

W e l c o m e



Bone

Osteon

Os

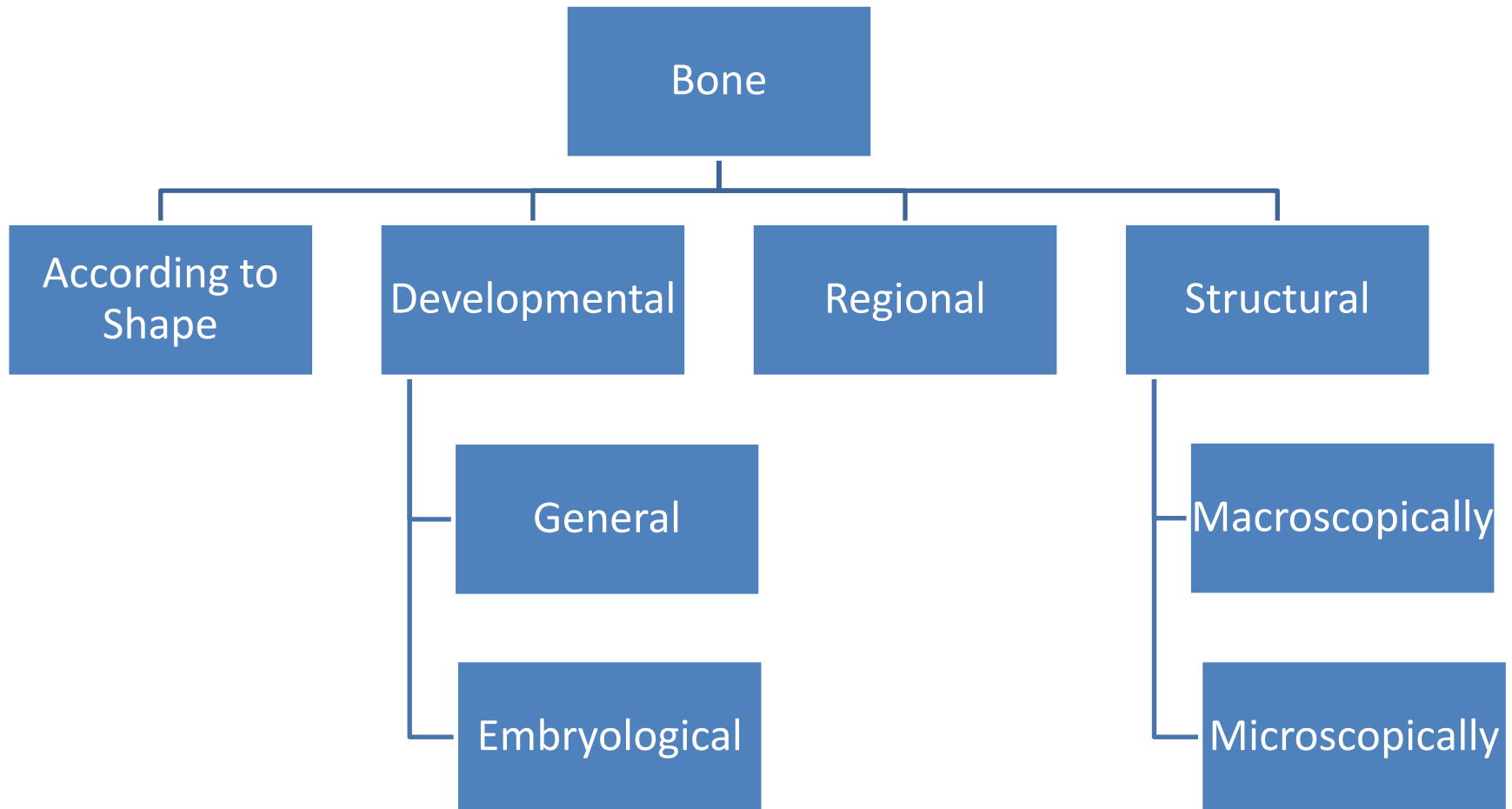
Locomotor System

- Scleral connective tissue
- Modified connective tissue
- One third connective tissue

# Functions

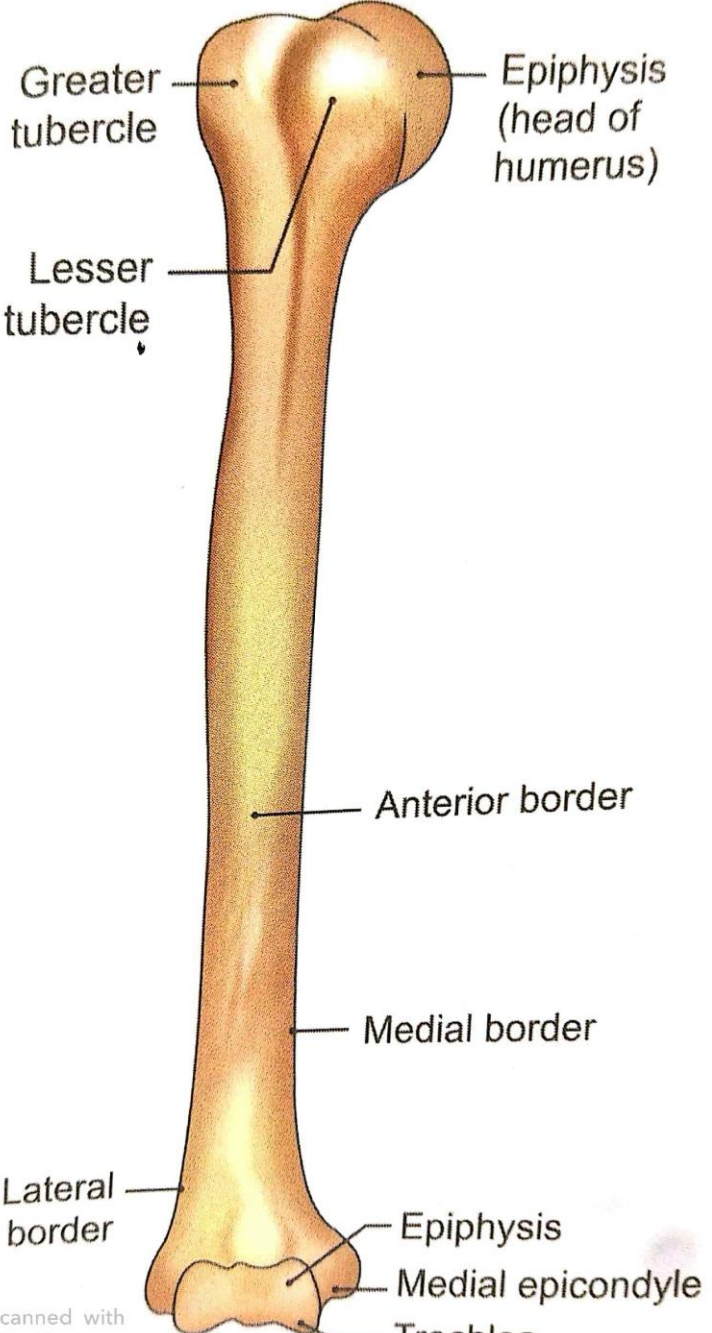
- Compressive force
- Impact force
- Tensile force

