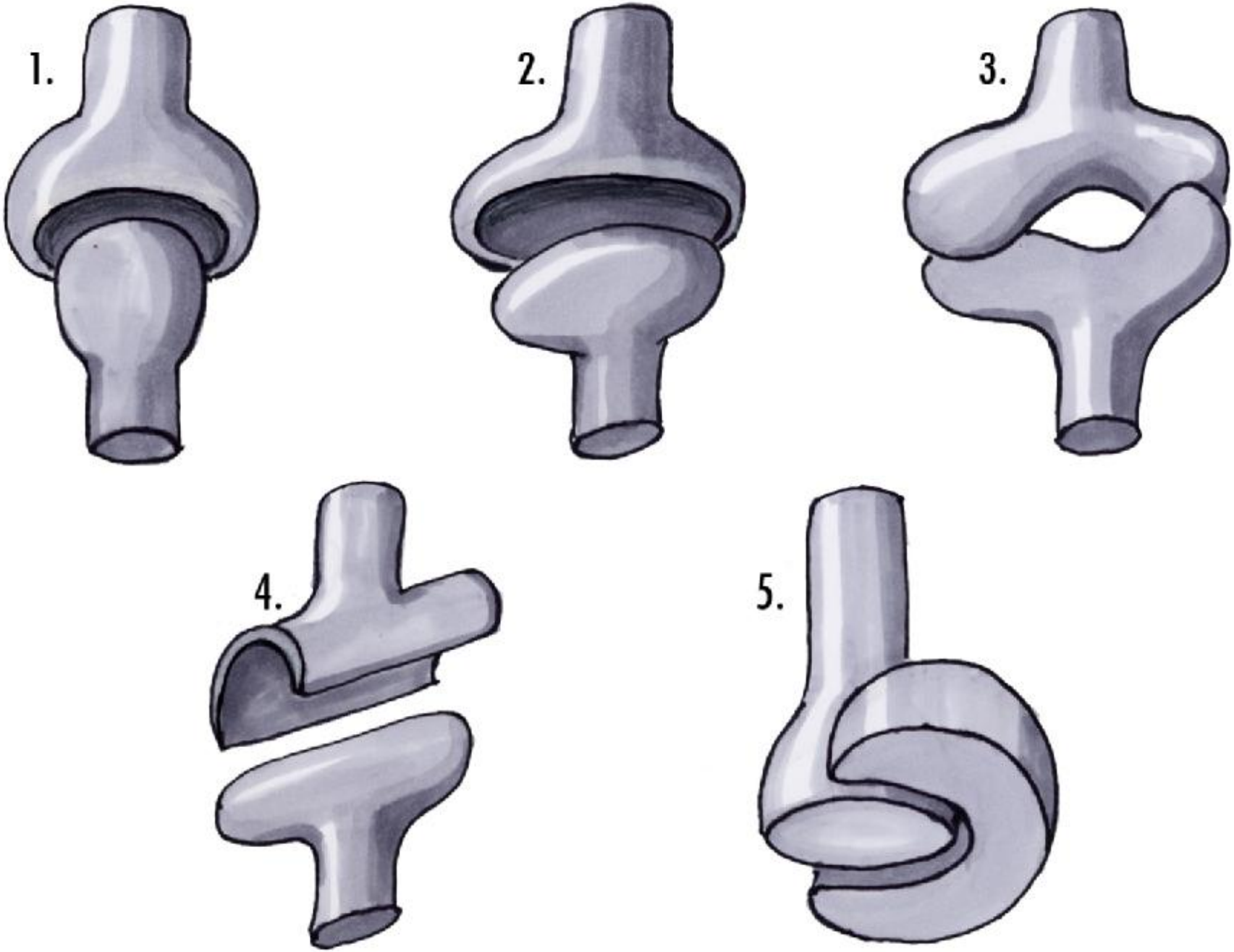
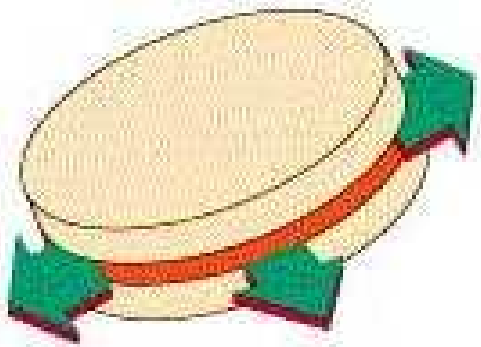
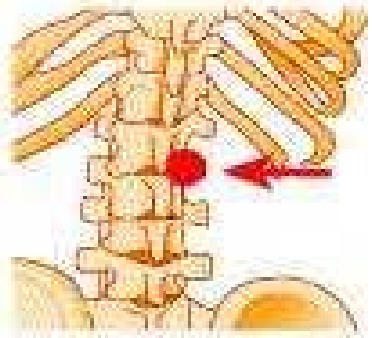



Articulation
du poignet
(a. ellipsoïde)
Articulation
trapézo-métacarpienne
(a. en selle)

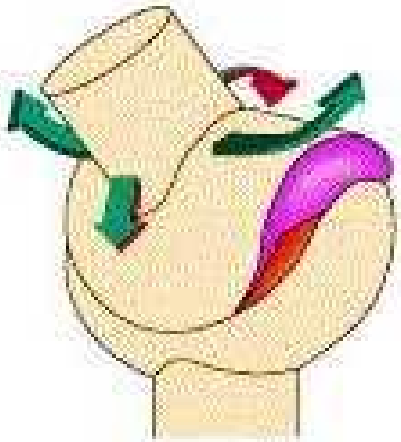

1.
2.
3.
4.
5.

