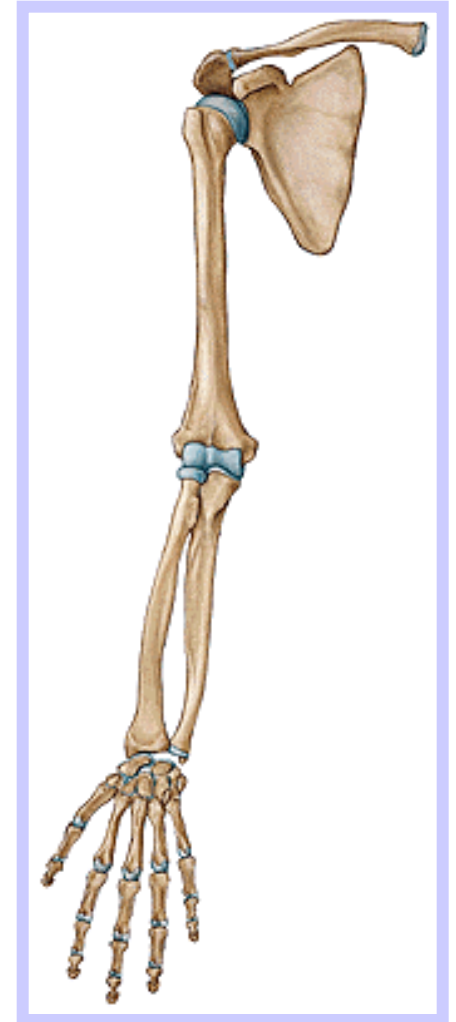


Skeleton of the upper limb

Function: an organ of „communication“
telescopic function
a grasp



Skeleton of the upper limb

I. Bones of the shoulder girdle

Clavicula (clavicle)

Scapula (shoulder blade)

II. Bones of the free part of the upper extremity

A. Brachium

Humerus

B. Antebrachium

Radius

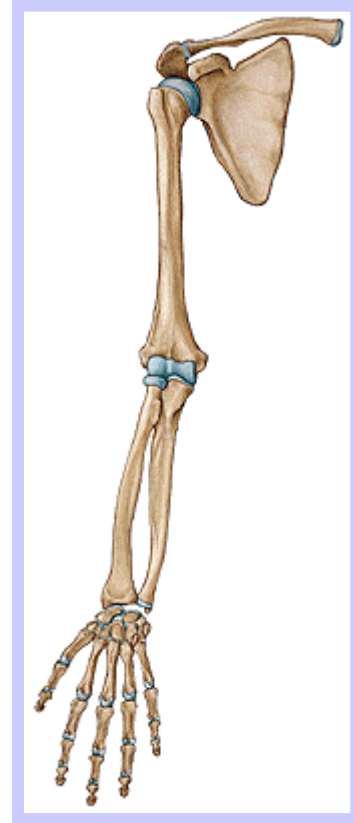
Ulna

C. Manus (hand)

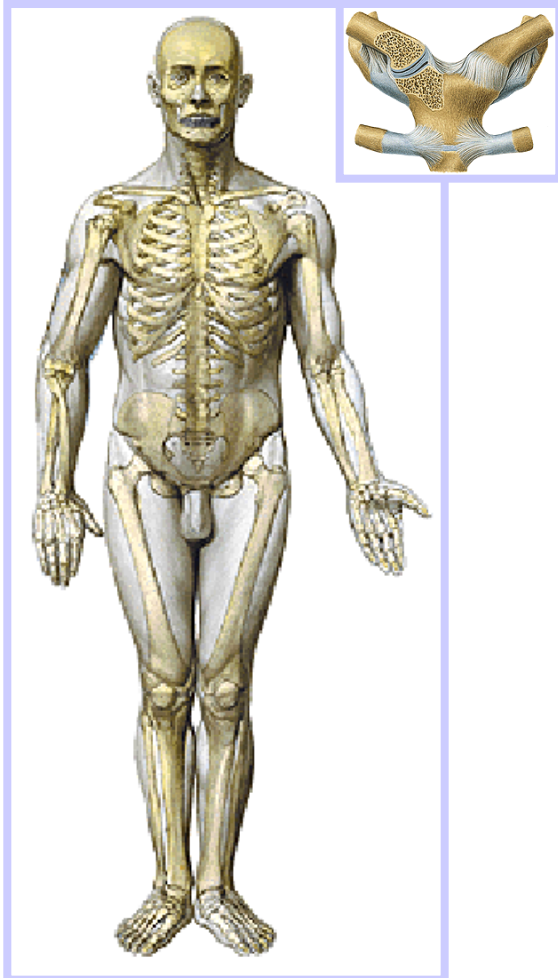
8 Ossa carpi – (8 Carpal bones)

5 Ossa metacarpi – (5 Metacarpal bones)

Phalanges – (Bones of digits)



Clavicula (clavicle)



Extremitas sternalis (medial = sternal end)

1) **facies articularis sternalis** (sternal articular facet)

2) **impressio ligamenti costoclavicularis**

(impression for the costoclavicular ligament)

Extremitas acromialis (lateral = acromial end) with

facies articularis acromialis (acromial articular facet)

tuberositas coracoidea = tuberculum conoideum (conoid

tubercle) + **linea trapezoidea** (trapezoid line)

Scapula (position – the 2nd to 7th ribs)

Facies dorsalis scapulae (posterior surface of scapula)

