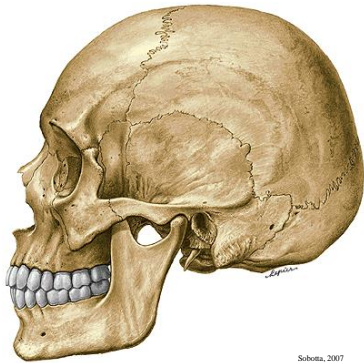


SKULL - CRANIUM



Cranium - skull

- a) Neuro-cranium
- b) Splanchno-cranium

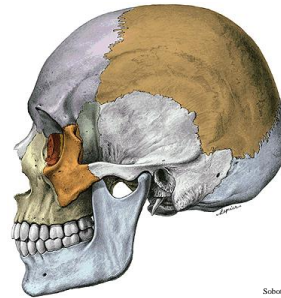


Neuro-cranium
Splanchno-cranium

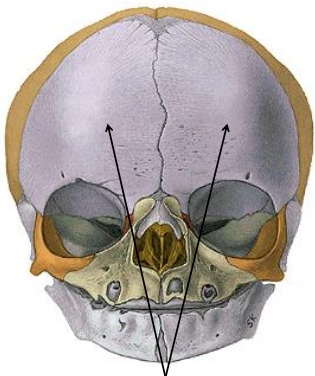
Sobotta, 2007

Squama
Orbital part
Coronal suture

Frontal bone

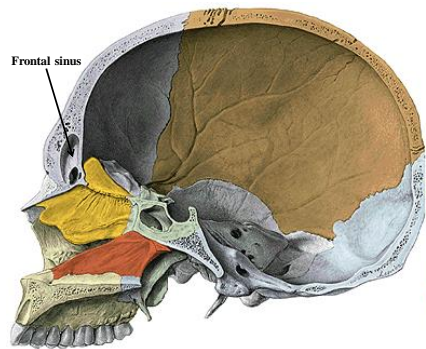


Sobotta, 2007

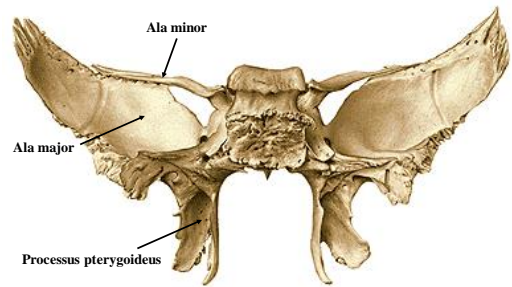
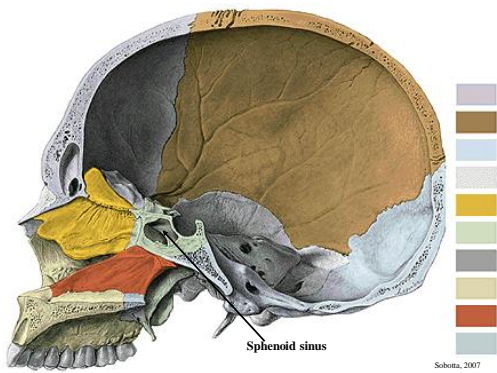
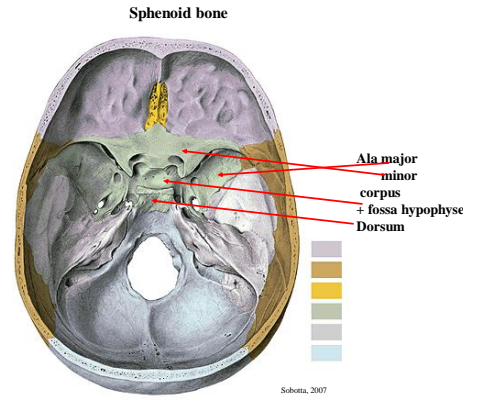
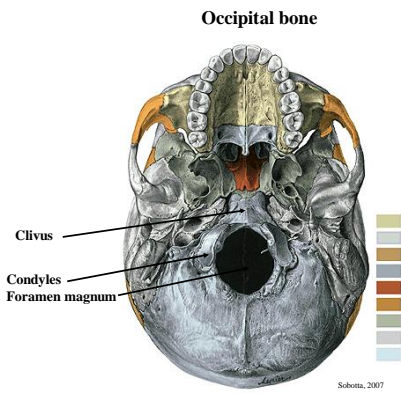
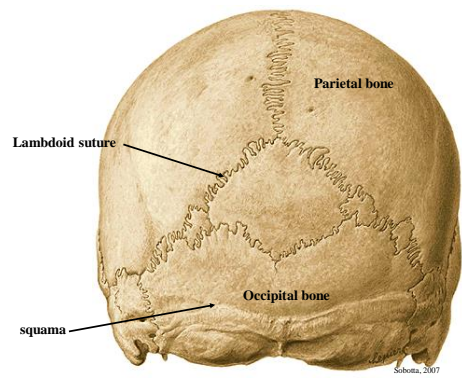
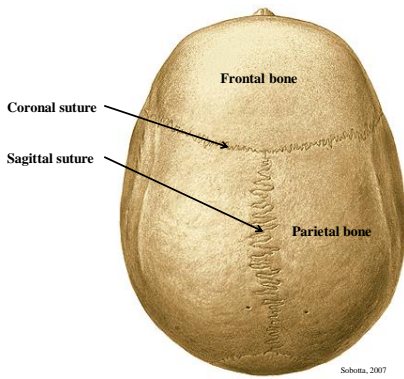