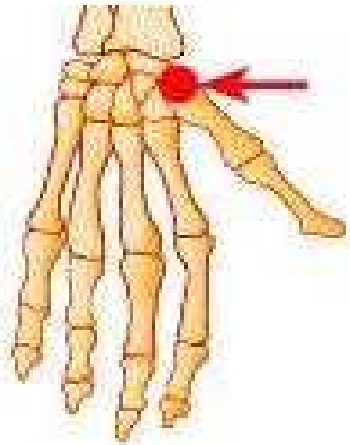
(a) Plane



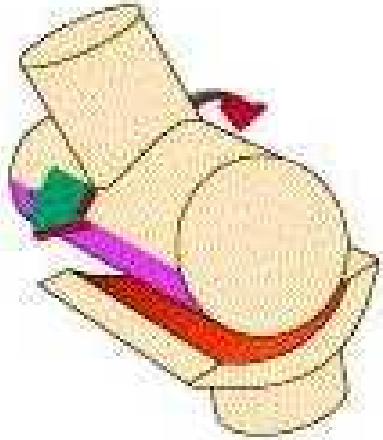


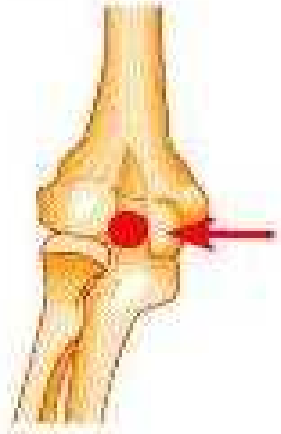
(b) Saddle



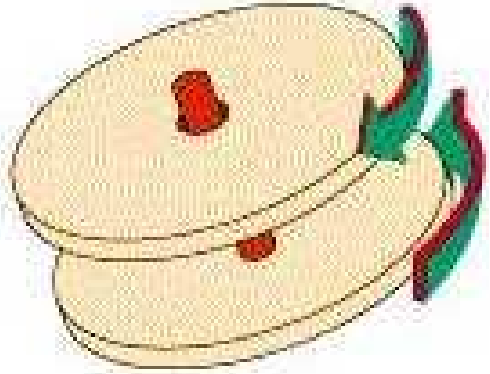


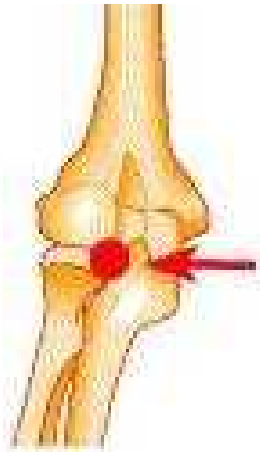
(c) Hinge



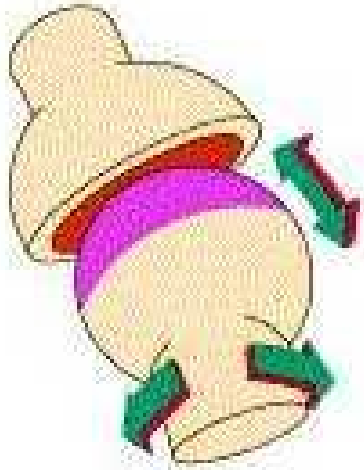


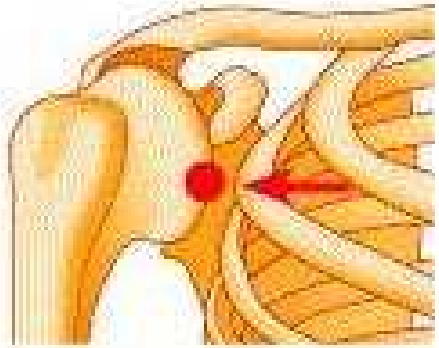
(d) Pivot



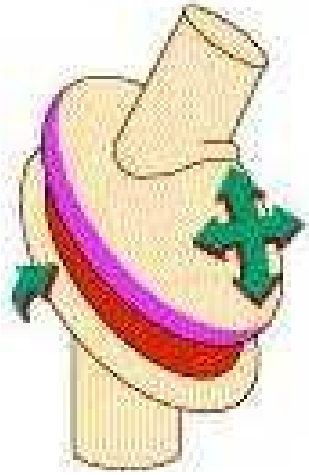


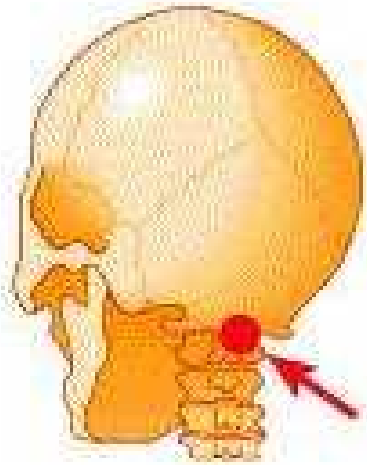
(e) Ball-and-Socket





(f) Elipsoid

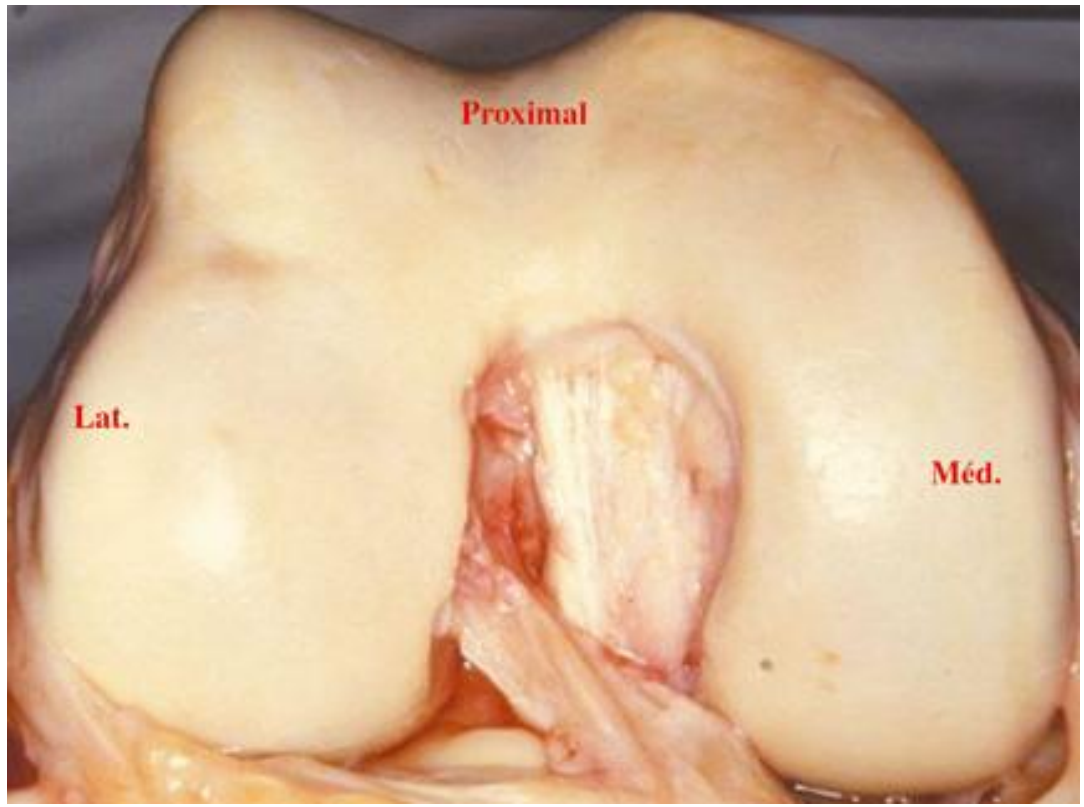


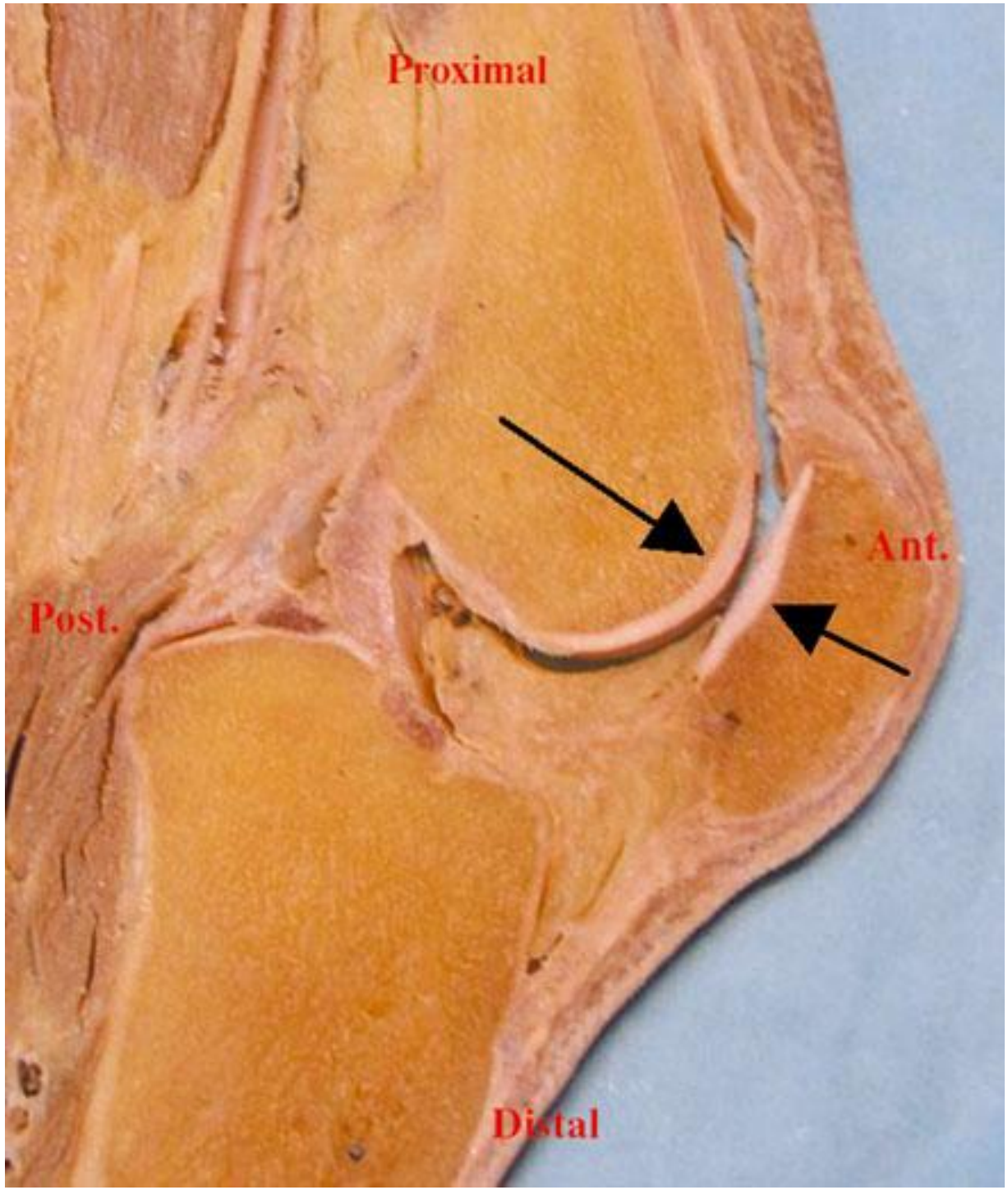



Cartilage et tissu cartilagineux

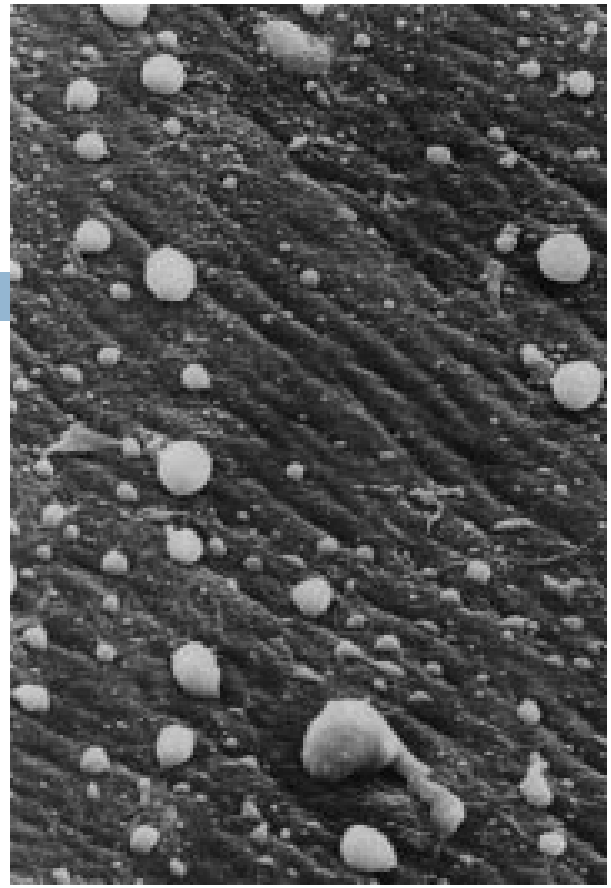
Cartilage

- Substance blanche, lisse, élastique et compressible.
- Ni vascularisé ni innervé.
- Se nourrit par imbibition du liquide synovial.