# Classification



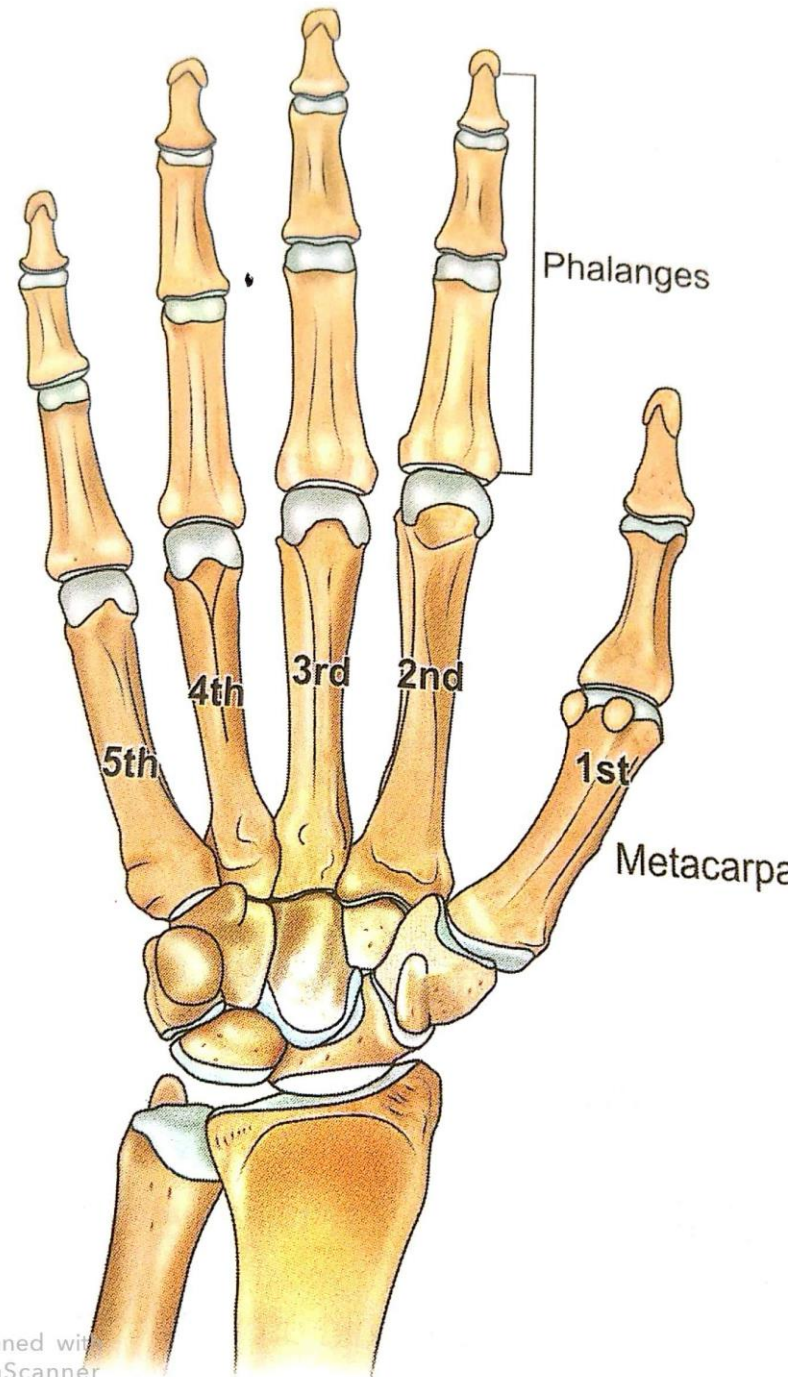
- Flat bones
- Irregular Bones
- Pneumatic bones
- Sesamoid bones
- Accessory bones
- Heterotropic bones

# Long Bone -- Typical

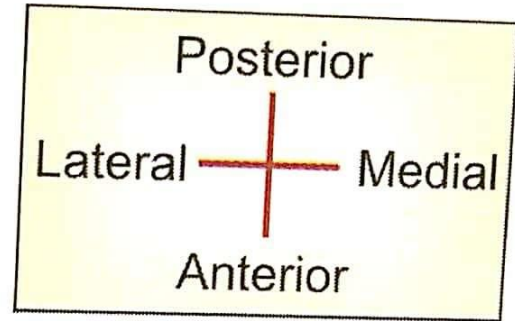




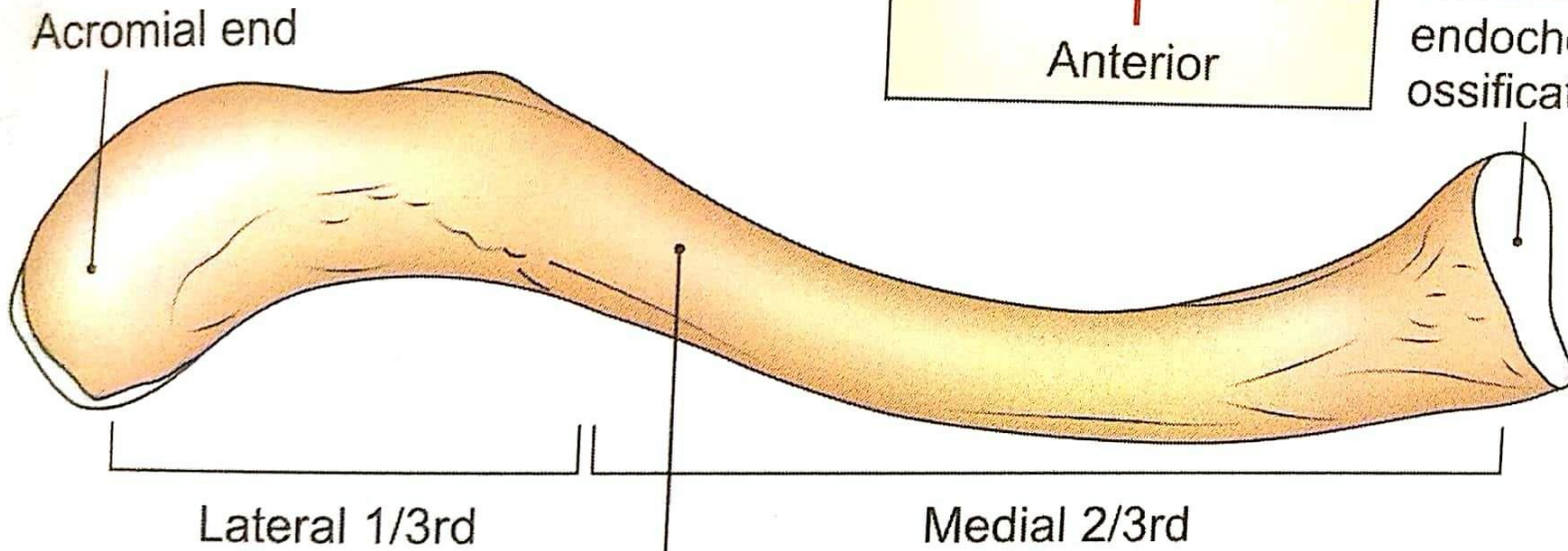
# Miniature



# Modified



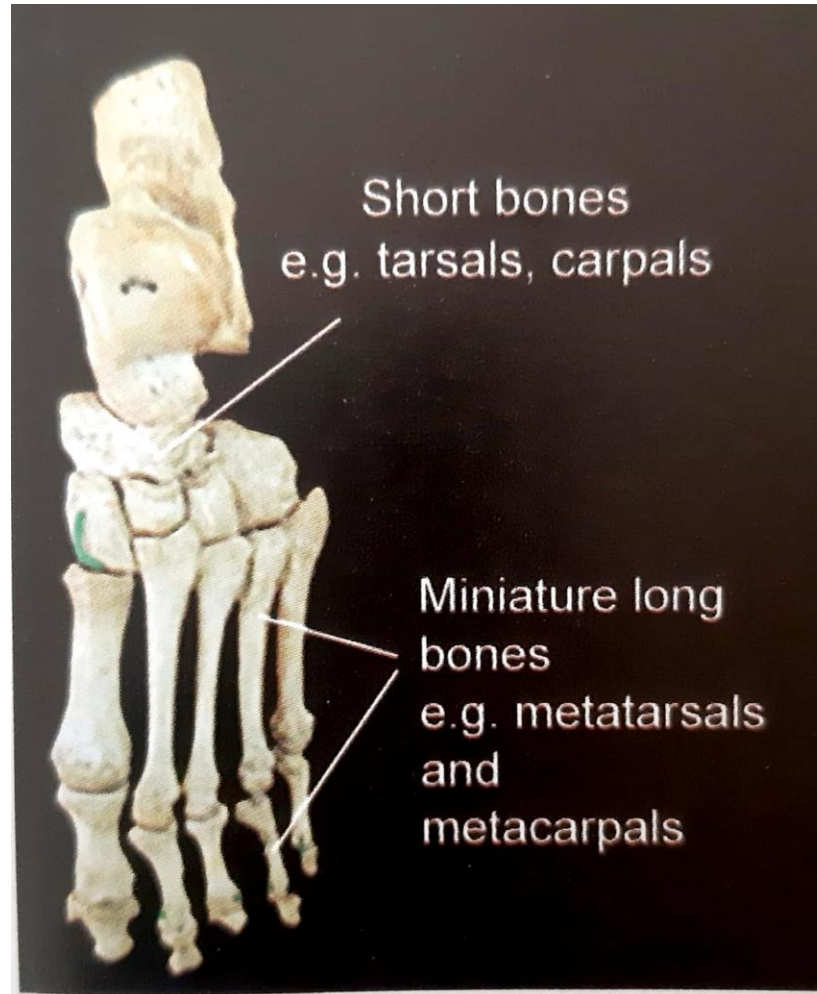
Sternal end  
ossifies by  
endochondral  
ossification