Sobotta, 2007

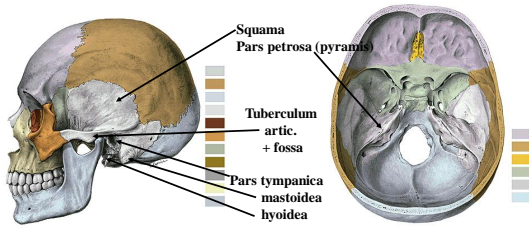
Paired frontal bone- newborn skull



Sobotta, 2007

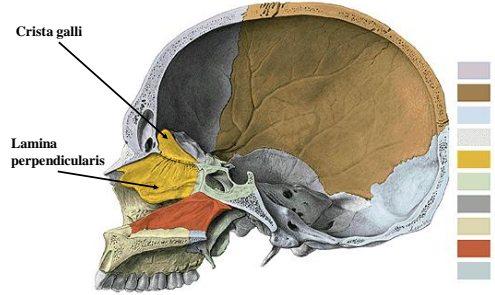


Temporal bone

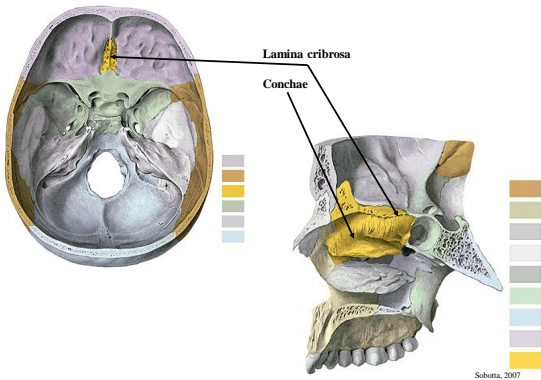


Sobotta, 2007

Ethmoidal bone



Sobotta, 2007

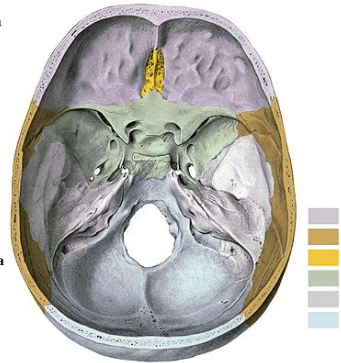


Sobotta, 2007

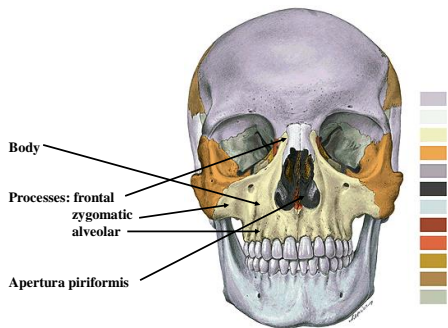
Anterior cranial fossa

Middle cranial fossa

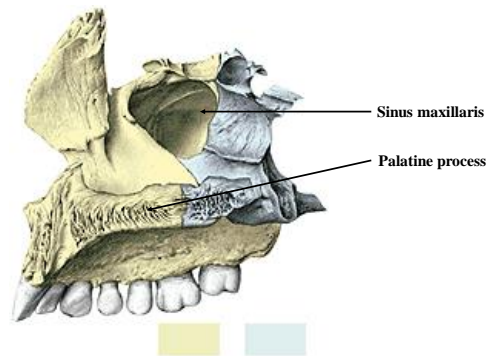
Posterior cranial fossa



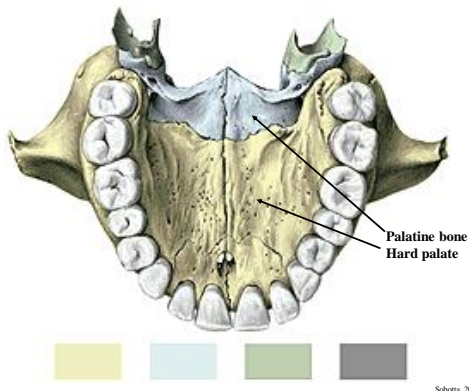
Maxilla



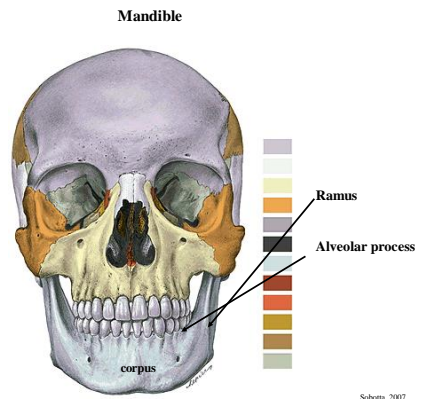
Sobotta, 2007



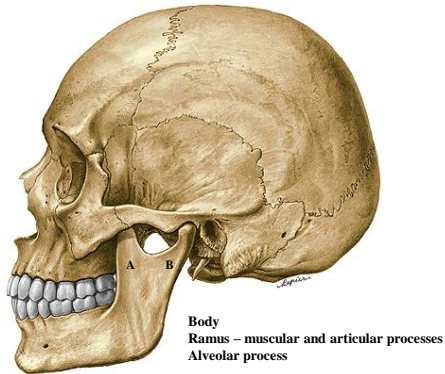