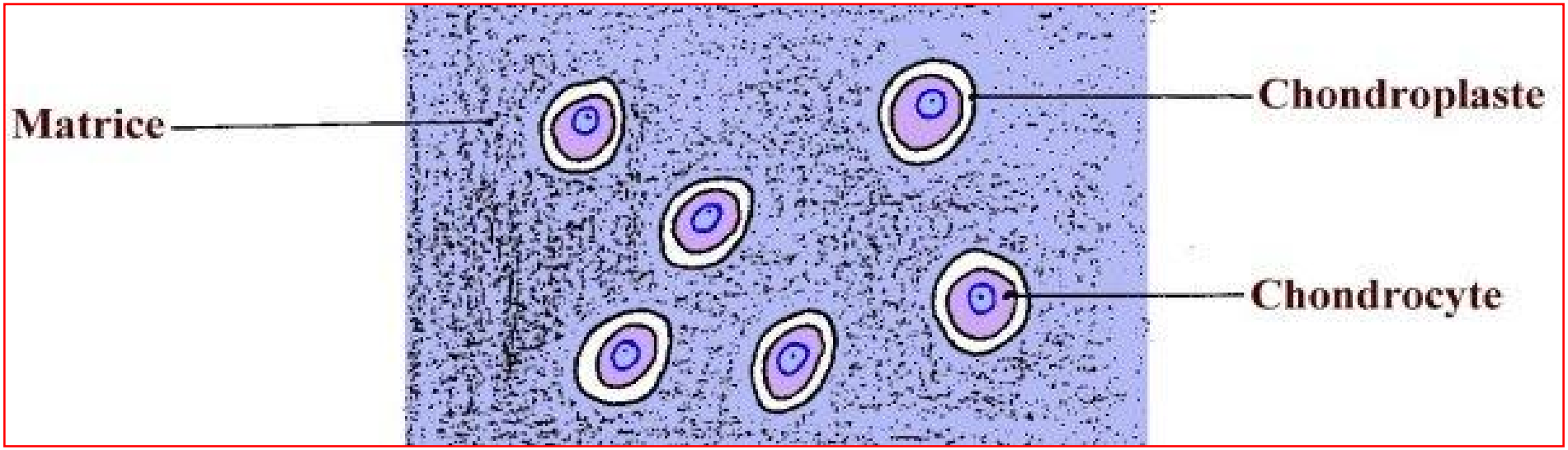



Proximal
Ant.
Post.
Distal

Tissu cartilagineux



- Tissu spécialisé, constitué de chondrocytes situées dans une matrice de fibres et de substance fondamentale.

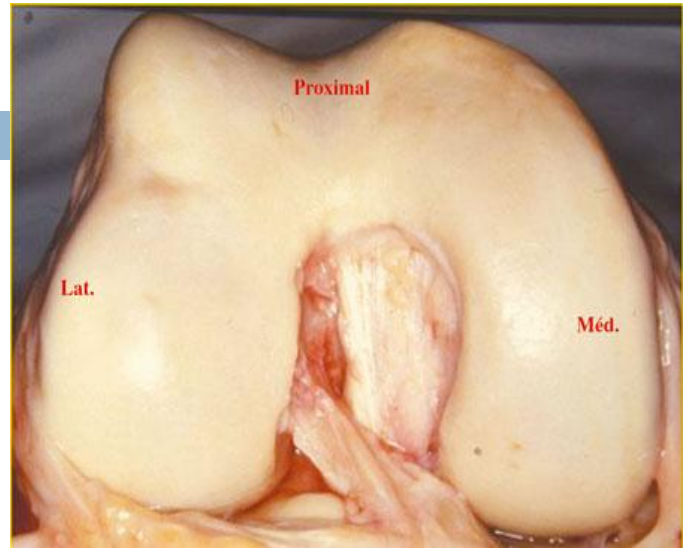


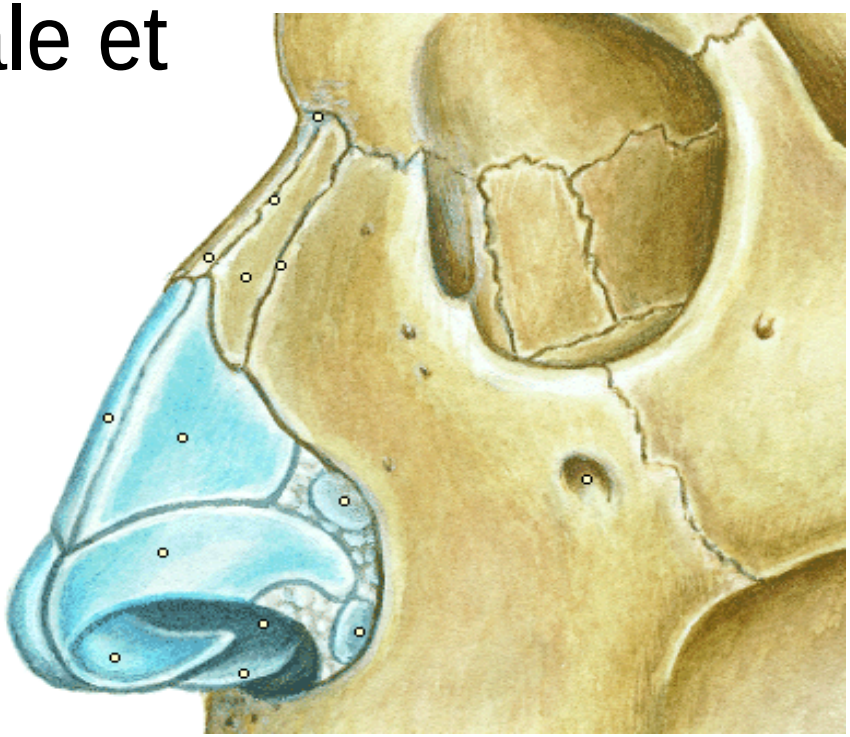
Types de cartilages

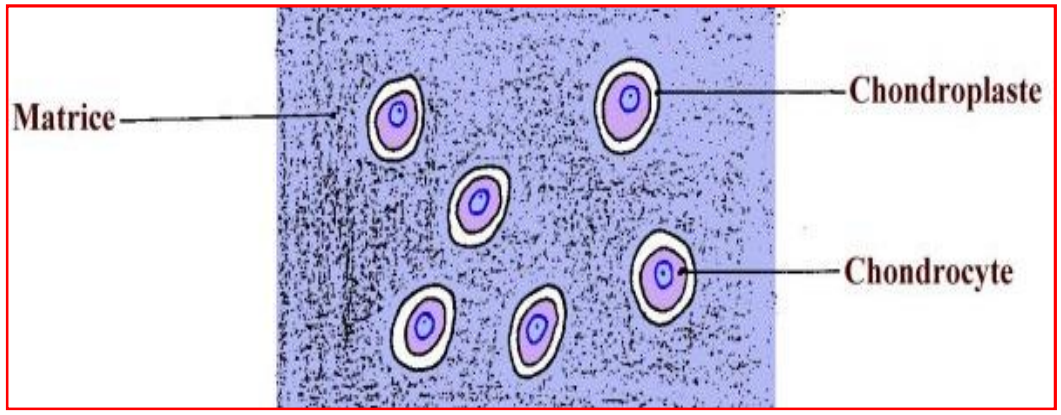
- Il y a 3 types :
  - Cartilage hyalin (cartilage articulaire).
  - Cartilage fibreux (fibrocartilage).
  - Cartilage élastique.

Cartilage hyalin

- Translucide et élastique.
- Chondrocytes logées dans des chondroplastes entourés de substance fondamentale et collagènes.