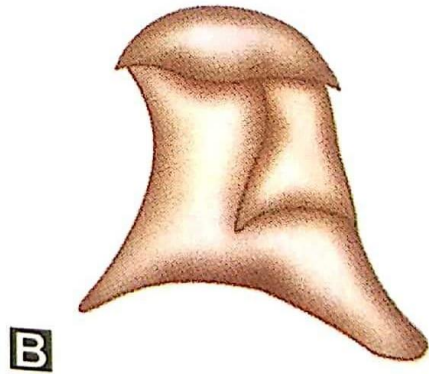
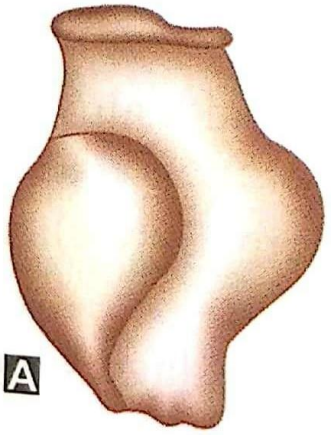


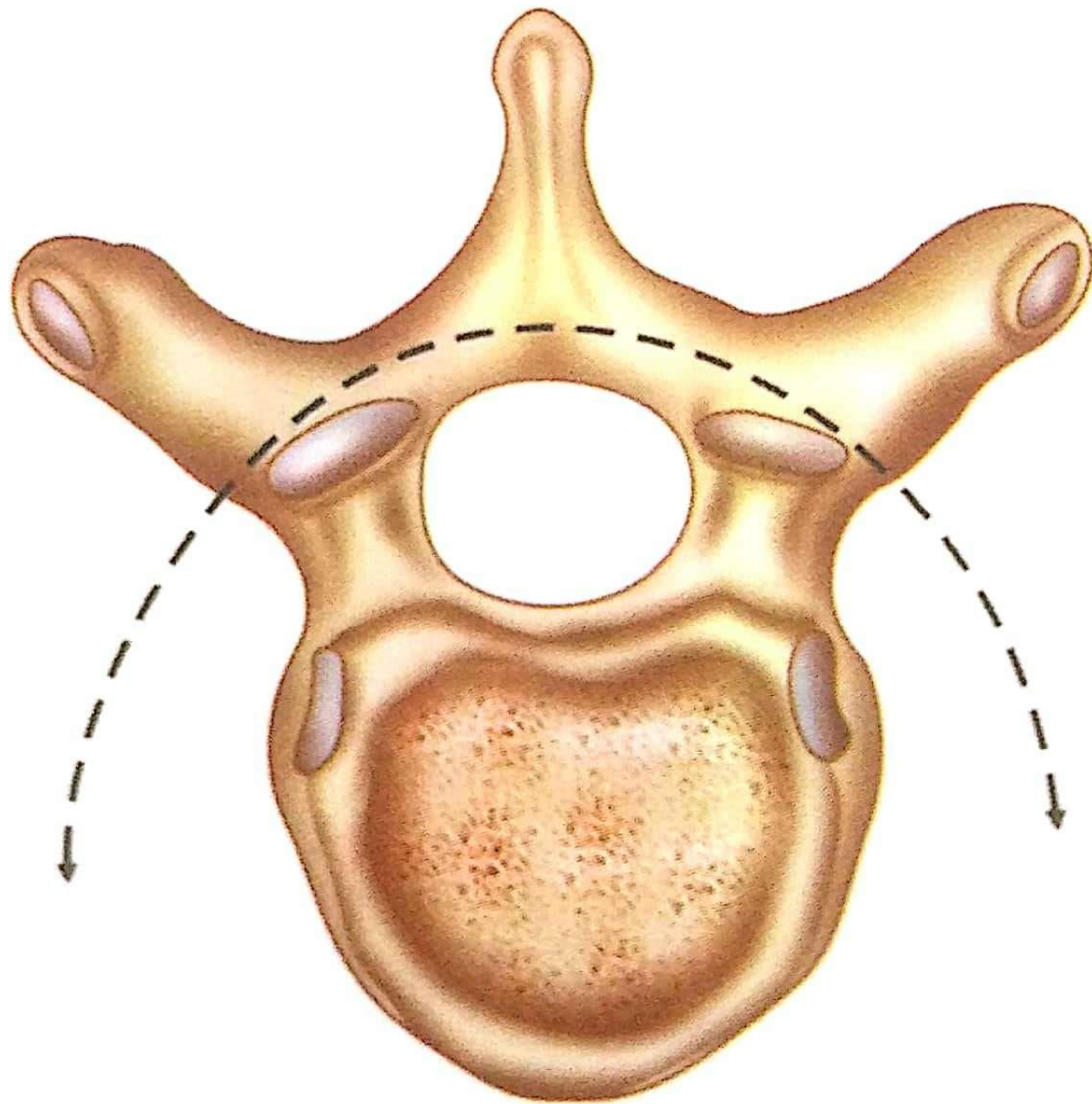
Shaft ossifies by  
intramembranous  
ossification