Sobotta, 2007



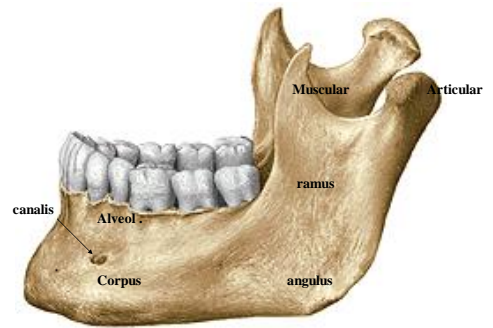
Sobotta, 2007



Sobotta, 2007



Sobotta, 2007

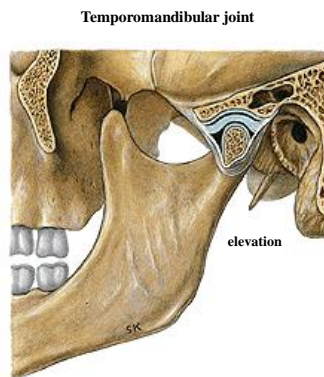


Sobotta, 2007

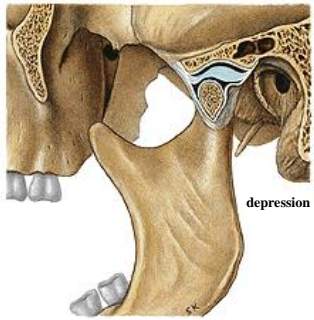


Resorption of alveolar process in old people

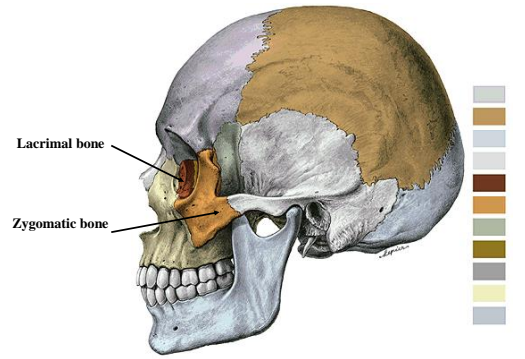
Sobotta, 2007



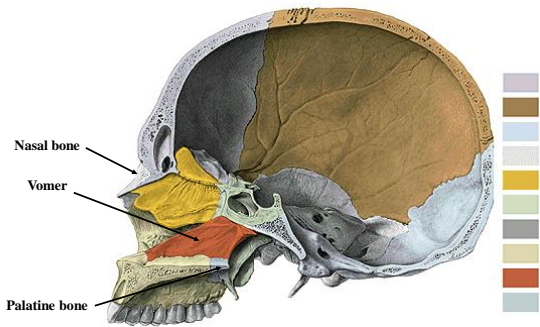
Sobotta, 2007



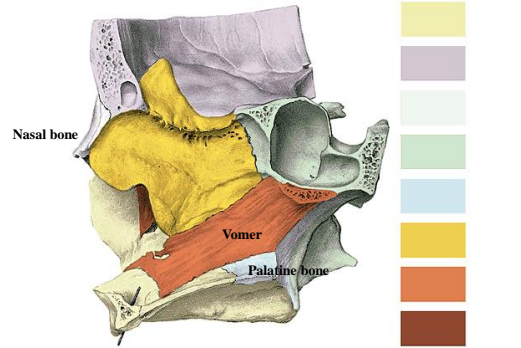
Sobotta, 2007



Sobotta, 2007

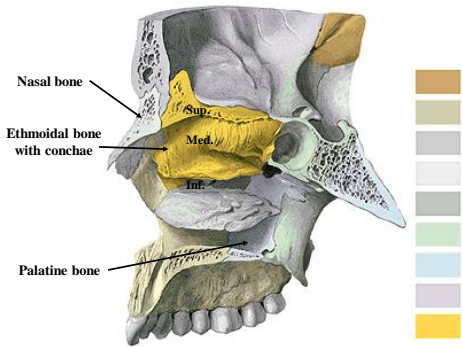


Sobotta, 2007



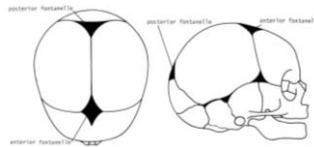
Sobotta, 2007

Nasal cavity

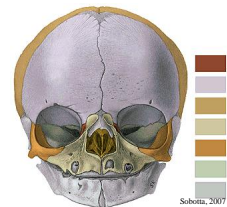