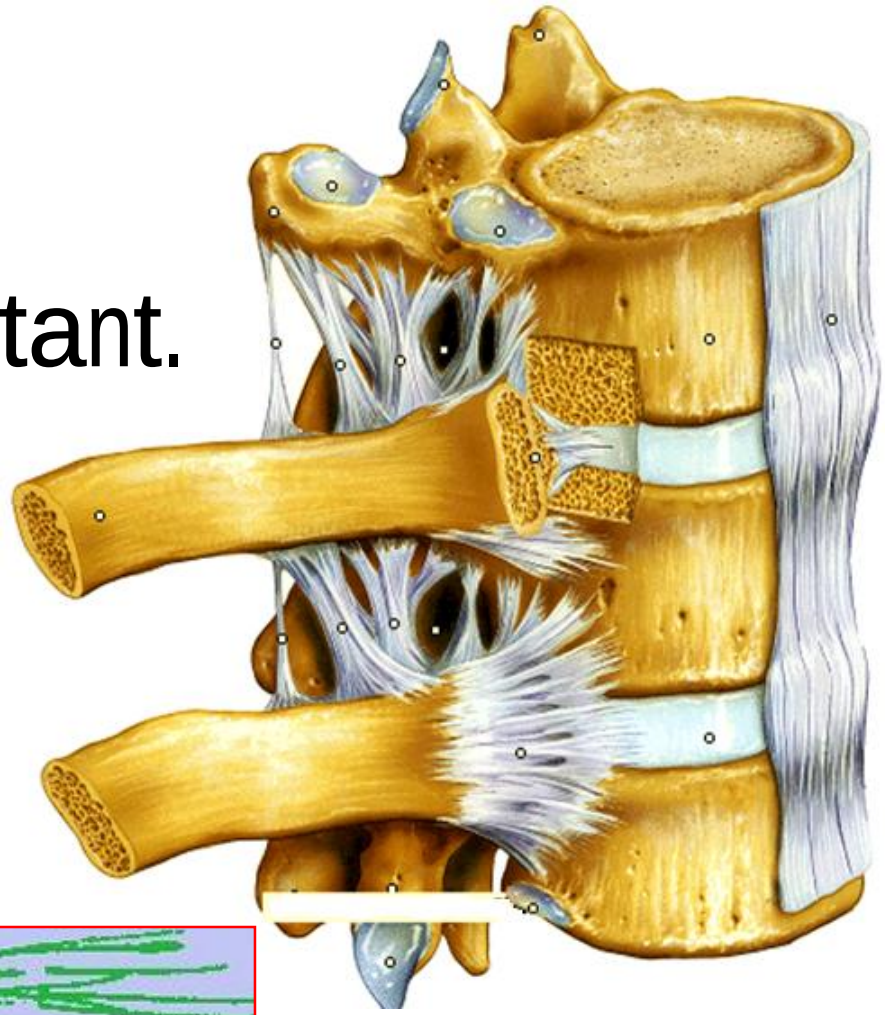


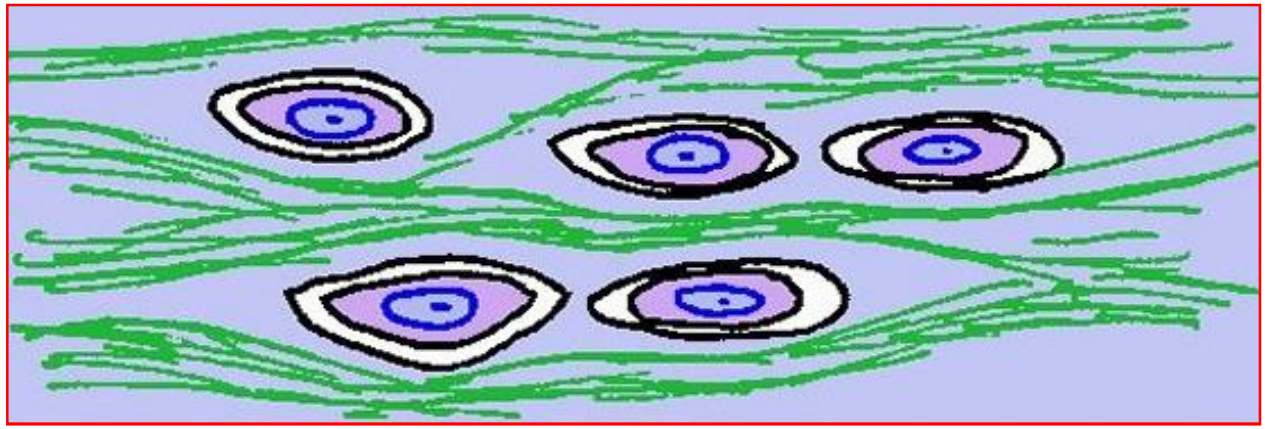




Cartilage fibreux

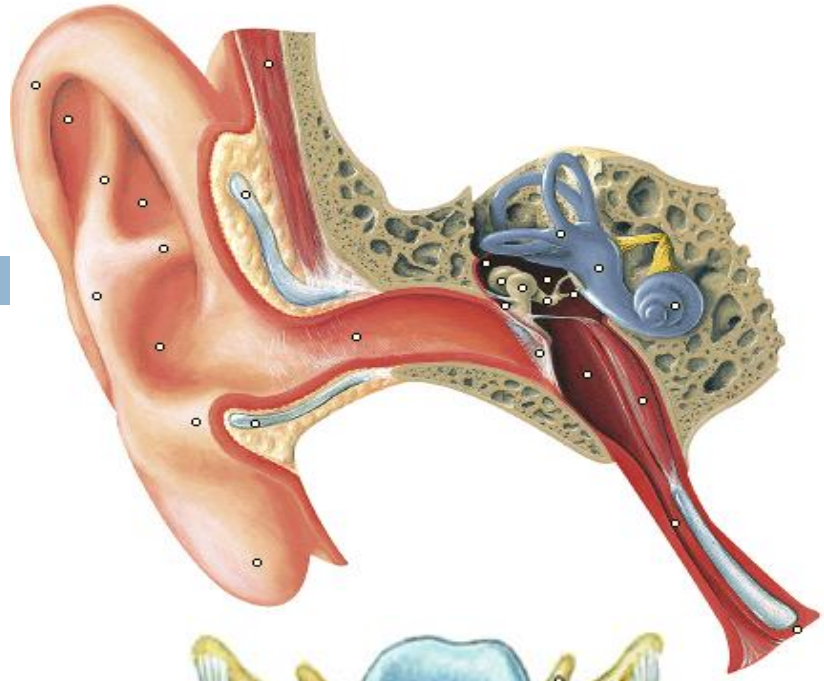
- Blanchâtre et résistant.
- Riche en fibres collagènes.

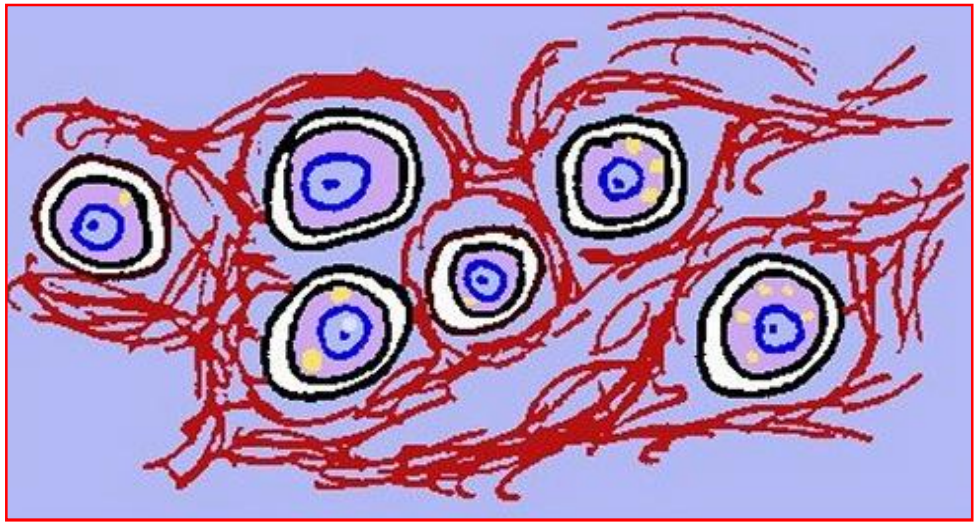




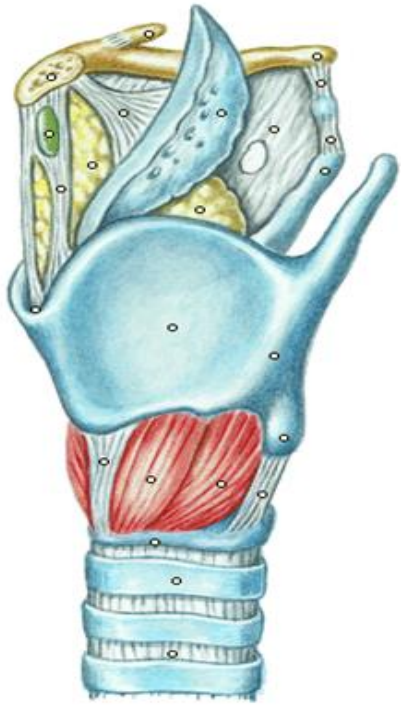
Cartilage élastique

- Jaunâtre.
- Très riche en fibres élastiques.