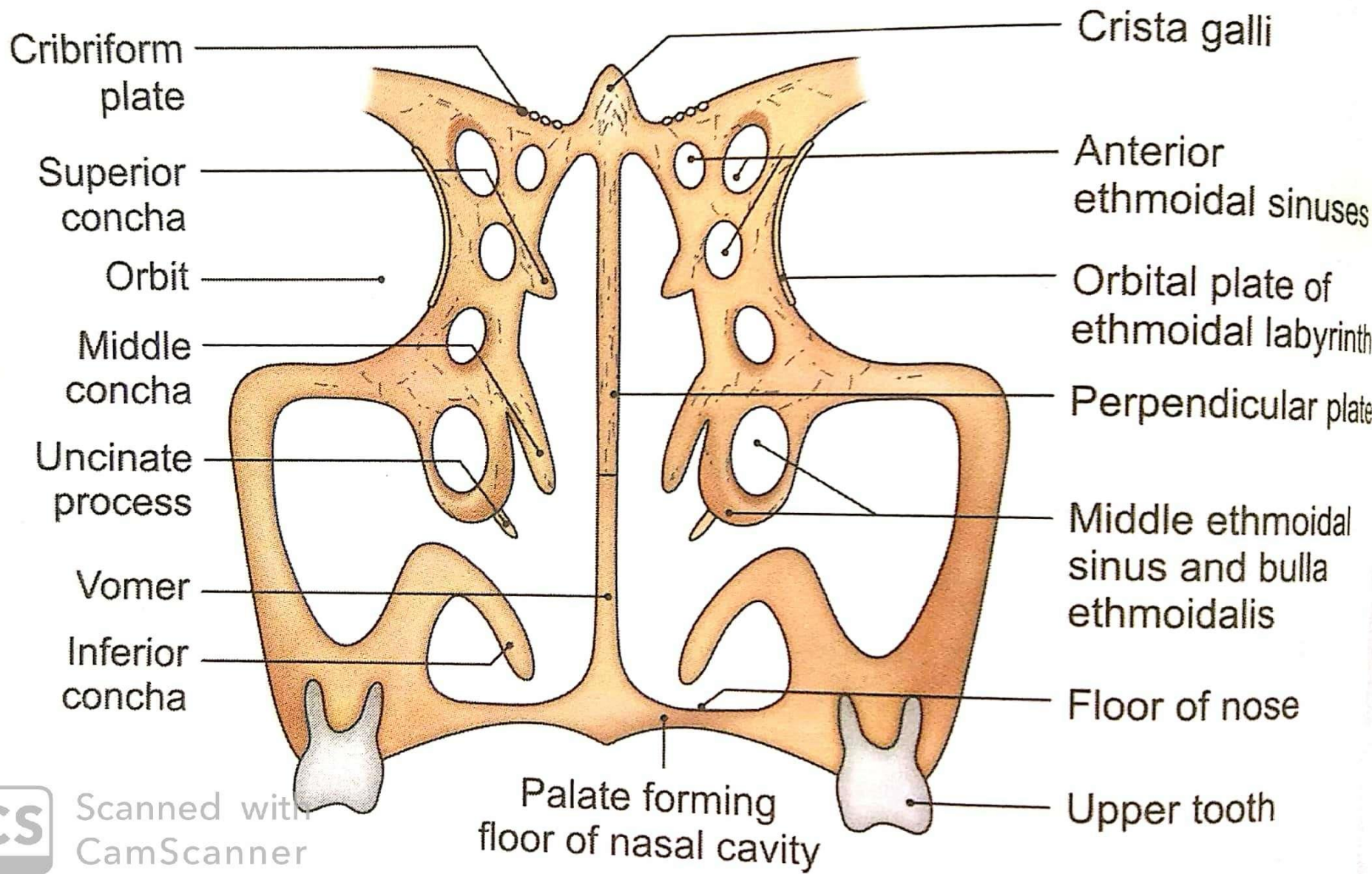
# Short bones



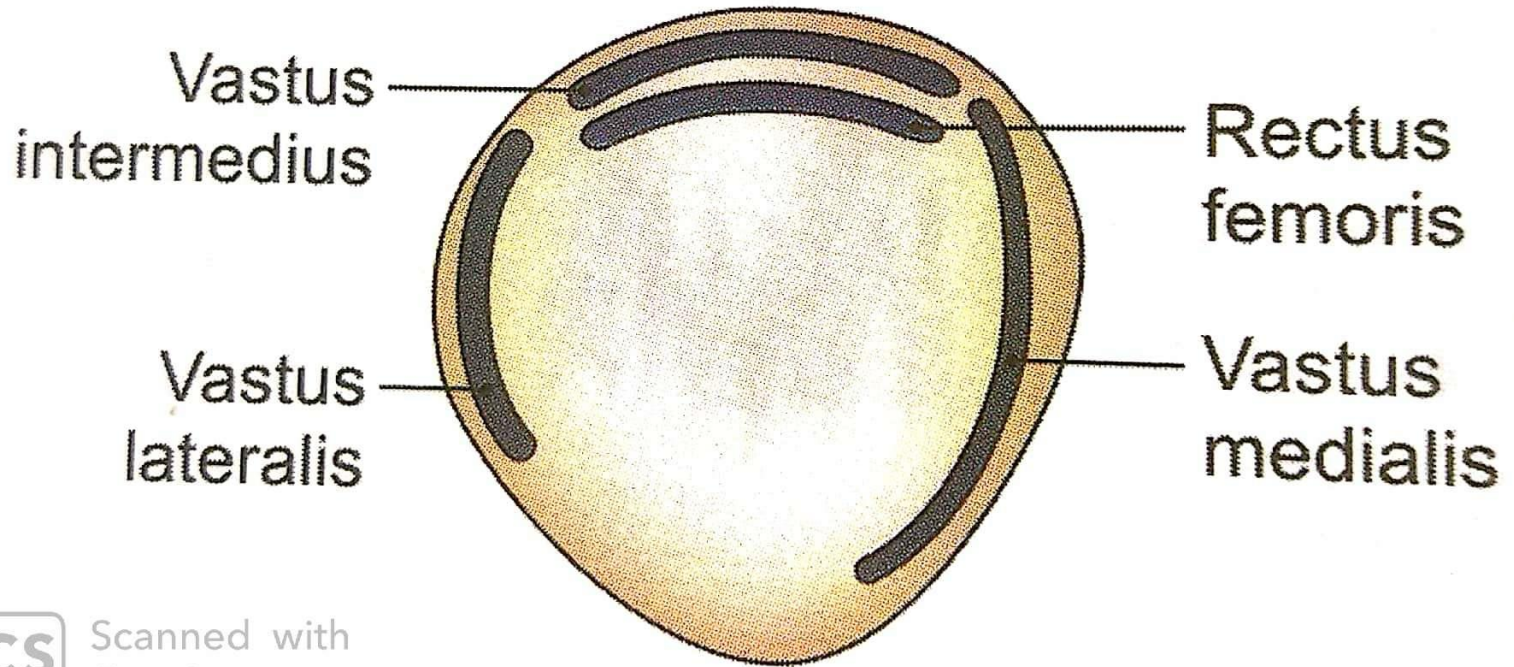




**Vertebra**

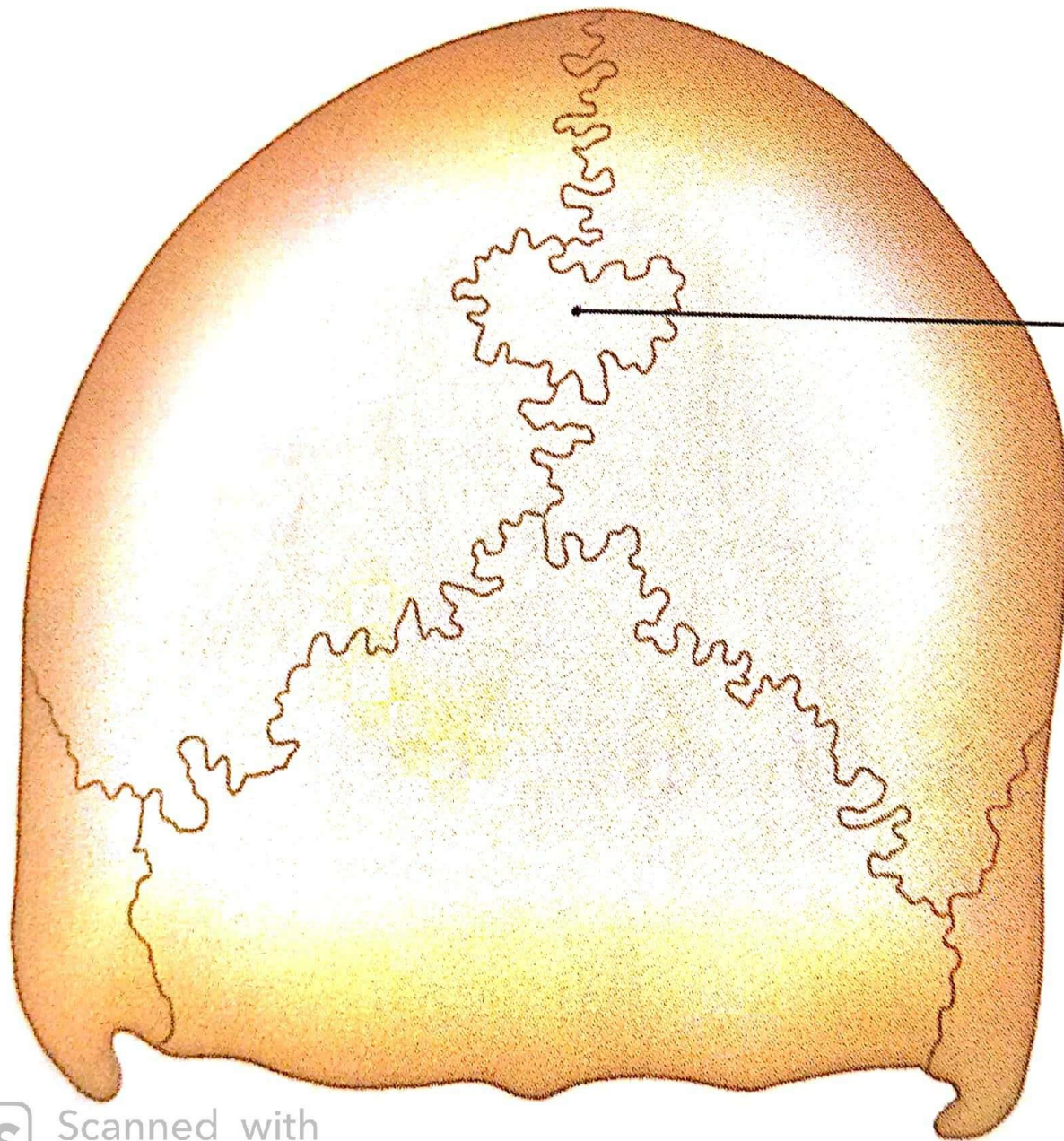


# Sesamoid bone



- Arabic origin
- Intro
- Characteristics-
  - Develops in the tendon of Muscles
  - Ossify after birth
  - Devoid of Periosteum
  - Absence of Haversian system
- Functions-To resist pressure
  - To minimise friction
  - To alter direction of pull of the muscle
  - To maintain local circulation