Sobotta, 2007

Newborn's skull – fontanelles



- Fonticulus major
- Fonticulus minor
- Fonticulus sphenoidalis
- Fonticulus mastoideus
- Sutura frontalis (sutura metopica)
- Anulus tympanicus



Sobotta, 2007

Skeleton and joints of upper extremity

I. Girdle bones

Clavicle (*clavicula*)

Shoulder blade (*scapula*)

II. Bones of free upper extremity

Humerus

Radius

Ulna

Carpal bones

Metacarpal bones

Phalanges



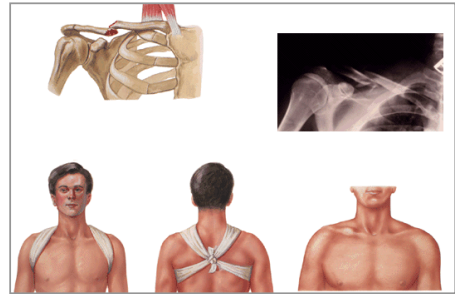
Clavicle (*clavicula*)



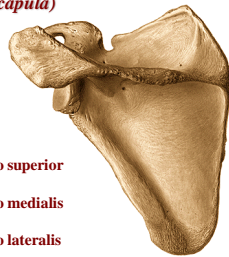
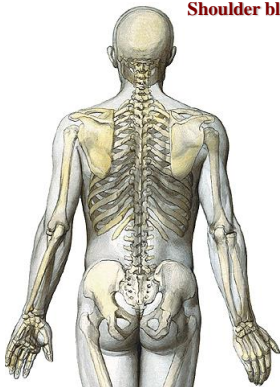
Joins upper extremity to trunk