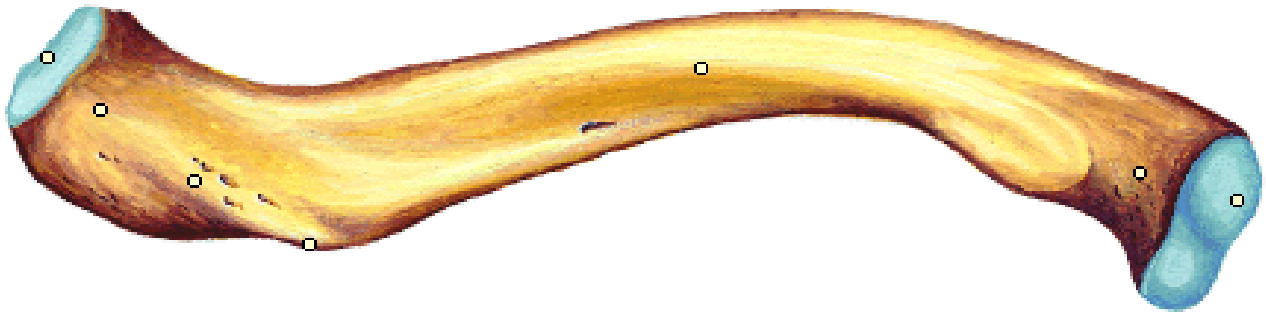




Rôles du cartilage



- Forme la charpente des organes.
- Donne insertions aux muscles.
- Protège les extrémités osseuses (de l'usure).
- Facilite les mouvements.



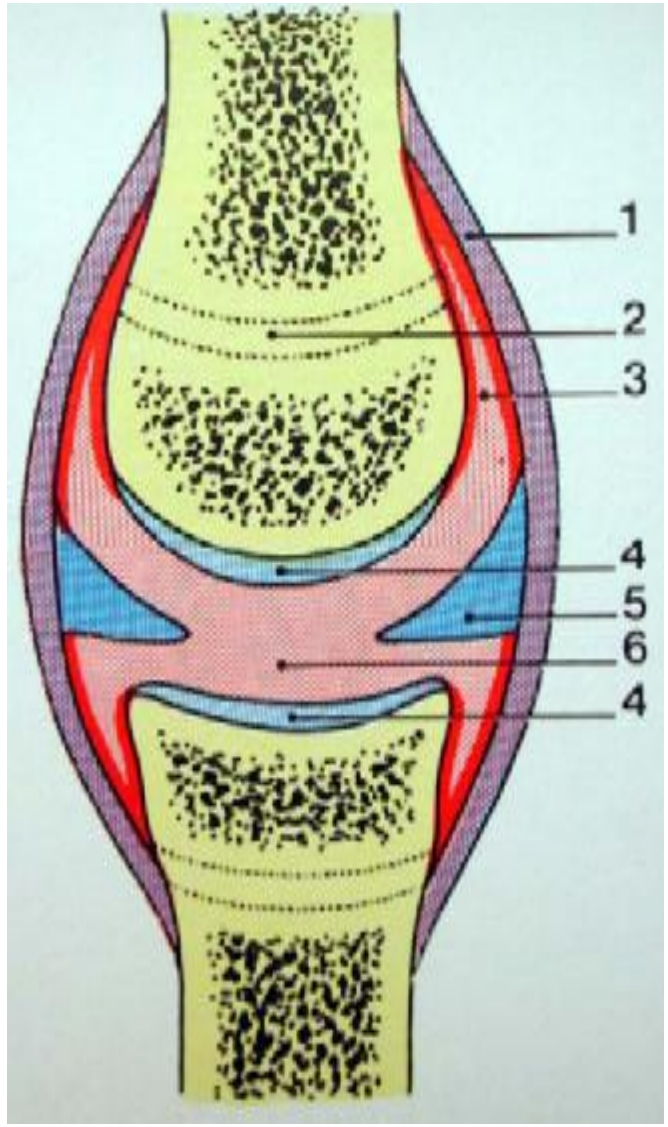

Structures
d’adaptation

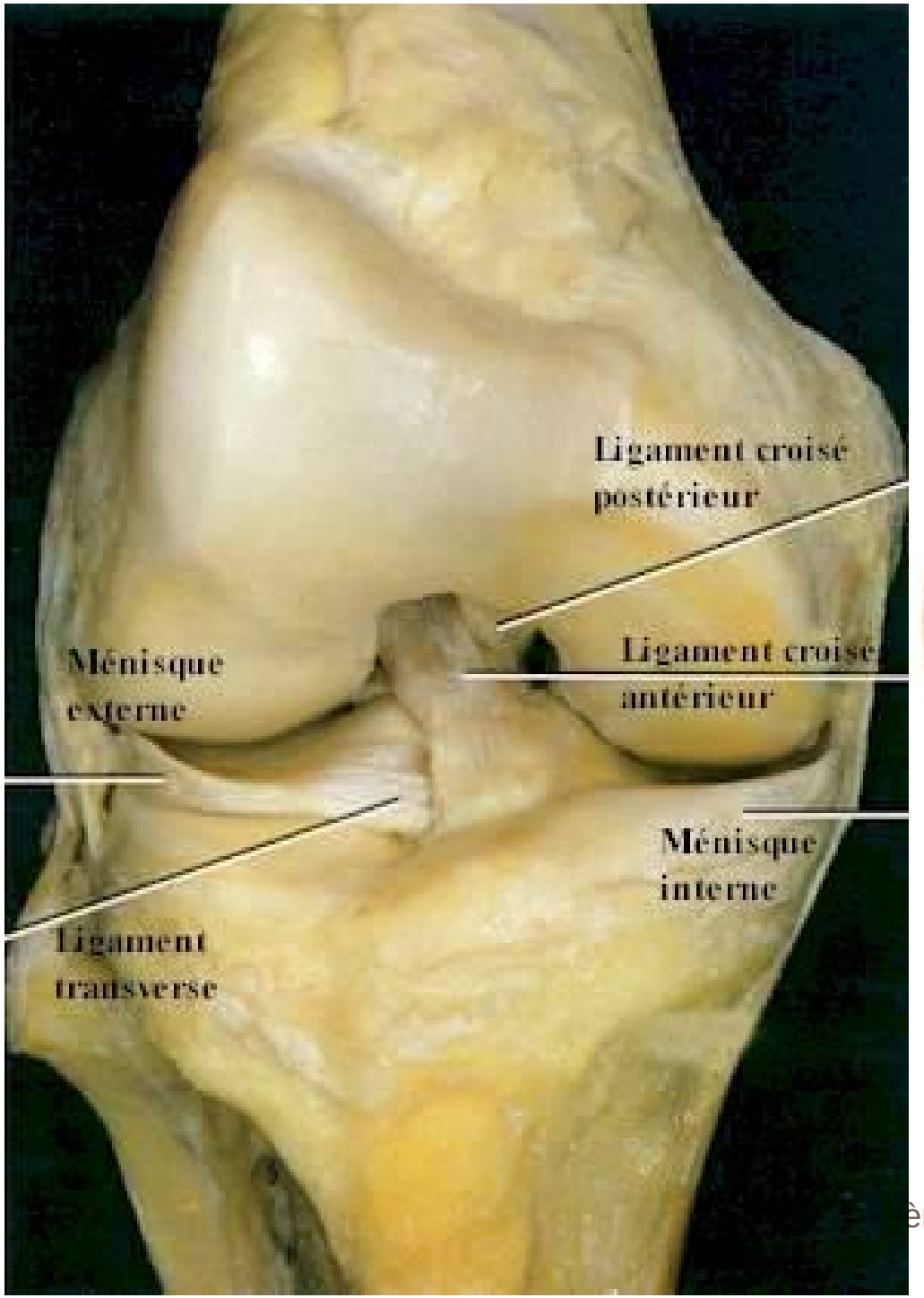
Définition

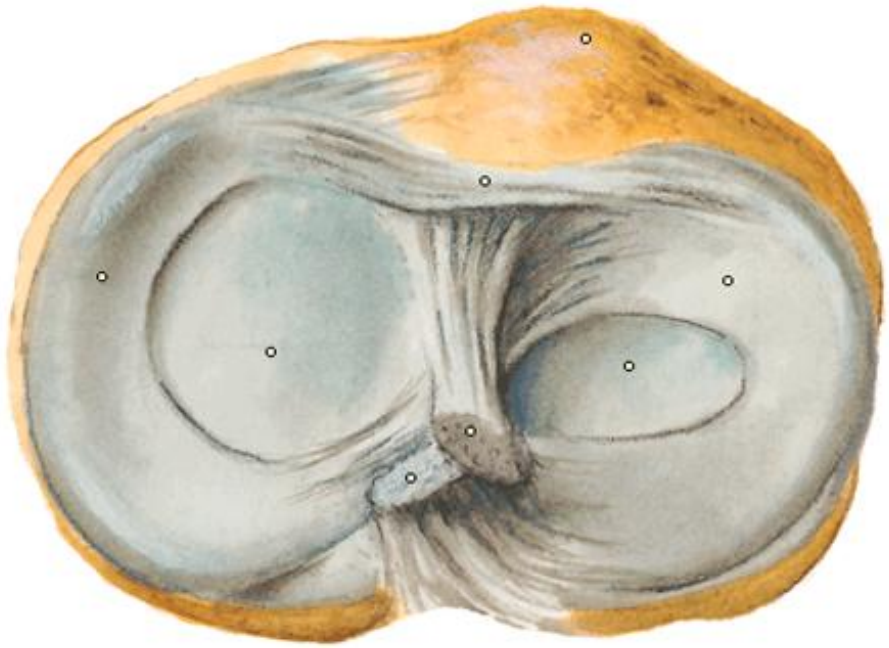
- Ce sont des fibrocartilages qui assurent une parfaite adaptation des surfaces articulaires.
- Elles peuvent être :
  - Ménisque.
  - Bourrelet (labrum).
  - Disque.