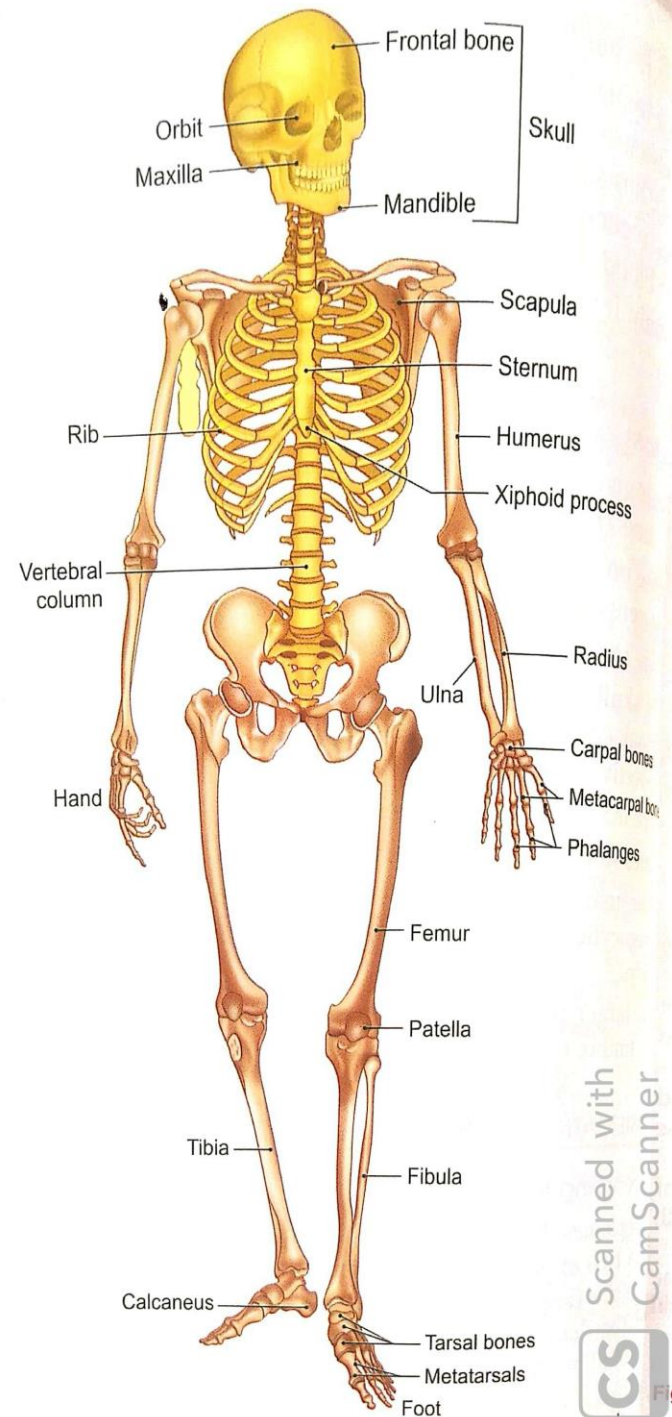


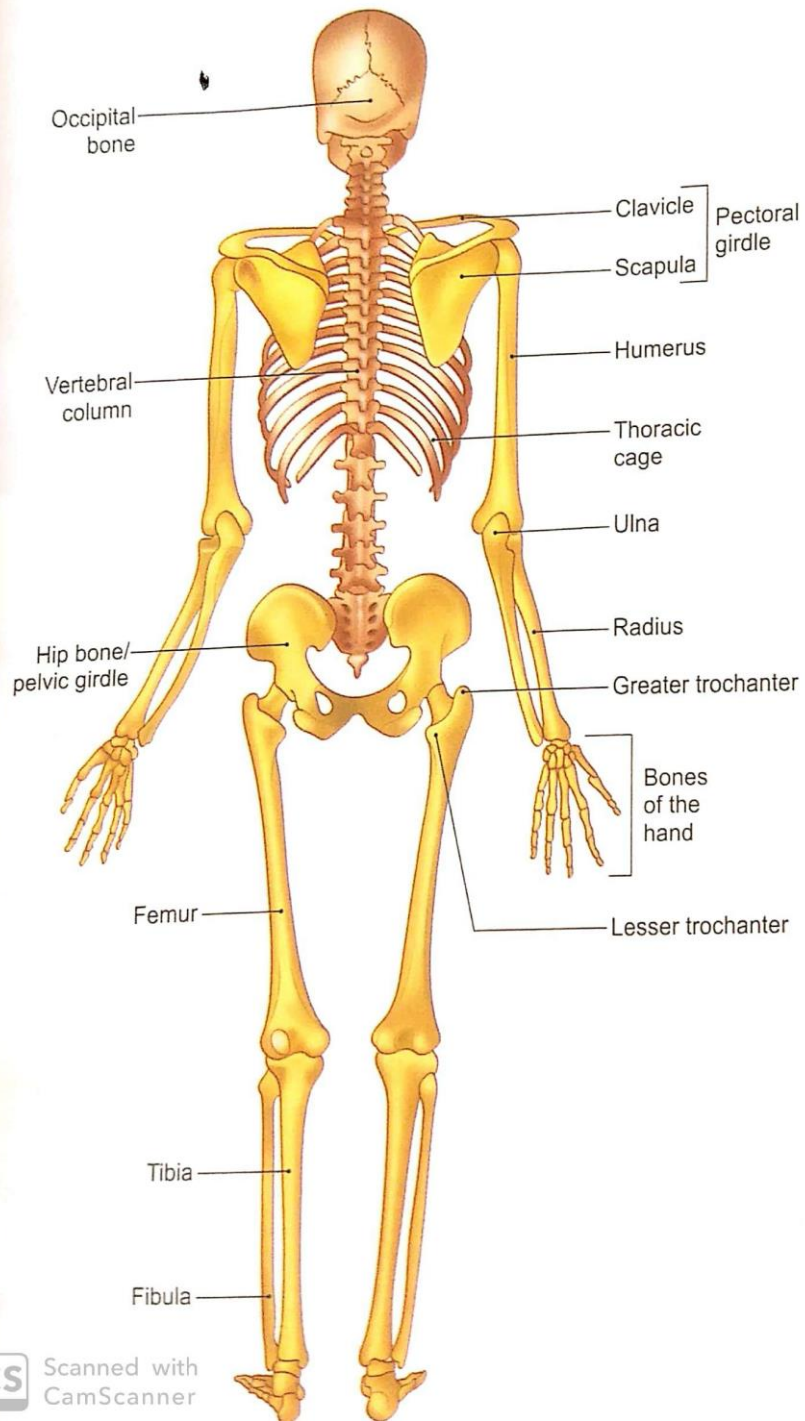


Sutural bone/  
wormian bone

# Regional

- Appendicular (126)
- Axial (80)





# Axial

<i>Bones</i>	<i>Number</i>
Skull	22
Vertebrae	26
Ribs	24
Sternum	1
Hyoid	1
Auditory ossicles	6
Total	80

# Appendicular-UL

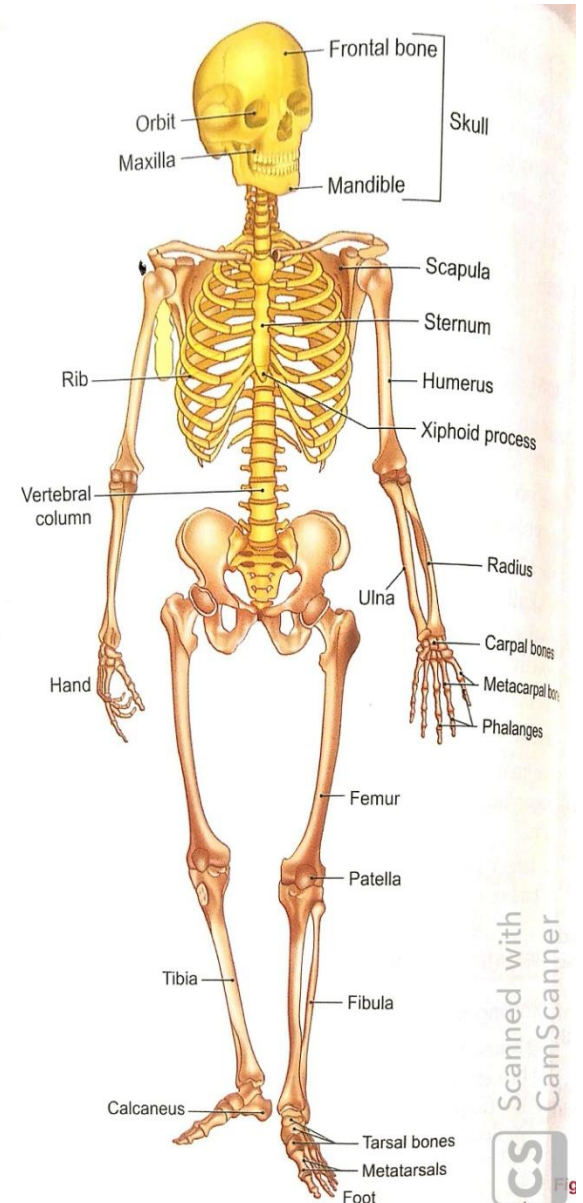
<i>Bones</i>	<i>Number</i>
<i>Pectoral girdle bones</i>	
Clavicle	2
Scapula	2
<i>Free bones</i>	
Humerus	2
Radius	2
Ulna	2
Carpals	16
Metacarpals	10
Phalanges	28
Total	64