Connected with shoulder blade and sternum

Fractures



Shoulder blade (*scapula*)



margo superior

margo medialis

margo lateralis

angulus: superior, inferior, lateralis

facies: costalis, dorsalis



Processus coracoideus

Cavitas glenoidalis

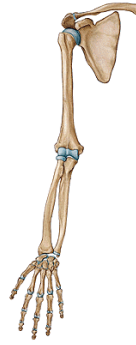


Facies dorsalis scapulae



spina scapulae
acromion

Humerus



Background of arm
Joined with scapula and bones of forearm
Proximal epiphysis
Body
Distal epiphysis

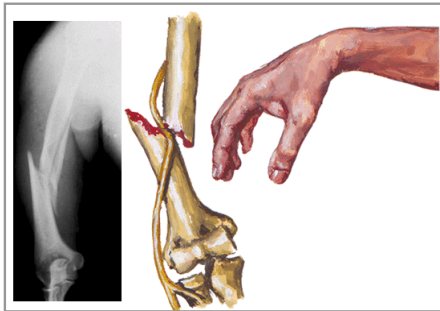


Proximal epiphysis:
caput humeri
collum anatomicum
collum chirurgicum
tuberculum majus
tuberculum minus



Body
tuberositas deltoidea
sulcus nervi radialis
(nervus radialis)

Fracture of body of humerus (nervus radialis can be damaged)



Distal epiphysis:
epicondylus medialis
sulcus nervi ulnaris
epicondylus lateralis
trochlea humeri
capitulum humeri

Radius

Lateral side of forearm

Connected with humerus, ulna and carpal bones

Proximal epiphysis

Body

Distal epiphysis



Proximal epiphysis:

caput radii

fovea capitis radii

circumferentia articularis capitis radii

collum radii

Body

tuberositas radii



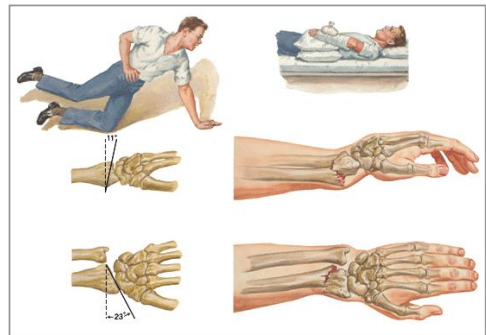
Distal epiphysis:

processus styloideus radii

facies articularis carpea radii

incisura ulnaris radii

Fracture of distal epiphysis of radius (Fracture of Colles)



Ulna

Medial side of forearm

Connected with humerus and radius

Proximal epiphysis

Body

Distal epiphysis



Proximal epiphysis:

olecranon ulnae

incisura trochlearis

processus coronoideus

incisura radialis ulnae

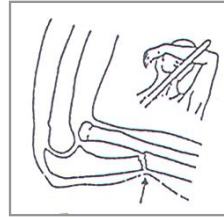
Body:

tuberositas ulnae



Distal epiphysis:
caput ulnae
processus styloideus ulnae

„Parry fracture“



Skeleton of the hand

Carpal bone – 8 in 2 rows

Proximal row: scaphoid, lunate, triquetrum, pisiform

Distal row: trapezium, trapezoidum, capitate, hamate

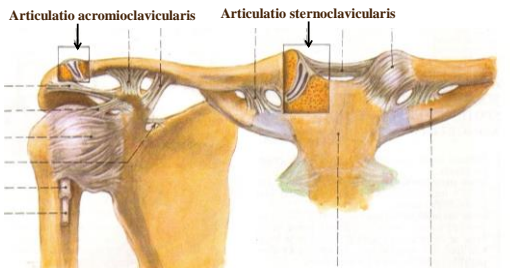
Metacarpal bones - 5

Phalanges - 14



Joints of upper extremity

Joints of the girdle bones



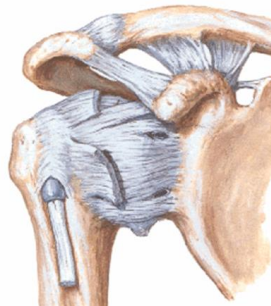
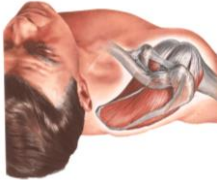
Joints of the bones of free extremity