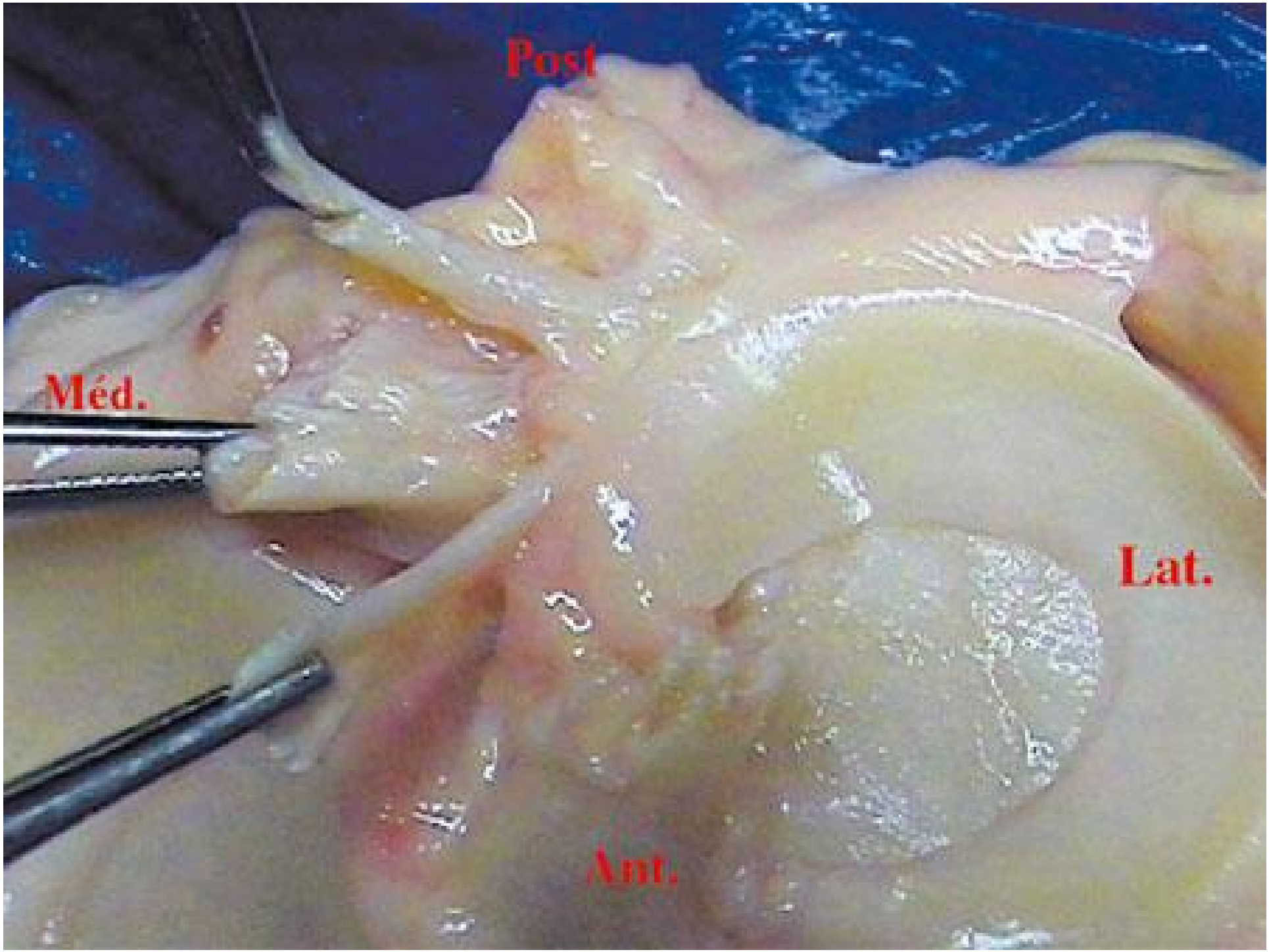
Ménisque

- Lame fibro-cartilagineuse intra-articulaire interposée entre les surfaces articulaires.
- Exp: ménisques du genou.



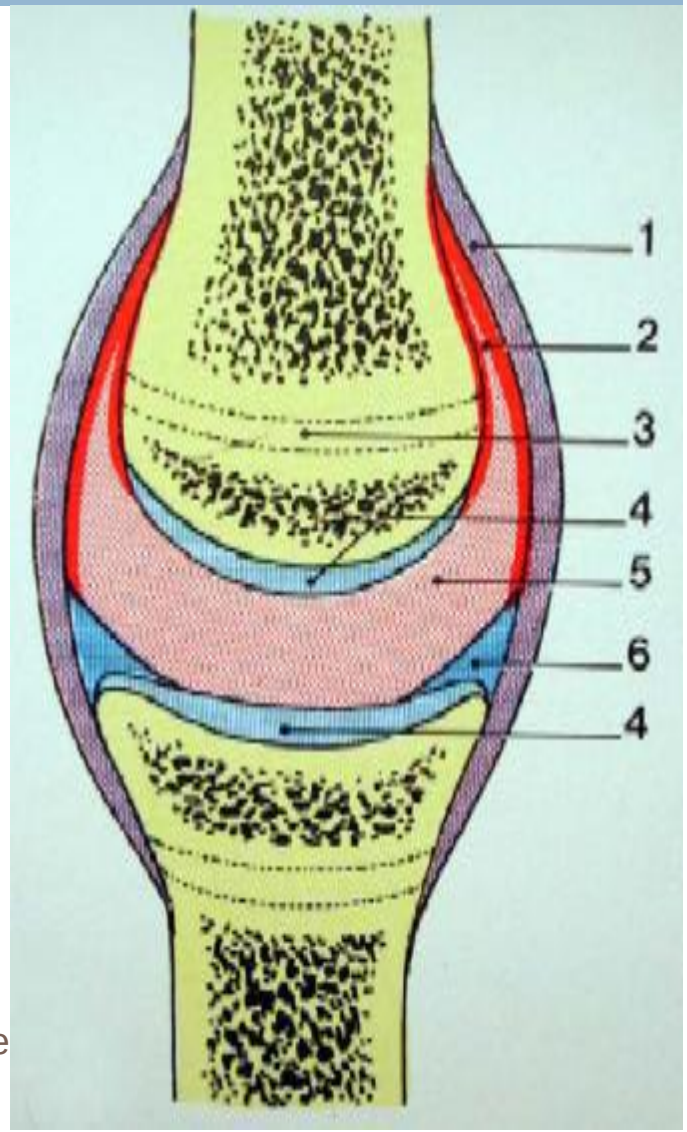

Ligament croisé
postérieur
Ligament croisé
antérieur
Ménisque
externe
Ménisque
interne
Ligament
transverse