# Appendicular-LL

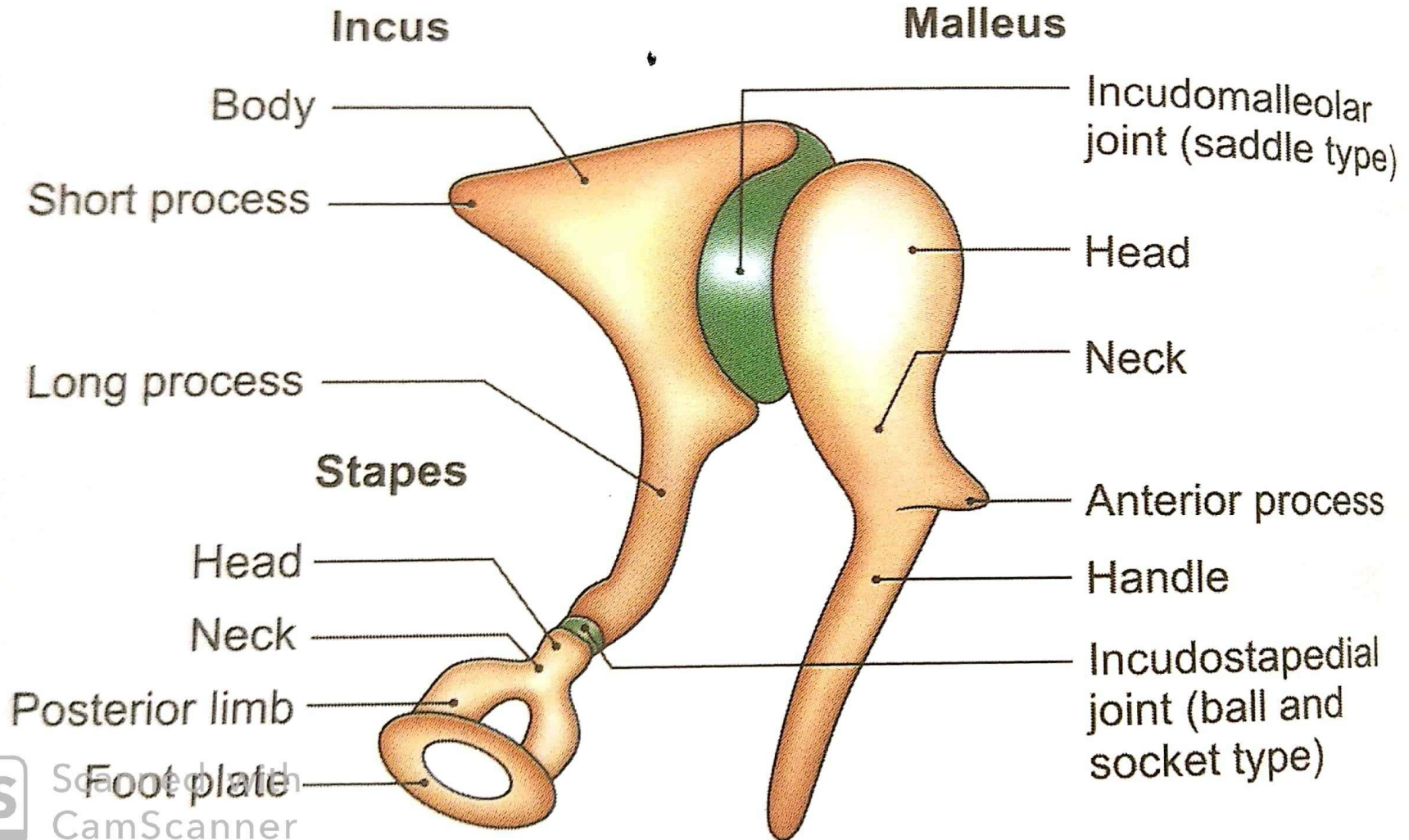
<i>Bones</i>	<i>Number</i>
<i>Pelvic girdle bones</i>	
Hip bone	2
<i>Free bones</i>	
Femur	2
Patella	2
Tibia	2
Fibula	2
Tarsals	14
Metatarsals	10
Phalanges	28
Total	62

# Developmental

- Somatic



# Visceral bones





# Developmental

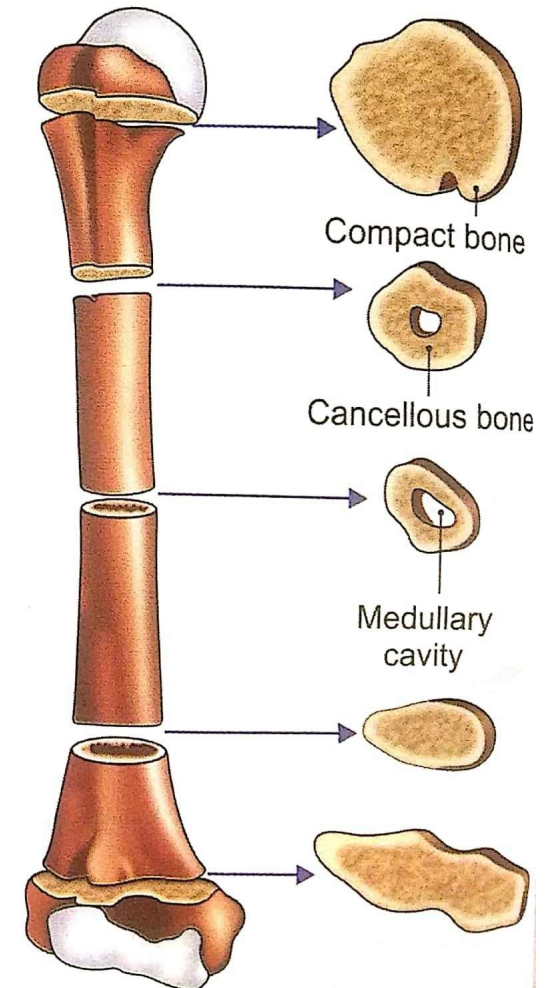
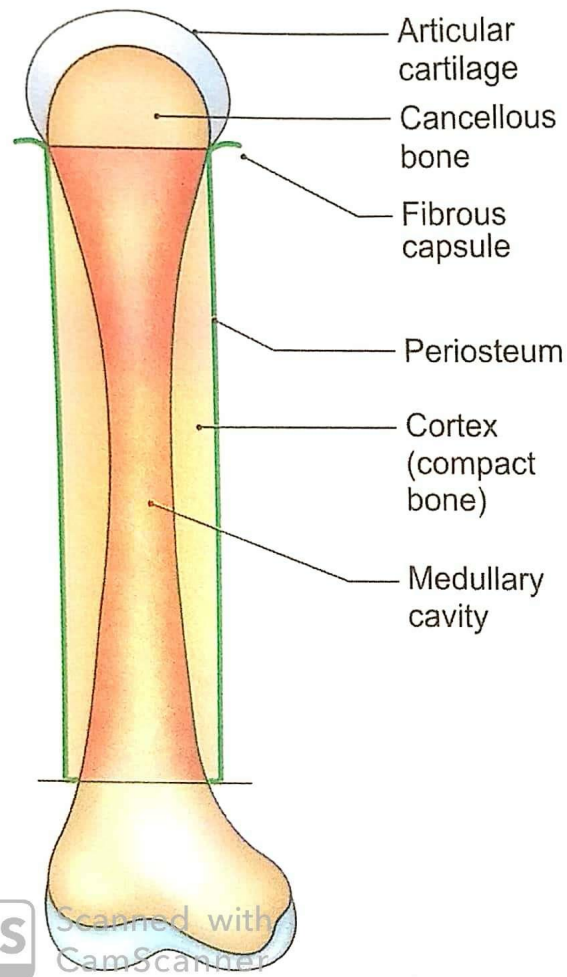
- Membranous
- Cartilaginous
- Membrano Cartilaginous