Shoulder joint (*articulatio humeri*)

Head of humerus, cavitas glenoidalis

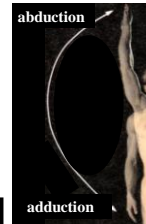
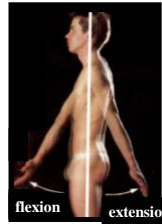
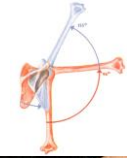
labrum glenoidale

Firmed by tendons of scapulohumeral muscles („rotator cuff“)



Type: spherical

Movements: three axial joint



Elbow joint (*articulatio cubiti*)

Articulatio composita:

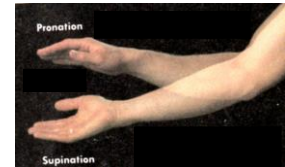
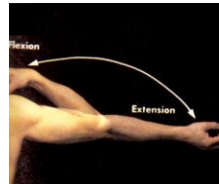
1. *Articulatio humeroradialis*
2. *Articulatio humeroulnaris*
3. *Articulatio radioulnaris proximalis*



Elbow joint - movements

flexion and extension

pronation and supination of forearm



Joints of the hand

Articulatio radiocarpalis

Articulatio mediocarpalis

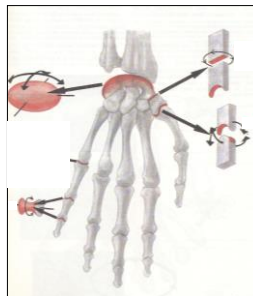
Articulatio ossis pisiformis

Articulatio carpometacarpalis pollicis

Articulationes carpometacarpales II.-V.

Articulationes metacarpophalangeales

Articulationes interphalangeales



Skeleton and joints of lower extremity

Skeleton of lower extremity

- organ of locomotion
- comparing to upper extremity bones and muscles are stronger and heavier than on the upper extremity
- reduced movements
- pelvis and vertebral column form functional unit
- the most evident developmental changes are found on foot



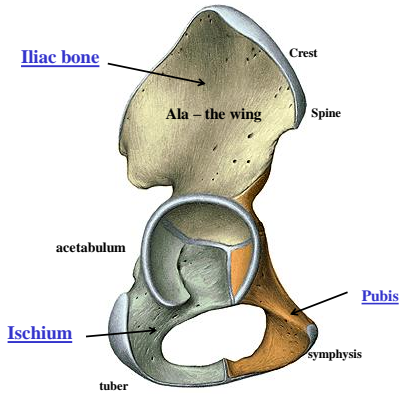
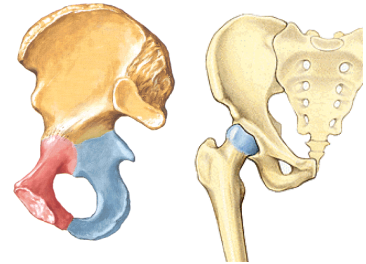
Lower extremity girdle bones

Os coxae (hip bone)

Iliac bone

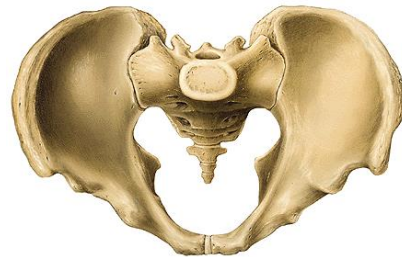
Ischium

Pubis



Pelvis

Connection of right and left hip bone and sacral bone

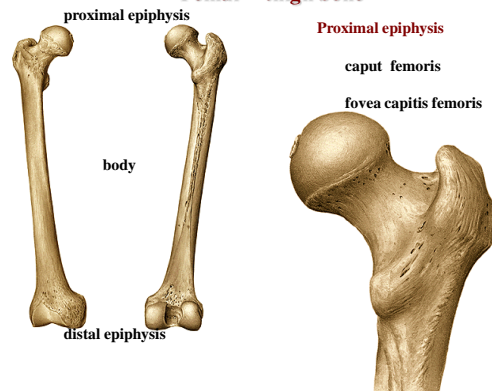


Skeleton of free extremity

- Femur (thigh bone)
- Patella
- Tibia (shin bone)
- Fibula (calf bone)
- Tarsal bones
- Metatarsal bones
- Phalanges