Facies costalis scapulae (costal surface)

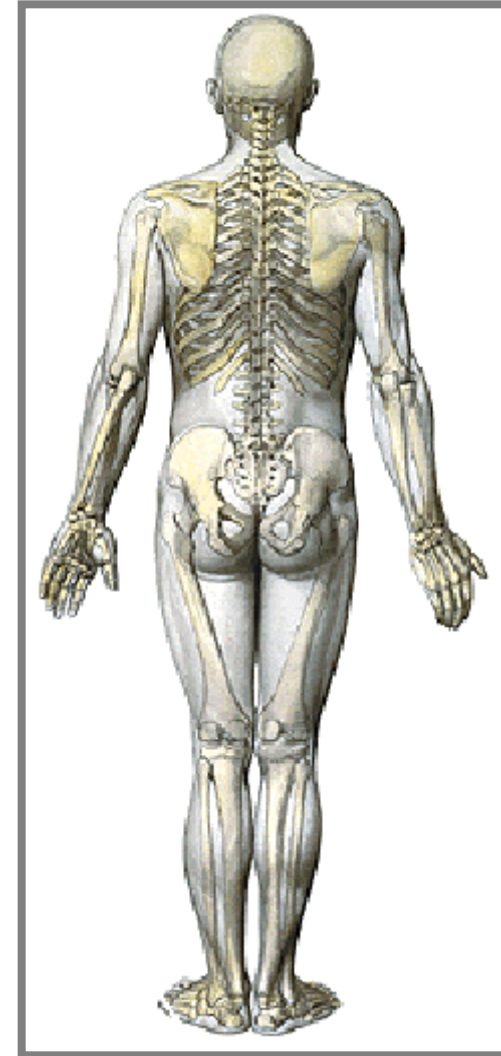
Margo medialis scapulae (medial margin)

Margo lateralis scapulae (lateral margin)

Margo superior scapulae (superior margin)

Collum scapulae (neck of scapula)

Angulus lateralis, inferior, superior (lateral, inferior and superior angle)



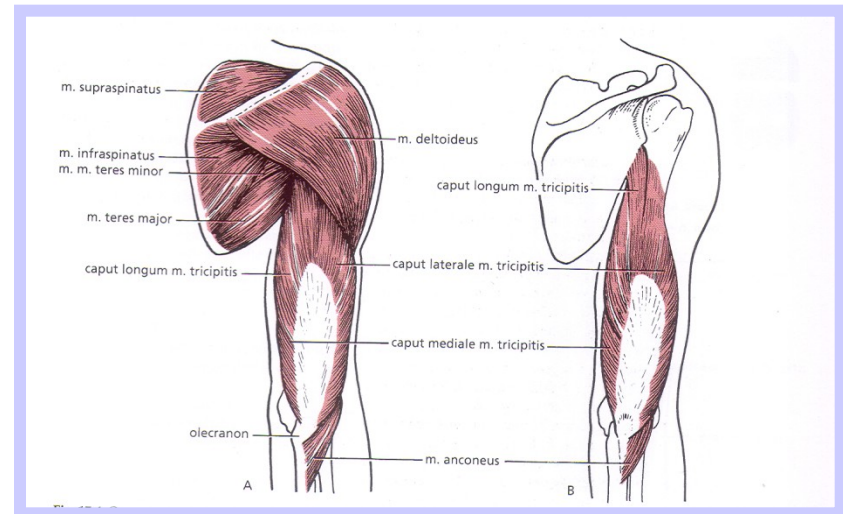
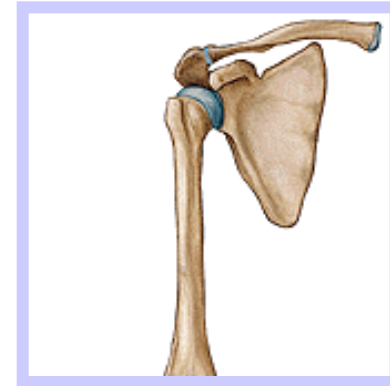
Scapula

Facies dorsalis scapulae (posterior surface of scapula)

Spina scapulae (spine of scapula) with lateral end = **acromion** with articular surface = **facies articularis clavicularis** for articulation with the clavicle

Fossa supraspinata (supraspinous fossa)

Fossa infraspinata (infraspinous fossa)