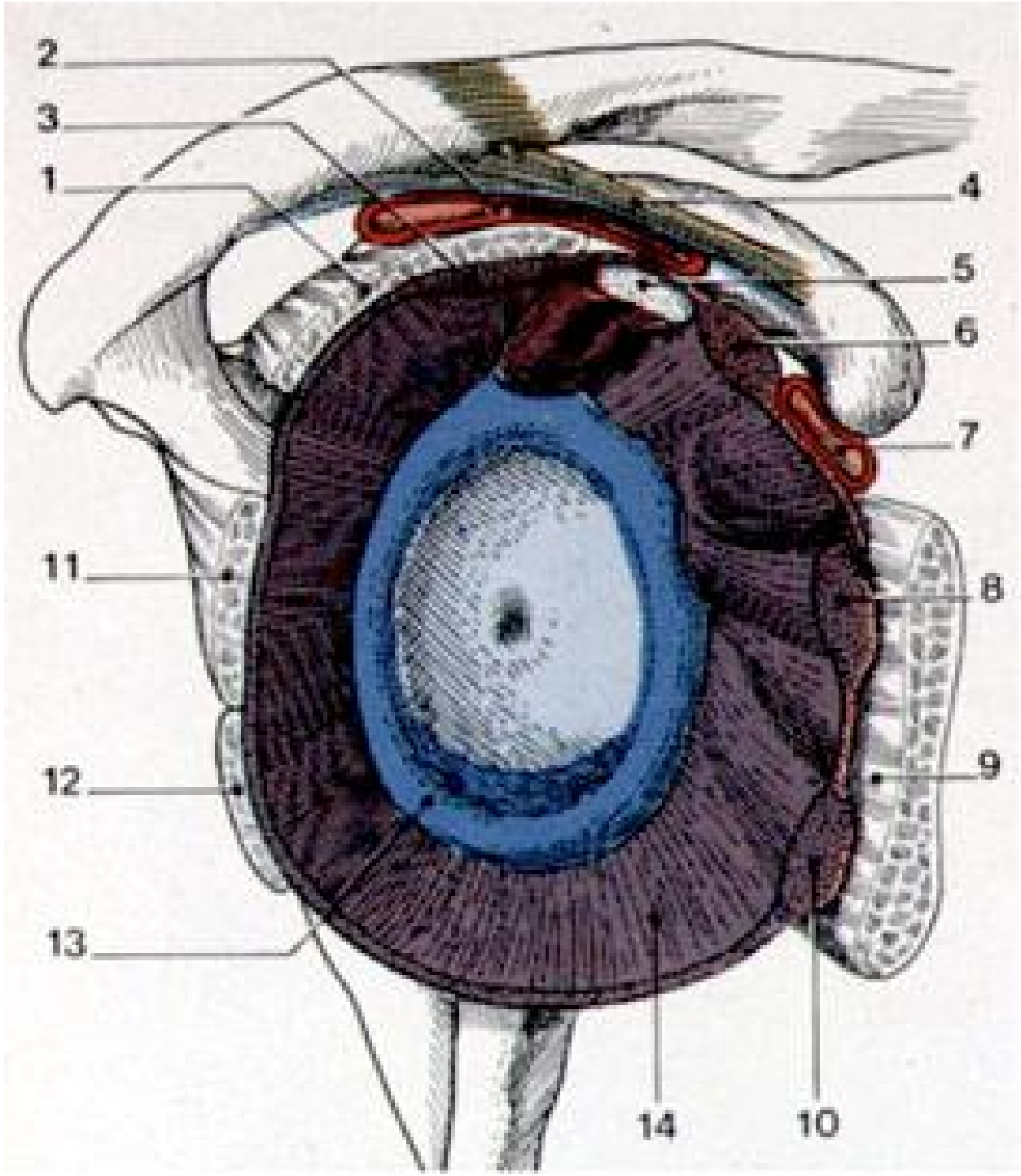



Post
Méd.
Lat.
Ant.

Bourrelet

- Anneau fibro-cartilagineux intra-articulaire interposé entre les surfaces articulaires.
- Exp: bourrelet de la scapulo-humérale.




2
3
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Arthroscopie de l’épaule

Disque

- Cloison intra-articulaire.
- Exp: disque intervertébral.


Mécanique
articulaire

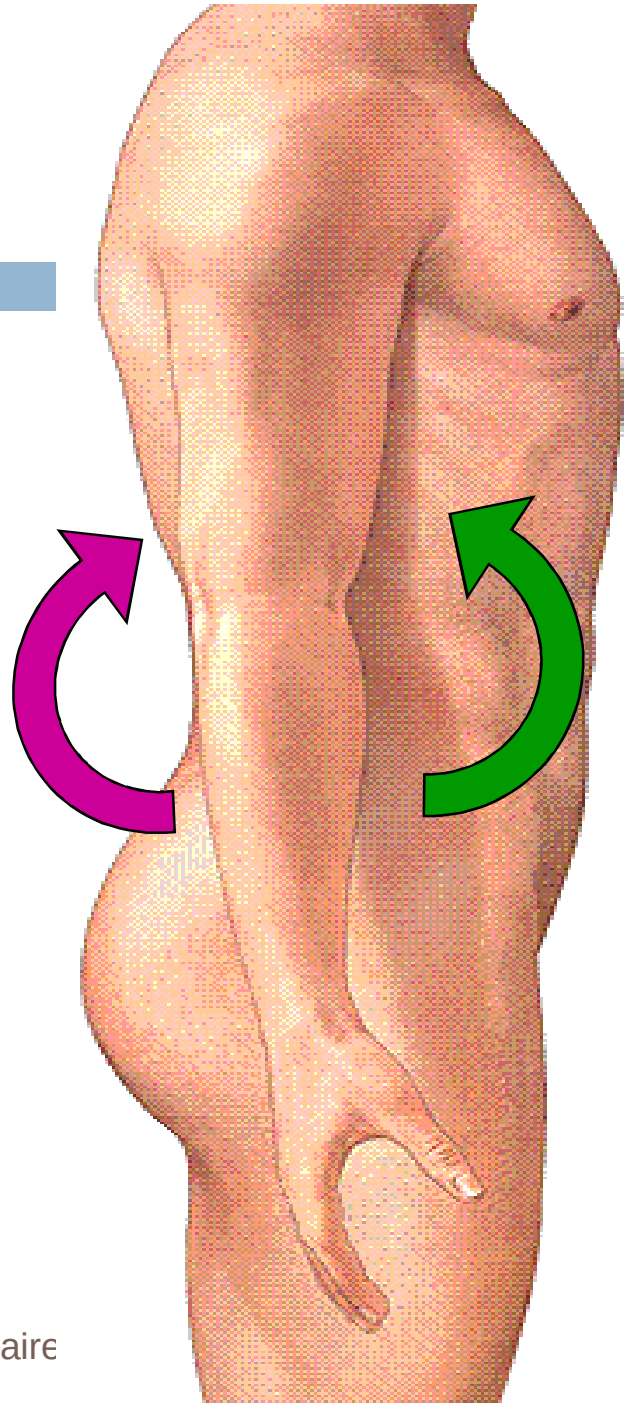
Mouvement articulaire

- Le rôle principal d'une articulation est le mouvement.
- Les mouvements se font autour d'un axe.
- Pour chaque mouvement on précise le degré de mobilité (0° à 180°).

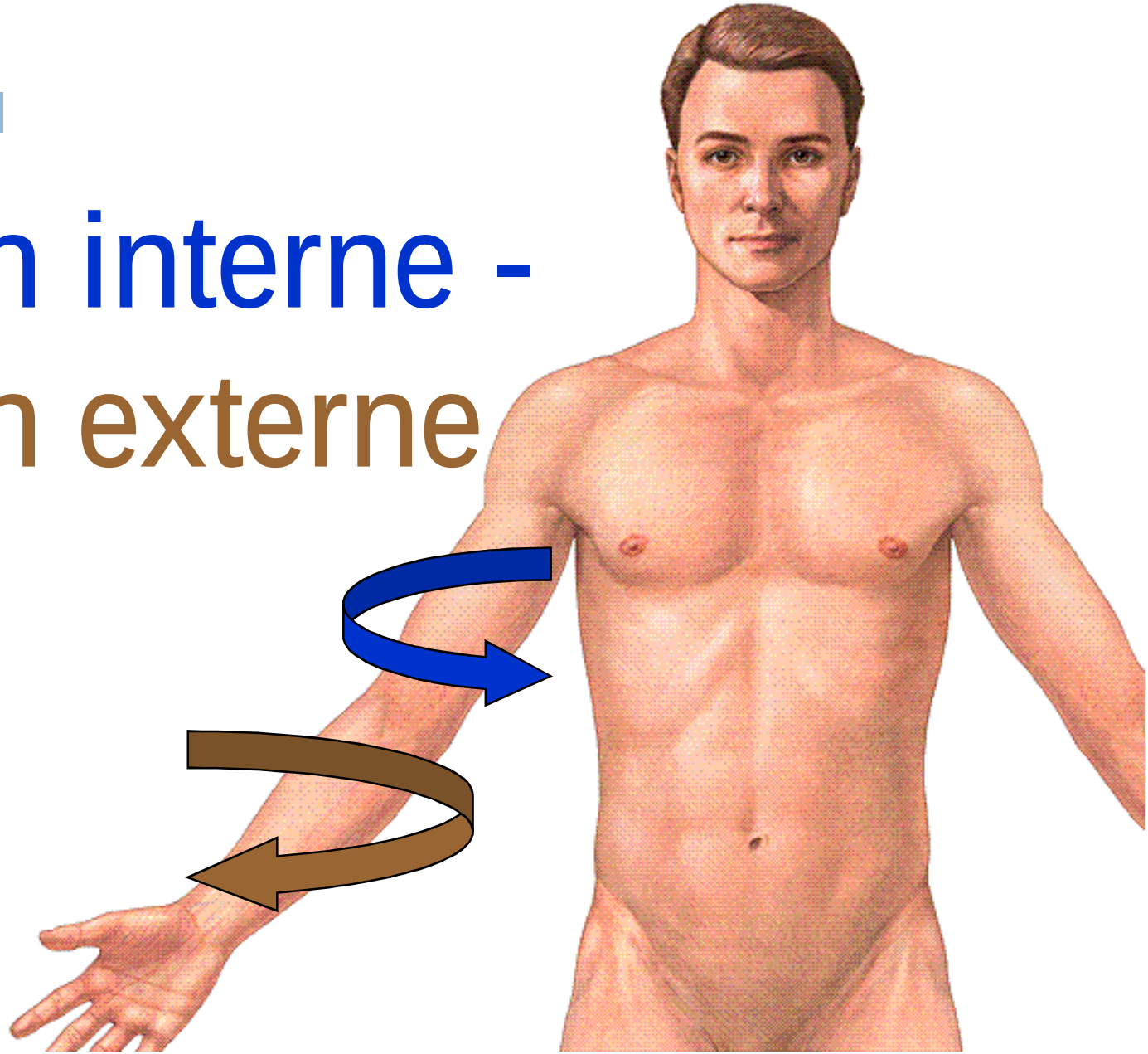
Types de mouvements

- Flexion, Extension.
- Abduction, Adduction.
- Rotation interne, Rotation externe.
- Pronation, Supination.