# STRUCTURAL CLASSIFICATION

- MACROSCOPIC :
  - COMPACT
  - CANCELLOUS
- MICROSCOPIC :
  - LAMELLAR
  - WOVEN
  - DENTINE
  - CEMENT

# Structural

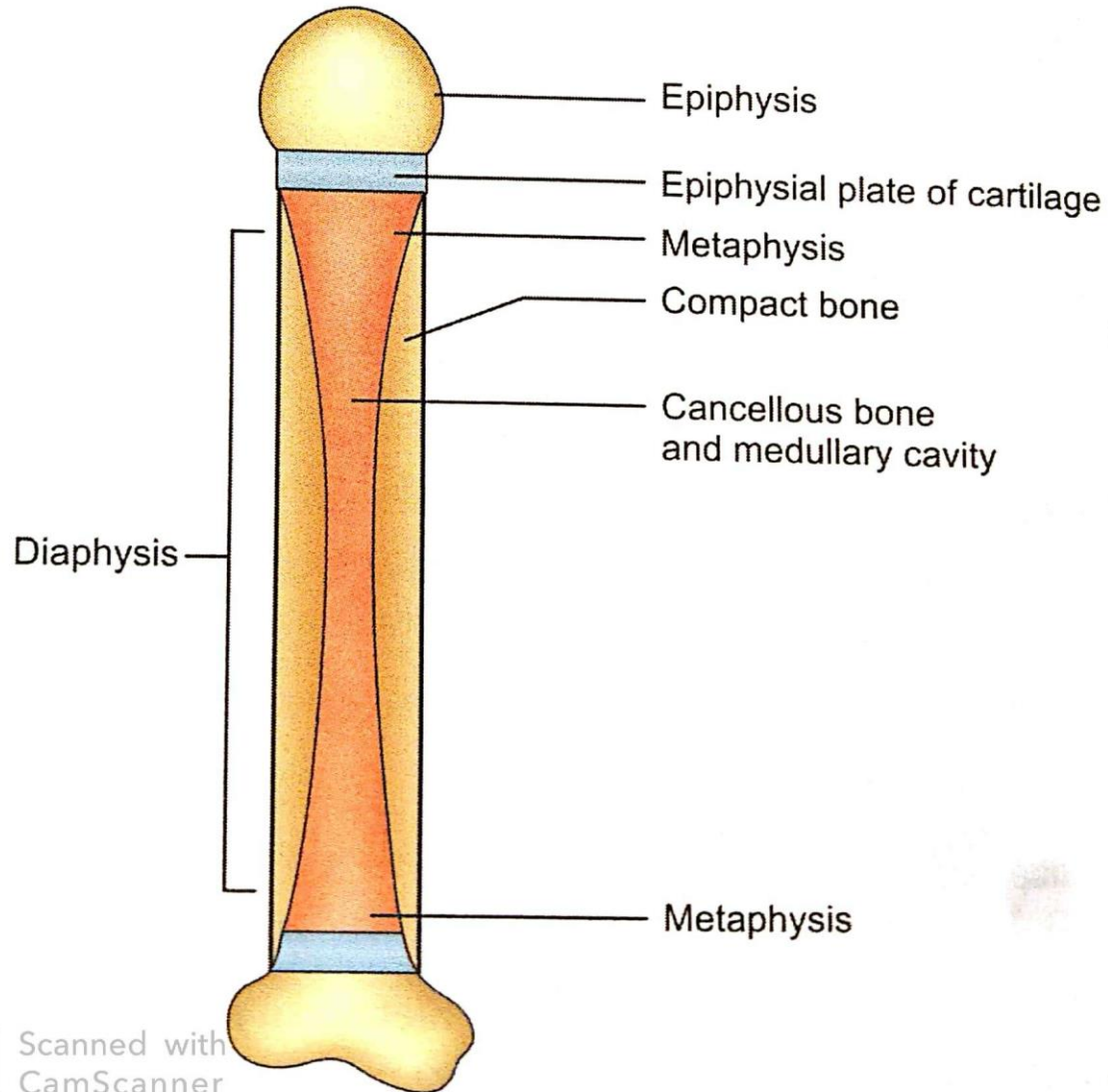
- Macroscopic



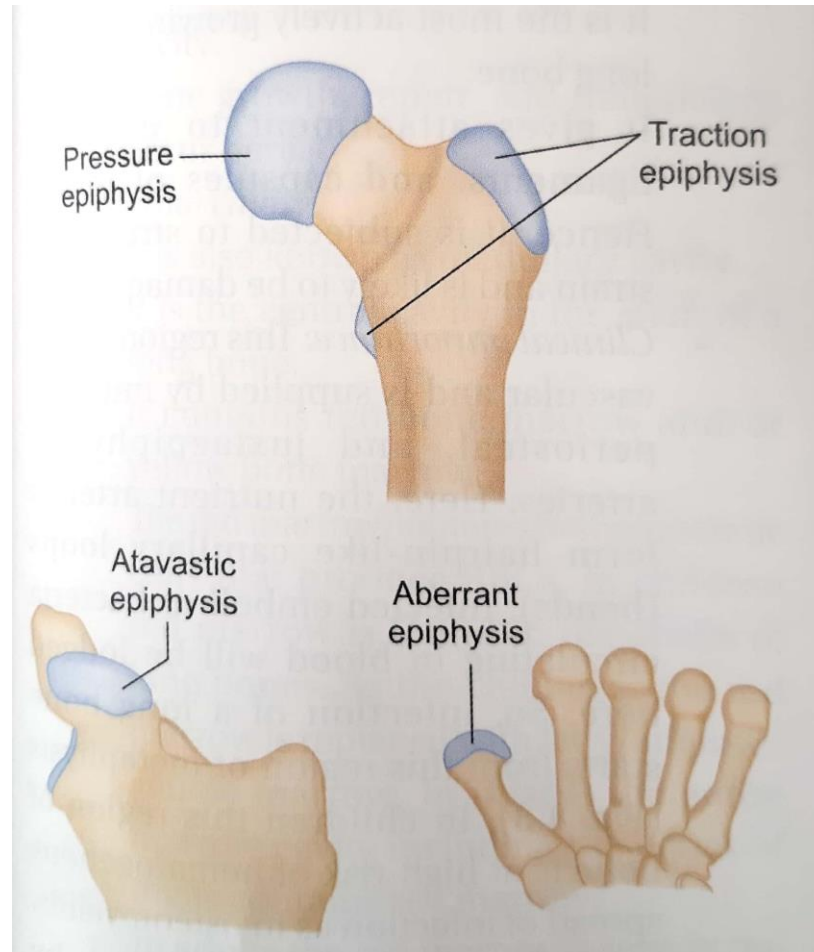
# Ossification

- Calcification
- Ossification
- Primary centers
- Secondary centers
- Growing end
- Law of Ossification
- Direction of Nutrient Foramen

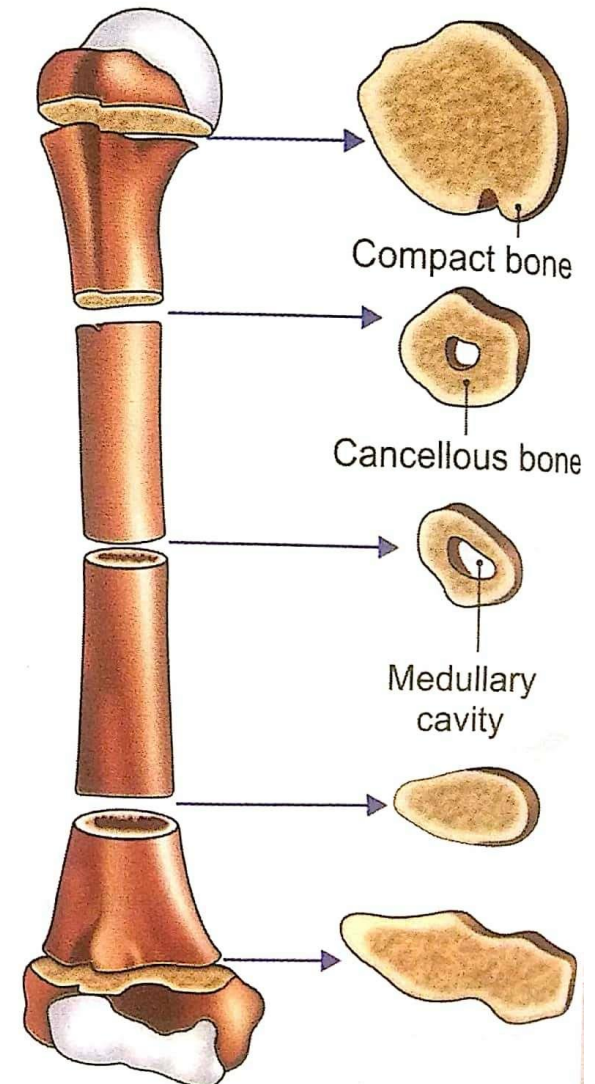
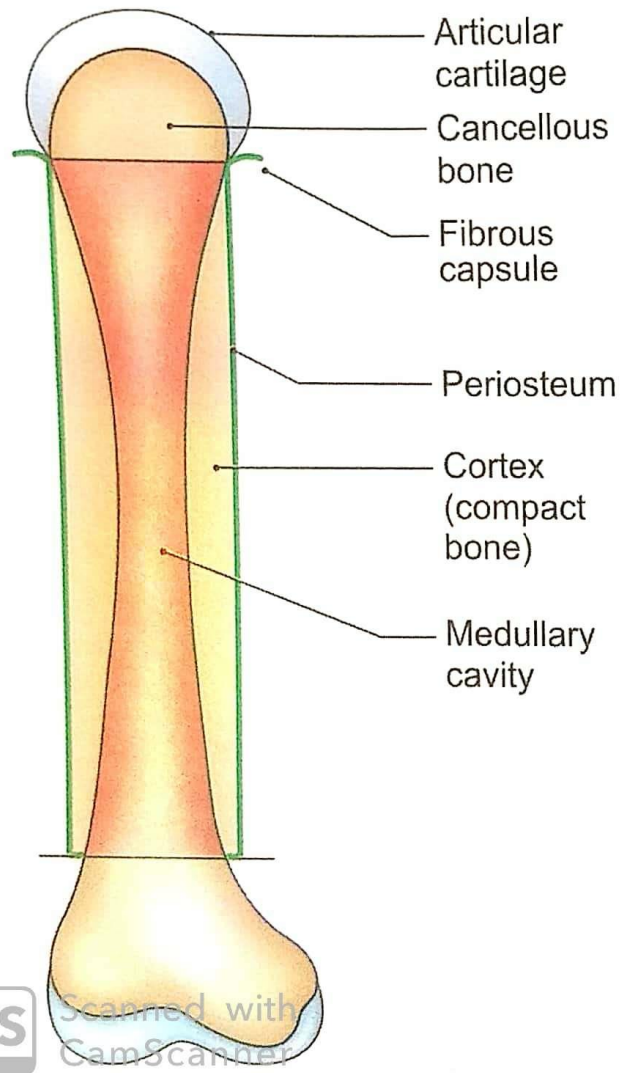
# Development of Long Bone