Femur - thigh bone



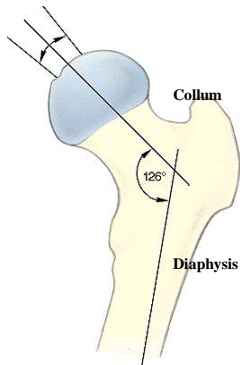
corpus femoris
collum femoris
trochanter major et minor



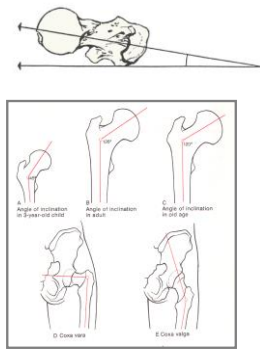
Distal epiphysis
condylus medialis
condylus lateralis



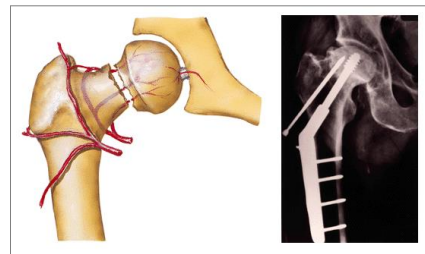
Colodiaphysal angle



Torsion angle

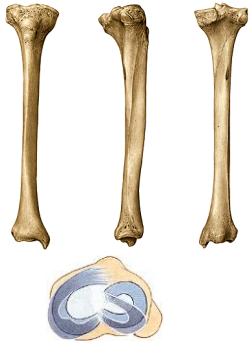


Fracture of collum femoris



Tibia (shin bone)

proximal and distal epiphyses, body

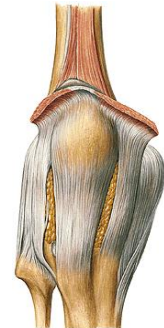


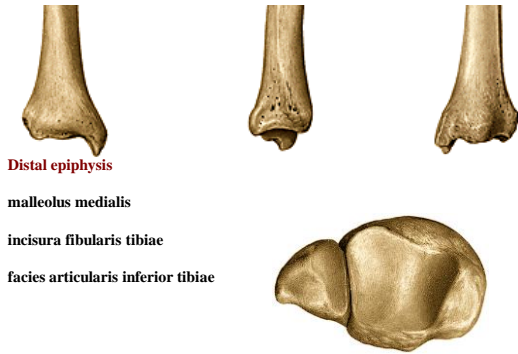
Proximal epiphysis
condylus medialis et lateralis
facies articularis superior medialis, lateralis
area intercondylaris anterior et posterior
facies articularis fibularis



Body

tuberositas tibiae – insertion of quadriceps





Distal epiphysis
 malleolus medialis
 incisura fibularis tibiae
 facies articularis inferior tibiae

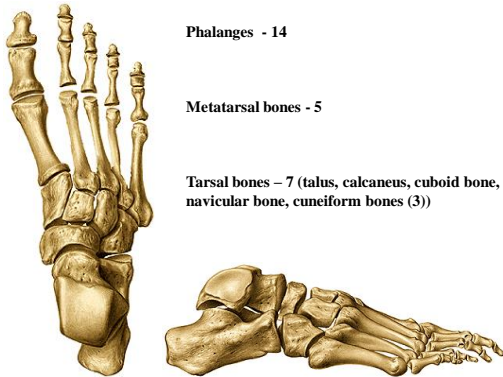
Fibula – (calf bone)

Proximal epiphysis
 caput fibulae
 facies articularis capitis fibulae
 apex capitis fibulae

Distal epiphysis
 malleolus lateralis



Skeleton of the foot



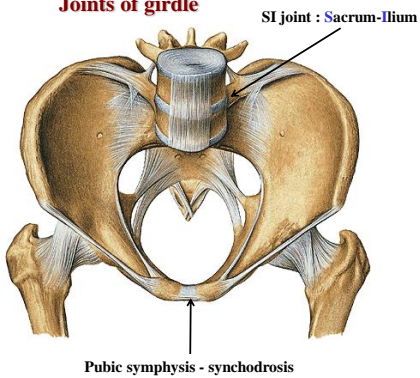
Phalanges - 14
 Metatarsal bones - 5
 Tarsal bones – 7 (talus, calcaneus, cuboid bone, navicular bone, cuneiform bones (3))

