Types of epiphysis:

↓

① Pressure epiphysis. ⇒ "Articular" Any ①.

eg: Head of Humerus, femur, Talus, All condyles.

② Traction epiphysis: ⇒ "Non Articular"

↓

Traction of m/s, T. on bone gives rise to this.

"most are from 2° centre of ossifn"

"Attachment to lig., T.")

eg: - Tubercles.
- Trochanters.
- Malleoli
- Epicondyles.
- Styloids
- Mastoid pr.
- Tuberosities.

Any ②

Note:

Pressure → Joint Art.

Traction → Non Artic.

eg: Coracoid process.

Os. Trigonum (post. tubercle of talus)

Note: Coracoid bone is present in lower animals but in humans ----- (ATAVISTIC).

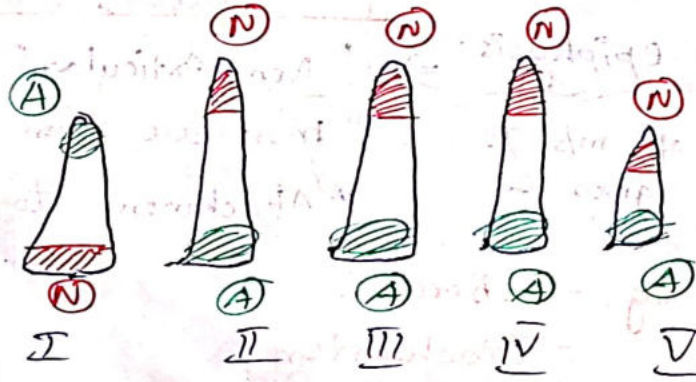
Coracoid pr. ~~seems~~ looks like it is a TRACTION epi bcoz its non Art, dev. from 2° ossif. centre --- but its not.

4) Aberrant epi:

usually not present, but due to additional ossificat" centres ....

eg:

M.T

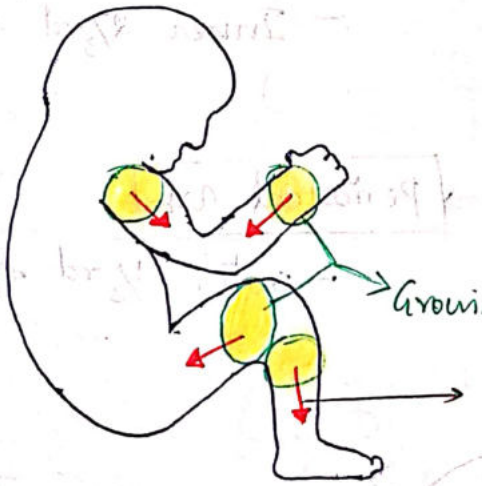


E- Epi
M - Metaplysis (epiplyseal end of Dia.)
EC - growth plate (Epi. cart.).

of mvts. at bones.

Marrow ⇒ inner 2/3 rd of Compact bone

Periosteal a ⇒ outer 1/3 rd of Compact bone



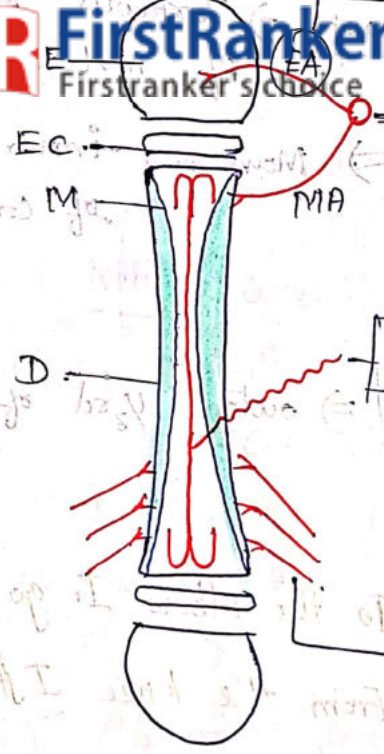
To the elbow I go
From the knee I flee

Growing end

direction of Nutrient foramen

Direction of Nutrient foramen is always away from growing end of the bone bcoz if Nutrient foramen is found at growing end then as bone grows, Nutrient a- is Tracted & it will be ruptured. So it is safe for the Nutrient foramen is away from growing end.