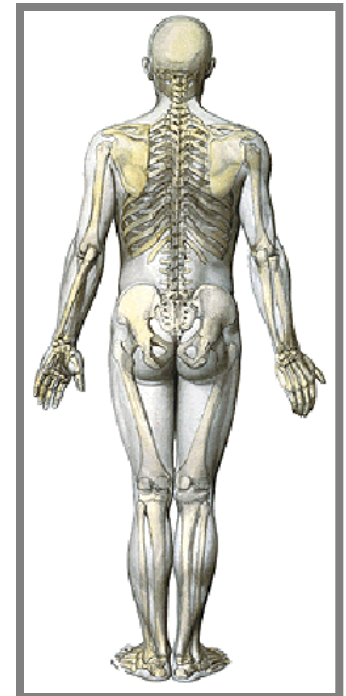
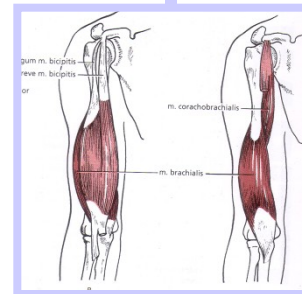
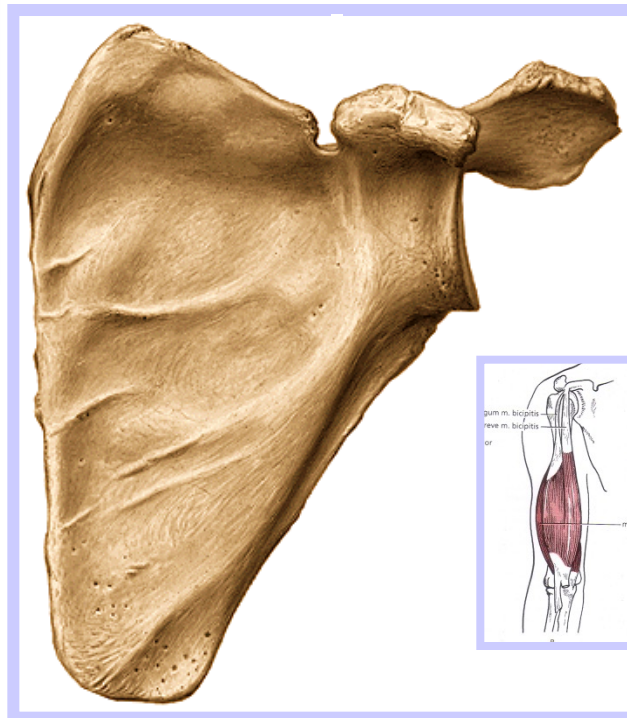


Scapula

Facies costalis scapulae (costal surface of scapula)

Fossa subscapularis (subscapular fossa) with **lineae musculares**

Processus coracoideus (coracoid process)



Scapula

Angulus lateralis scapulae (lateral angle of scapula)

with

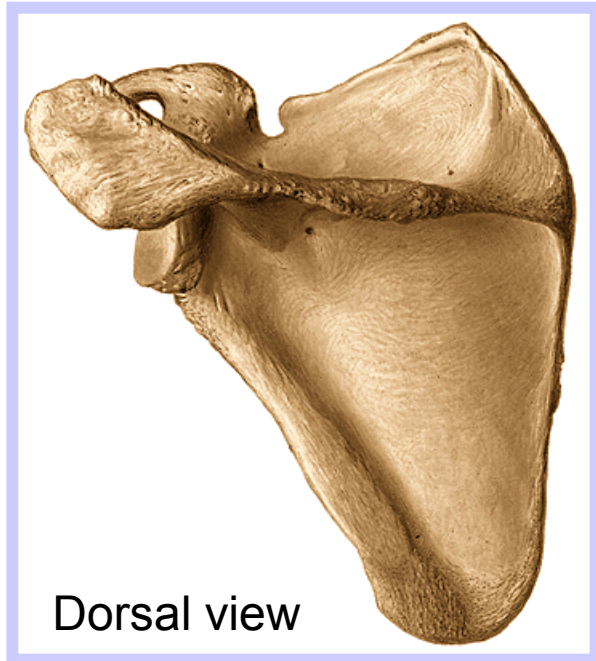
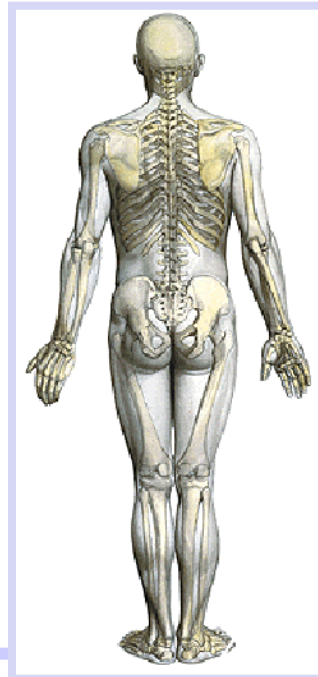
cavitas glenoidalis (glenoid cavity)

tuberculum supraglenoidale (supraglenoid tubercle)

tuberculum infraglenoidale (infraglenoid tubercle)

Margo superior scapulae (superior margin of scapula)

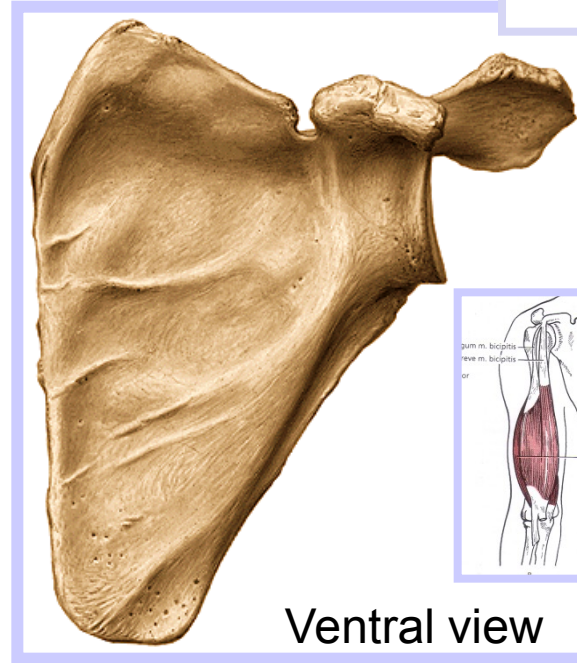
with **incisura scapulae** (notch of scapula)