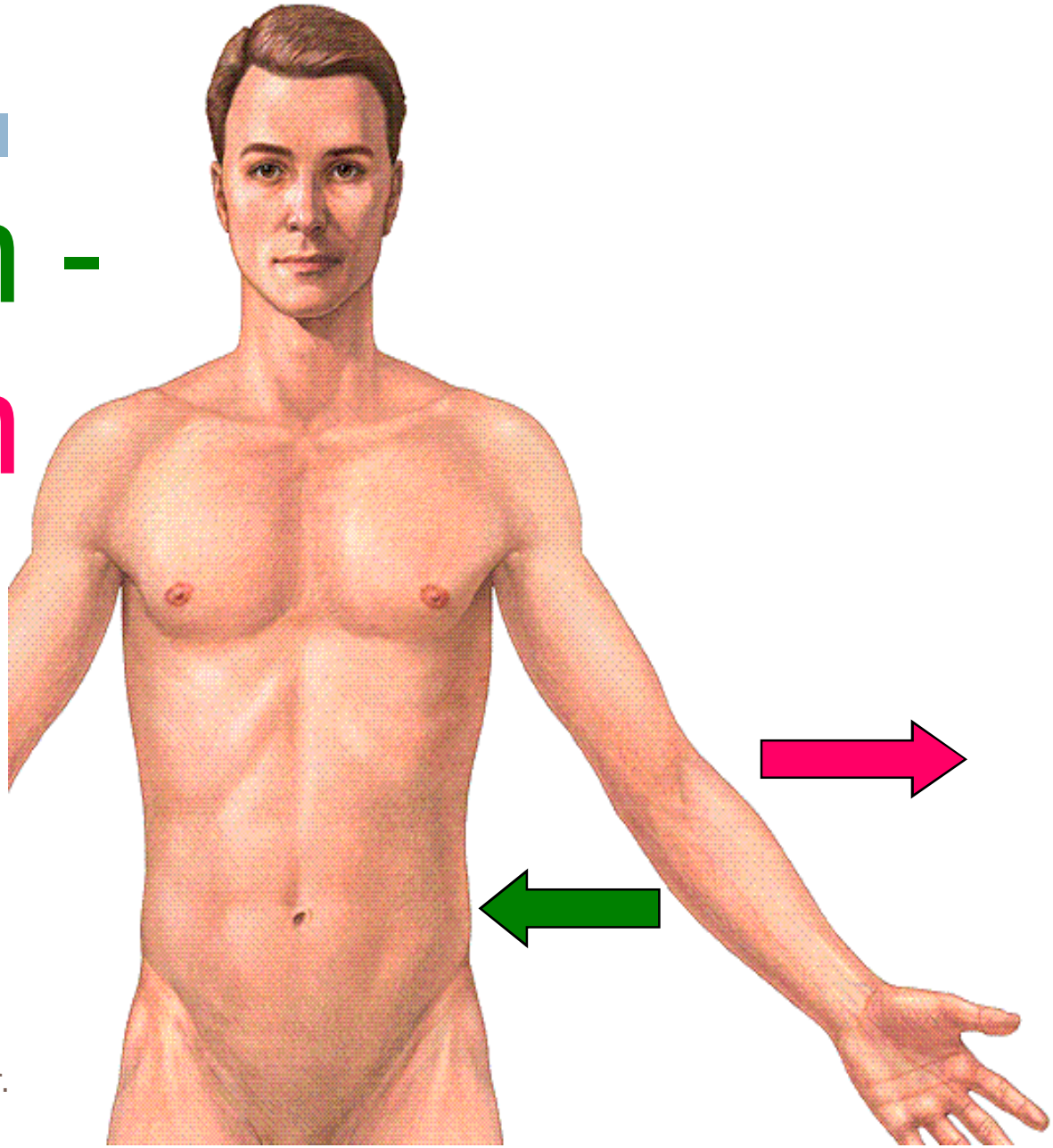
Flexion - Extension



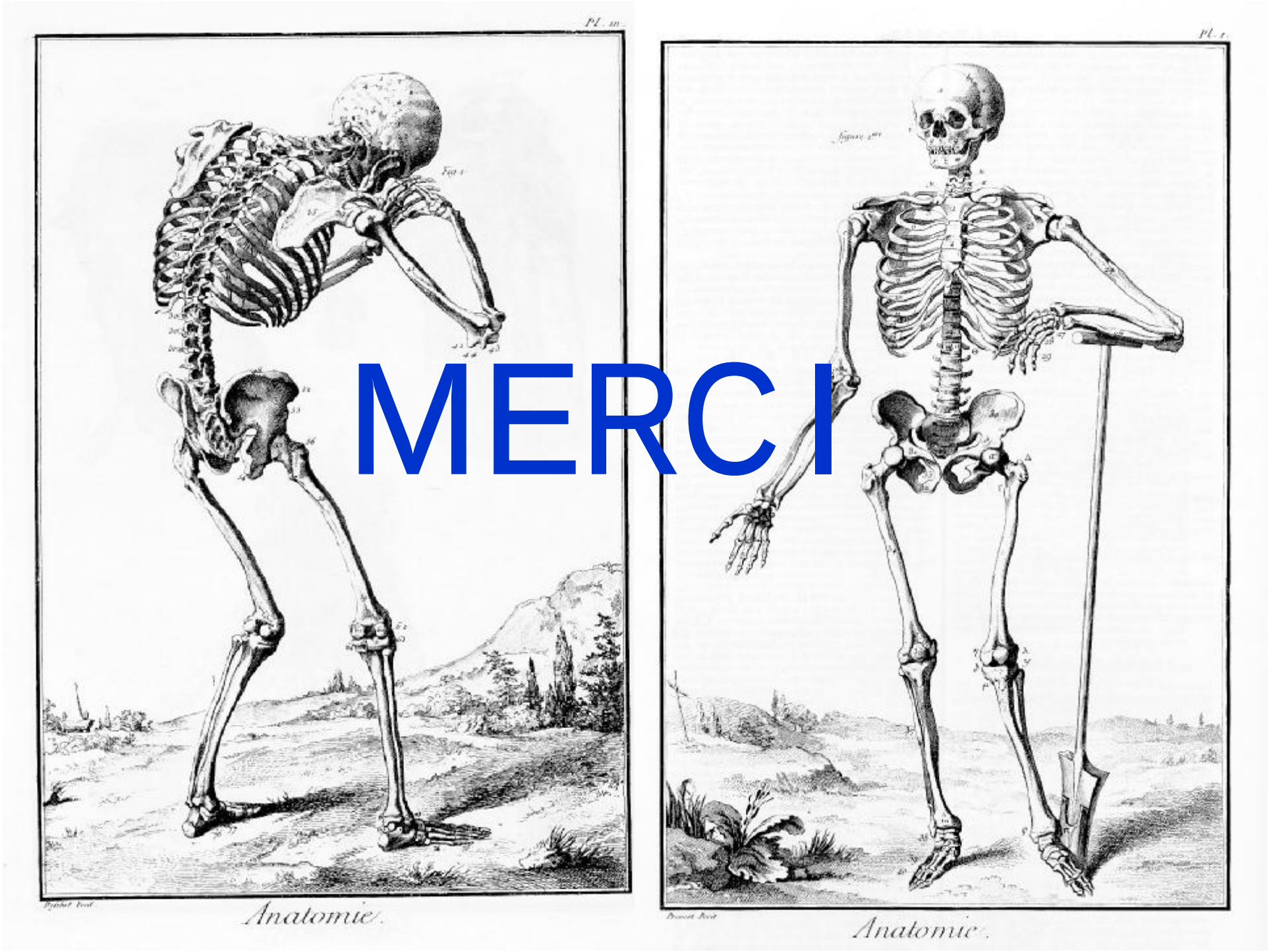
Rotation interne - Rotation externe



Adduction - Abduction



Pronation - Supination


MERCI
Anatomie.
Anatomie.