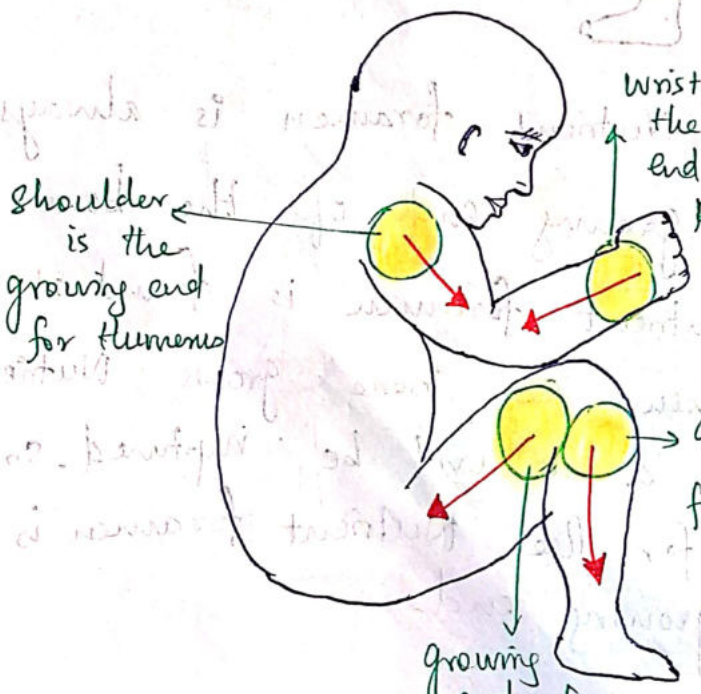
also supplies E.C (Hyaline cart.).



⇒ Art. taking part in Genicular Anastomosis.

Nutrient art.
- Marrow
- Inner 2/3rd of Compact bone

Periosteal art.
- outer 1/3rd of Compact bone.



Nutrient Foramen

To the elbow I go
From the knee I flee
bcoz if I go towards the knee, due to growth of femur I will be ruptured
(Growing end - knee)
III[ly shoulder & wrist - growing end.

i) fibrous jt.

i) Sutural jt.

- plane sutural jt
  - sutural lig.
  - eg: Inter-nasal suture
    Inter palatine "
- Squamous sutural jt
  - eg: Temporo-parietal suture
- Serrate sutural jt
  - eg: Sagittal suture
- Denticulate sut. jt. (strongest)
  - eg: LAMBDOID suture
- Schindyleris. (wedge & groove jt.)
  - Rostrum of sphenoid
  - Vomer
  - eg: Vomero-sphenoidal jt.

ii, iii } next page

Syndesmosis:

→ inferior Tibio-Fib. jt

→ interosseus memb. b/n R & U and T & F.

→ lig. flavum b/n vertebrae

---

2) Cartilaginous jt.

- 1°/primary CJ. (aka synchondrosis)
- 2°/sec. CJ (aka symphysis) — but does nt include Symp. menti.

Hyaline Cartilage

↓

Tendency to ossify

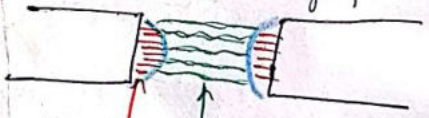
Synchondrosis → Synostosis.

* Temporary jt.

eg: epiphyseal plate / Growth plate

All costo-chrondral jt.

Jt b/n Basi-occipital & Basi-sphenoidal bone



Hyaline cartilage. Fibro Cartilage

‖

Don't ossify

↓

So * permanent jt.

⊗ Midline jt.

eg: manubrio sternal jt.
sacrococcygeal jt.
xiphisternal jt.
pubic symphysis, Intervertebral Disc.

3) Synovial Jt.

i) plane synovial jt.

Eg: ⇒
- interphalangeal jt.
- chondrosternal jt.
- Costo vertebral jt.
- Zygapophyseal jts. (b/n S & I facets of Vertebra)
- patello-femoral jt. (functionally only, structurally → saddle)
- Acromioclav. jt.
- sup. T-F jt.

Any 2

ii) Hinge jt:

Eg: ⇒
- elbow.
- interphalangeal jt.
- Ankle jt.

(Triplanar Hinge jt ⇒ mvt. in all 3 planes).

Any 2

iii) Pivot jt.

- S & I R-V jt.
- Atlanto Axial jt.

locking & [illegible]

v) Ellipsoid jt.

- MCP jt
- MTP jt.

Any (2)

- Radio-carpal jt / WRIST jt.
- Atlanto ~~axial jt~~. occipital jt.
  (b/n Atlas & CONDYLES of occiput).

vi) Saddle jt

→ b/n I & M.

- incudo-malleolar jt. (Middle ear)
- Sterno clavicular jt.
- 1st CMC jt
  (Carpometacarpal).

Any (2)

- patello femoral jt (Structurally).
- Calcaneo-cuboidal jt.

b/n I & S).

Summary:

S & I R.U It ⇒ Pivot jt
S T-F Jt ⇒ plane synovial jt. } Synovial jt.
I T.F Jt ⇒ Syndesmosis (Fib. Jt)

b/n I & M ⇒ incudo malleolar jt ⇒ SADDLE jt

b/n I & S ⇒ incudo stapedial jt ⇒ Ball & Socket jt.

Atlanto-occipital jt
↳ contains condyles but NOT a condylar jt, is a Ellipsoid jt.

1° Cart. Jt / Synchondrosis	2° Cart. jt / Symphysis.
* Temporary why? Bcoz Hyaline c. becomes ossified	* Permanent why? bcoz fib. cart. don't ossify

1) Basi-occiput & basi-sphenoidal bone

2) Xiphi sternal jt.

3) pubic symphysis

4) Sacro-coccygeal jt.

5) inter Vertebral Disc.

3) Epiphyseal plate (growth plate)