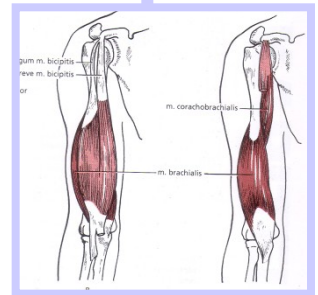
Dorsal view



Lateral view
orientation



Ventral view



Humerus



Ventral view Dorsal view

Proximal end

Caput humeri – (head of the humerus)

Collum anatomicum humeri (anatomical neck)

Diaphysis (Body, shaft)

Collum chirurgicum humeri – (surgical neck)

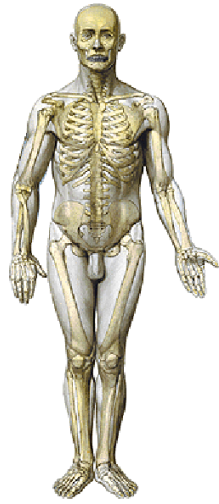
Tuberculum minus humeri – (lesser tubercle)

Tuberculum majus humeri – (greater tubercle)

Sulcus intertubercularis humeri – (intertubercular groove)

Tuberositas deltoidea – (deltoid tuberosity)

Sulcus nervi radialis – (groove for the radial nerve)



Distal end of humerus

Epicondylus lateralis humeri – (lateral epicondyle)

Epicondylus medialis humeri – (medial epicondyle)

With sulcus nervi ulnaris – (groove for the ulnar nerve
- *funny bone*)

Capitulum humeri – (small head of the humerus)

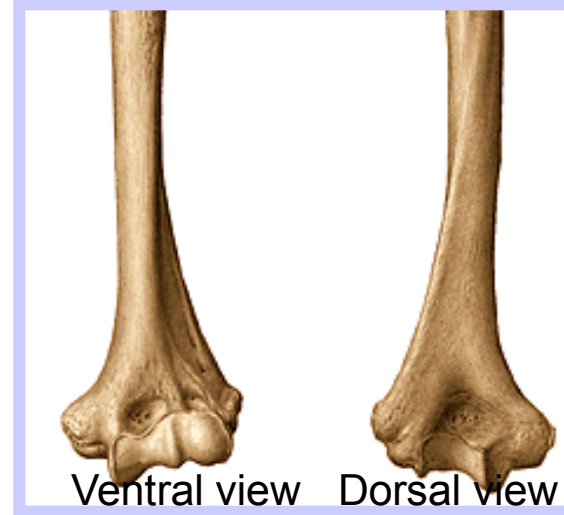
Trochlea humeri – (trochlea of the humerus)

Fossa radialis humeri (radial fossa)

Fossa coronoidea humeri – (coronoid fossa)

Fossa olecrani – (olecranon fossa)

orientation



Radius



Proximal end

Caput radii – (head of radius)

Circumferentia capitis radii –
(articular circumference of the radius head)

Fovea capitis radii – (articular fovea)

Diaphysis (corpus, shaft, body)

Collum radii – (neck of radius)

Tuberositas radii – (radial tuberosity)

Margo interosseus – (interosseous margin)

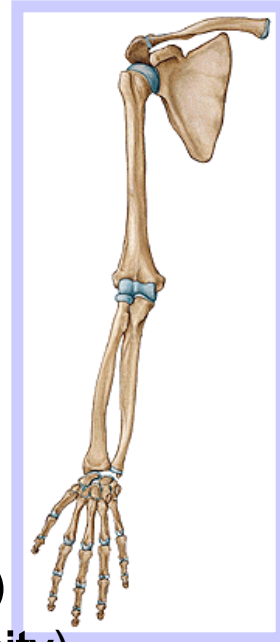
Tuberositas pronatoria – (pronator tuberosity)

Distal end

Processus styloideus – (styloid process)

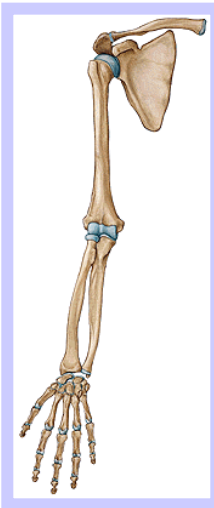
Incisura ulnaris radii – (ulnar notch of the radius)

Facies carpea radii – (carpal articular surface)



orientation

Ulna



Proximal end

Olecranon ulnae

Incisura trochlearis ulnae – (trochlear notch of ulna)

Processus coronoideus ulnae – (coronoid process)

Incisura radialis ulnae – (radial notch of the ulna)

Diaphysis (body, corpus)

Tuberositas ulnae – (ulnar tuberosity)

Crista musculi supinatoris – (supinator crest of the ulna)

Margo interosseus – (interosseous margin)

Distal end

Caput ulnae – (head of the ulna)

Circumferentia capitis ulnae – (articular circumference)