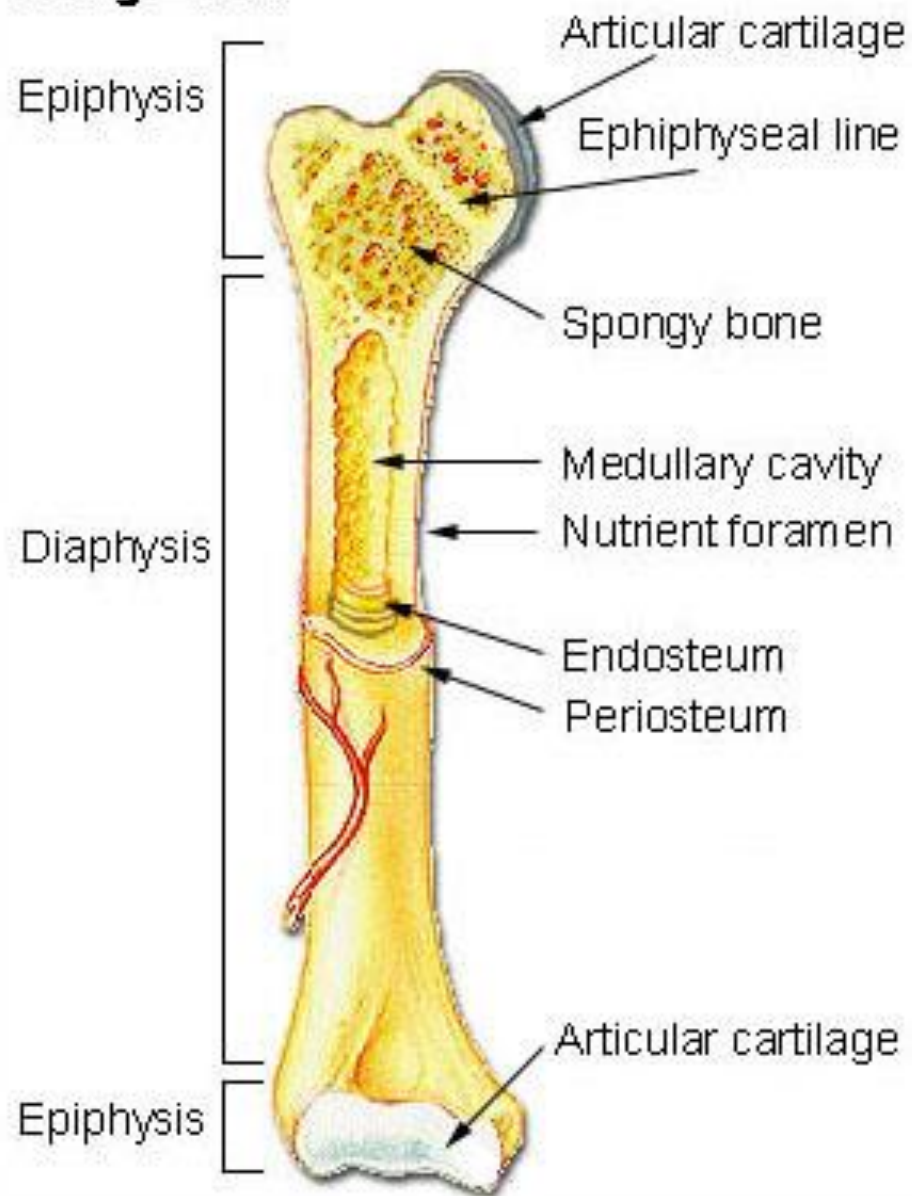
# Epiphysis



# Structure of Adult long bone

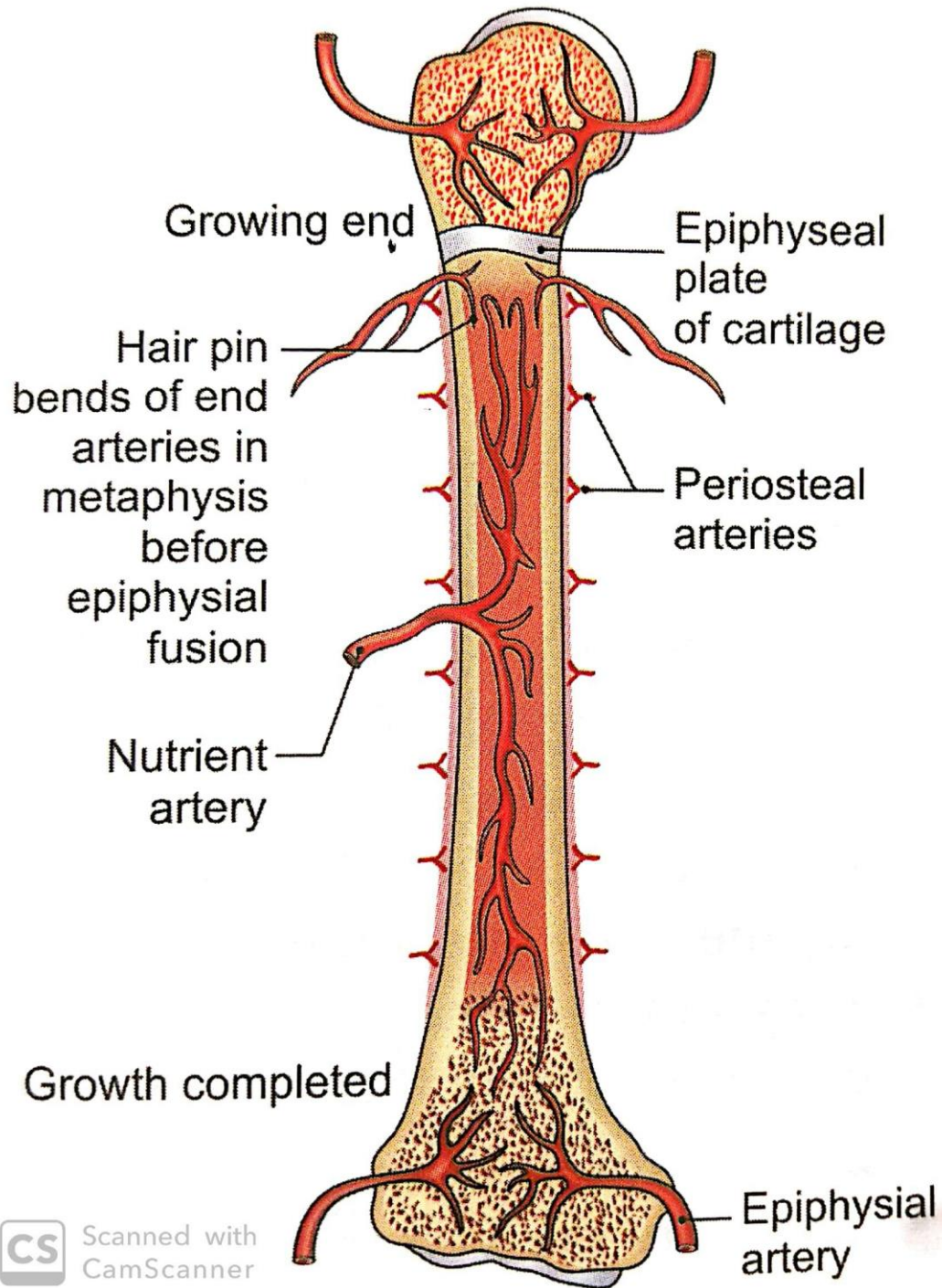


## Long Bone





# Blood Supply



# Applied Aspects

- Medico legal aspects
- Law of Ossification
- Wolff's law
- Fracture
- Cleidocranial dysostosis
- Achondroplasia
- Rickets
- Scurvy
- Osteomalasia
- Osteoporosis
- Bone tumors

***THANKS***