Foot vault

Protection of soft parts of foot
 Longitudinal and transversal vault
 Firmed by tendons and ligaments



Joints of girdle



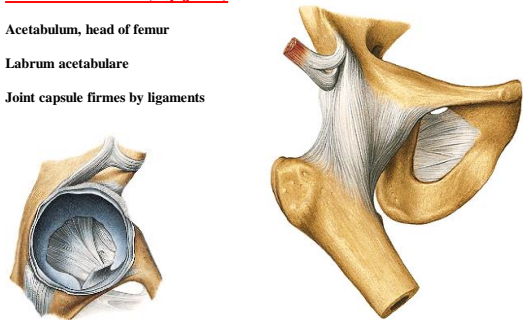
SI joint : Sacrum-Ilium

Pubic symphysis - synchondrosis

Joints of free extremity

Articulatio coxae (hip joint)

Acetabulum, head of femur
 Labrum acetabulare
 Joint capsule firmes by ligaments

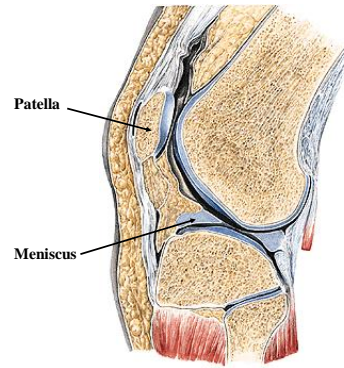
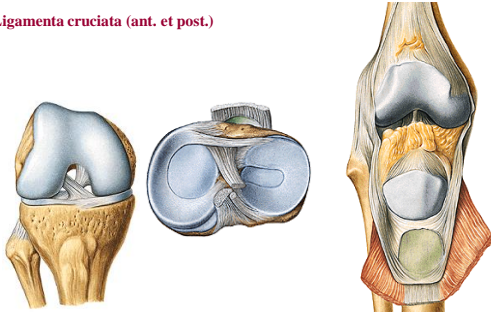


Articulatio genus – knee joint

Articulatio composita: femur, tibia, patella

Meniscus medialis et lateralis

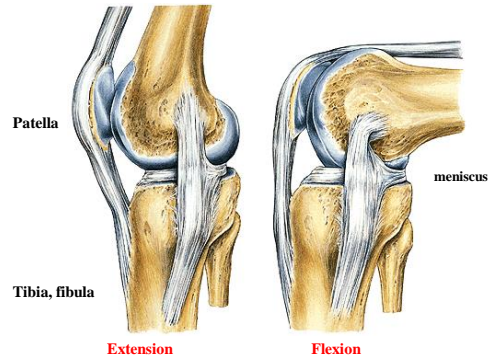
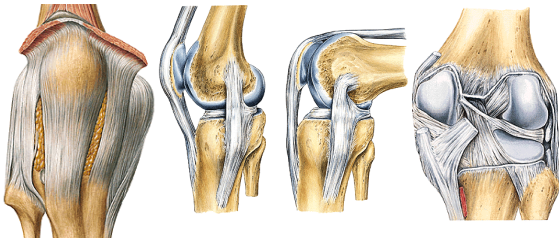
Ligamenta cruciata (ant. et post.)



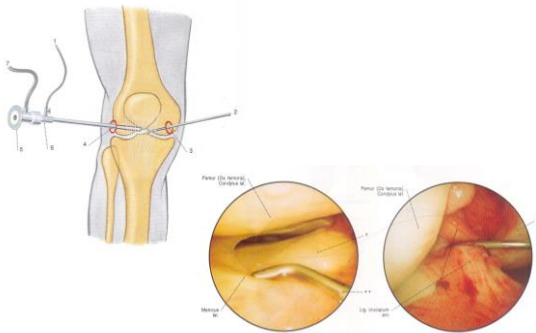
Articulatio genus - ligaments

lig. patellae

lig. collaterale mediale et laterale



Arthroscopy



Knee joint endoprosthesis