Processus styloideus ulnae – (styloid process)

orientation

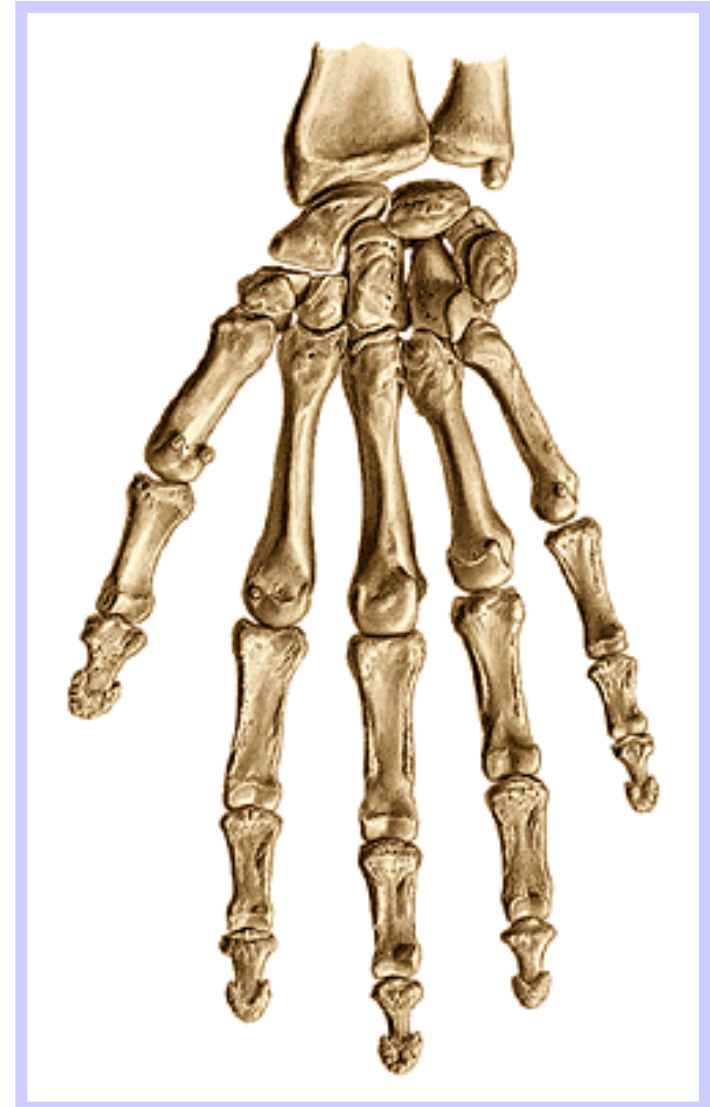


Skeleton of the hand

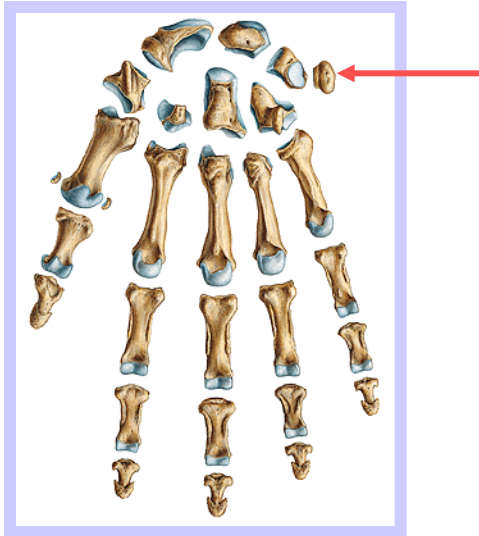
I. **8 ossa carpi** (carpal bones)

II. **5 ossa metacarpi** (metacarpal bones)

III. **14 ossa digitorum manus**
= (phalanges) – (bones of the digits)



I. Ossa carpi (8)



Proximal row from lateral to medial side:

Os scaphoideum – (tuberculum ossis scaphoidei)

Os lunatum – (lunate)

Os triquetrum

Os pisiforme

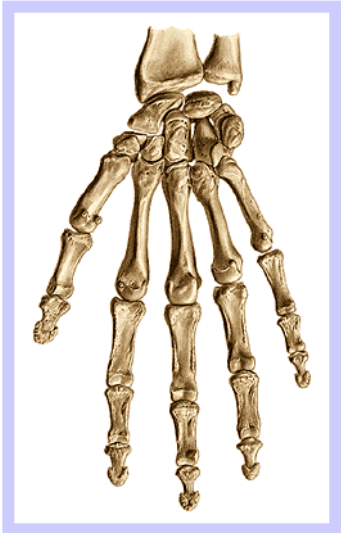
Distal row from lateral to medial side:

Os trapezium – (tuberculum ossis trapezii)

Os trapezoideum

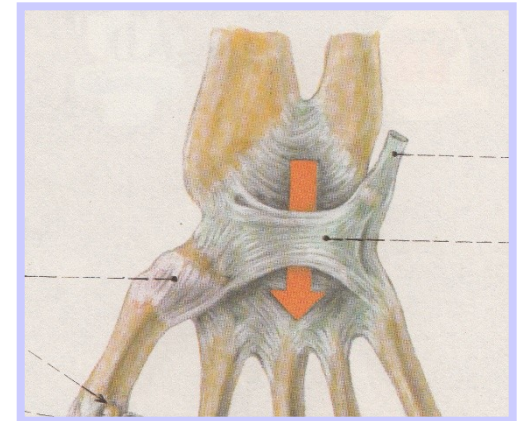
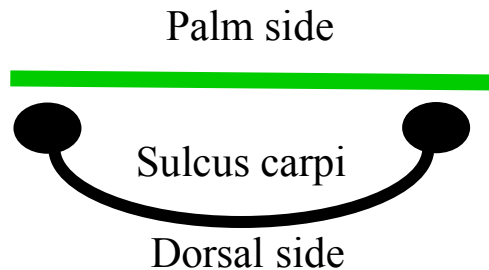
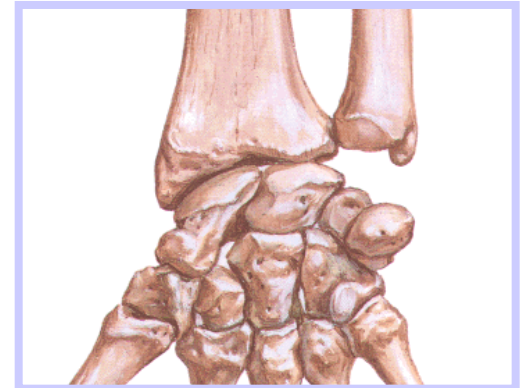
Os capitatum

Os hamatum – (hamulus ossis hamati)



Eminentia carpi radialis (radial carpal eminence)
(tuberculum ossis scaphoidei et trapezii)

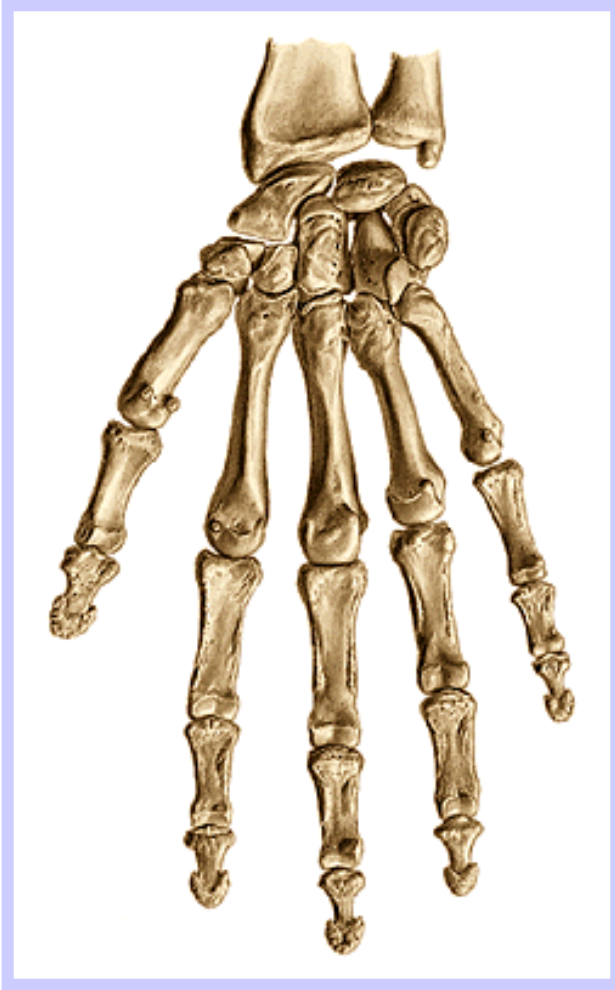
Eminentia carpi ulnaris (ulnar carpal eminence)
(hamulus ossis hamati et os pisiforme)



Both rows of carpal bones + tubercules form together **arcus carpi** (an carpal arch) and with a ligament form **canalis carpi** (carpal canal) for a course of flexor muscles tendons and median nerve.

Ossa metacarpi – (metacarpal bones)

Ossa metacarpi I. – V.



Caput ossis metacarpi – head of metacarpal bone

Corpus ossis metacarpi – body of metacarpal bone

Basis ossis metacarpi

III. metacarpal has **processus styloideus** (styloid process) on its dorsal side

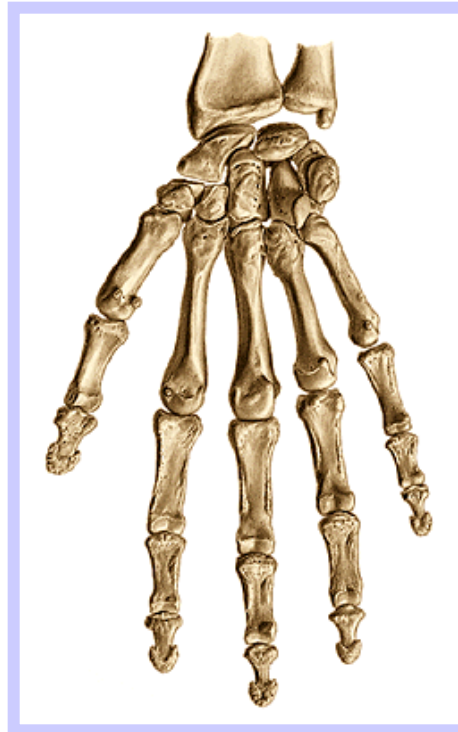
Connections of basis ossis metacarpi:

I. metacarpal with os trapezium

II. metacarpal with os trapezium, trapezoideum, and os capitatum

III. metacarpal with os capitatum

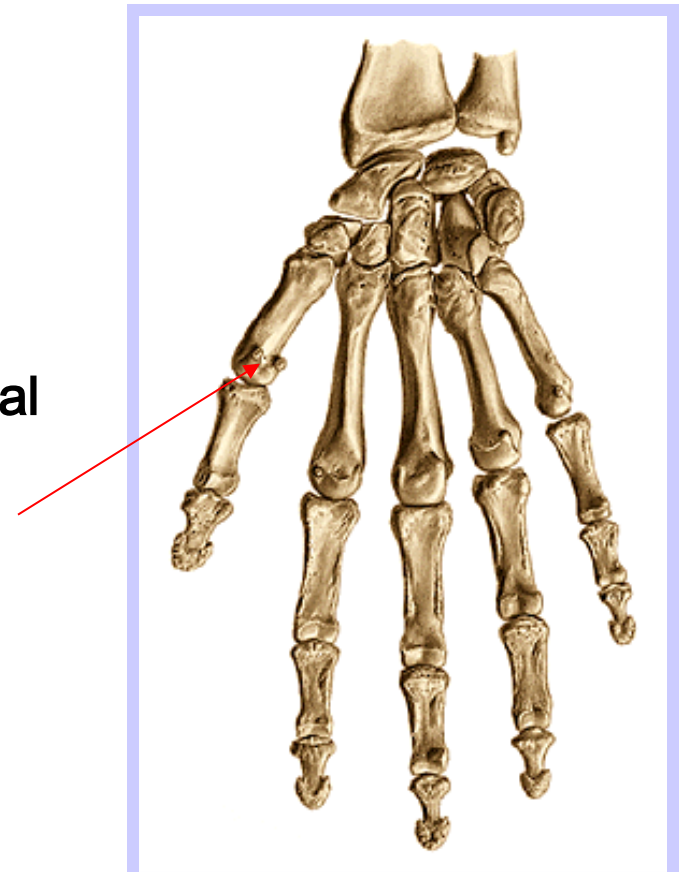
IV. and V. metacarpals with os hamatum.

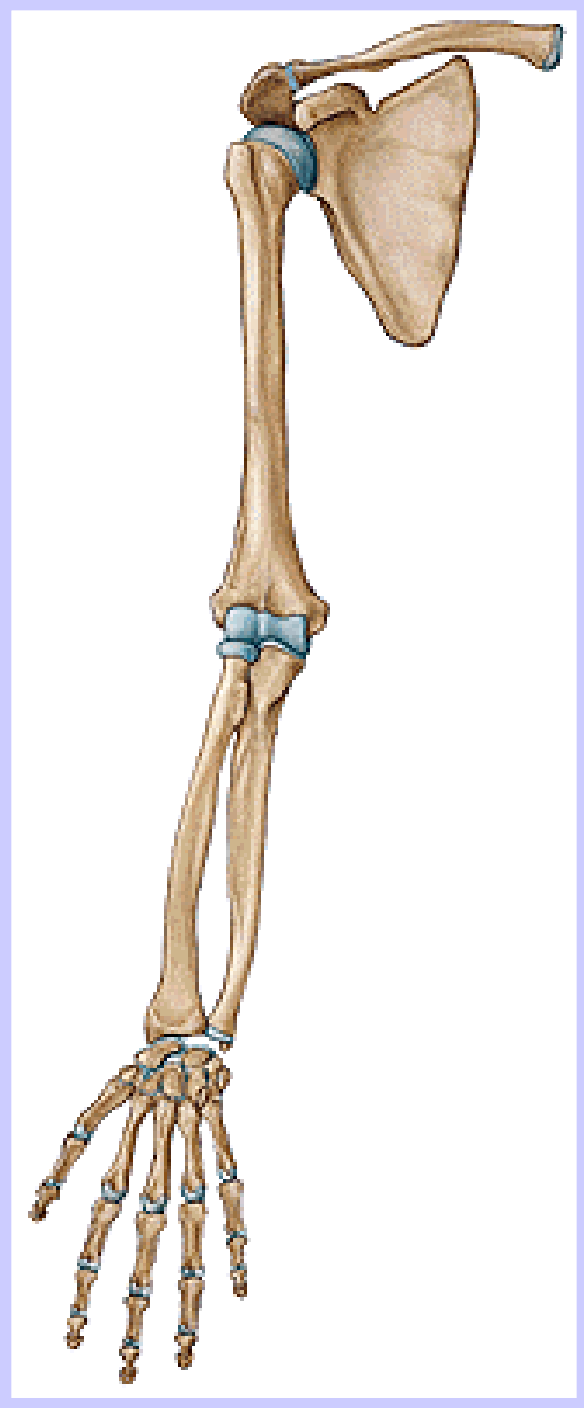


Ossa digitorum manus (bones of digits) = 14 **phalanges**

each digit consists of three phalanges (proximalis, medialis and distalis)
(proximal, medial and distal), tuberositas phalangis distalis
except of the thumb (has two phalanges – phalanx proximalis and distalis)

Two sesamoid bones are found regularly in the joints between the 1st metacarpal bone and the proximal phalanx of the thumb.





Skeleton of the lower limb

**Serves for locomotion and as a pillar for the body
(in contrast to the upper extremity – robust, less movable,
stronger muscles)**

Skeleton of the pelvic girdle:

Os coxae (hip bone)

(consists of os ilium, os ischii and os pubis)

Skeleton of the free part of the lower limb:

Thigh

Femur – thigh bone

Patella

Shin

Tibia – shinbone

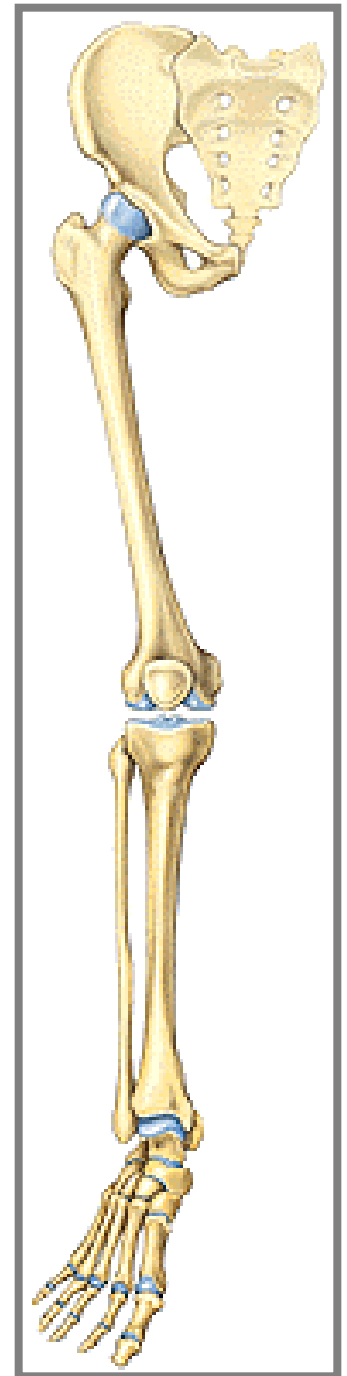
Fibula – calf bone

Foot

Ossa tarsi (7) (tarsal bones) !!!

Ossa metatarsi (metatarsal bones)

Ossa digitorum pedis – phalanges (bones of toes, phalanges)



Os coxae (hip bone)

(os ilium, os ischii, os pubis)

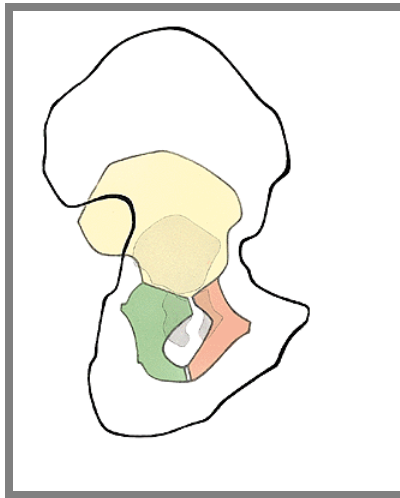
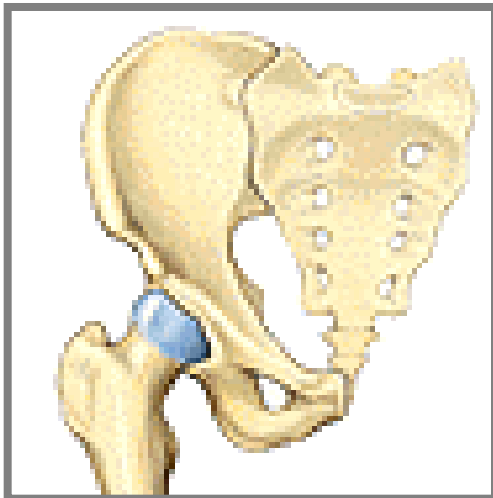
Acetabulum

Facies lunata (lunate articular surface)

Fossa acetabuli

Incisura acetabuli (acetabular notch)

Foramen obturatum



Os ilium

Corpus (body)

Ala ossis ilii (wing)

Fossa iliaca

Facies auricularis

Tuberositas iliaca

Linea arcuata

Crista iliaca (with tuberculum iliacum)

Labium externum and labium internum cristae iliacae
(outer and inner lips of iliac crest) and linea intermedia
(intermediate line)

Spina iliaca **anterior superior** (superior anterior iliac spine)

Spina iliaca **anterior inferior** (inferior anterior iliac spine)

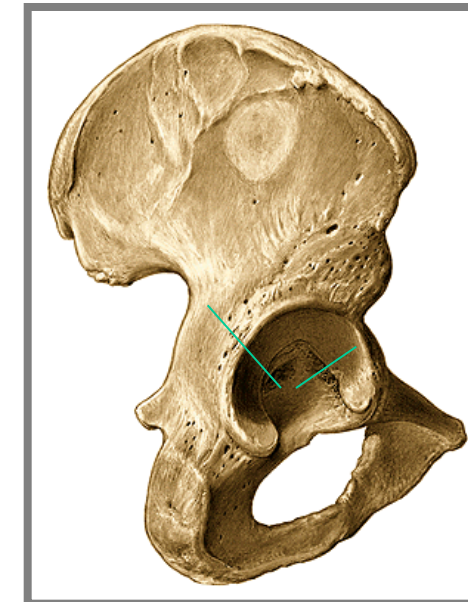
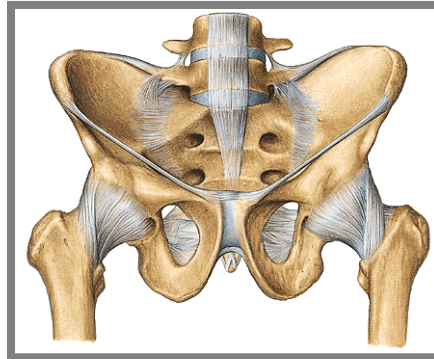
Spina iliaca **posterior superior** (superior posterior iliac spine)

Spina iliaca **posterior inferior** (inferior posterior iliac spine)

Linea glutea posterior (posterior gluteal line)

Linea glutea anterior (anterior gluteal line)

Linea glutea inferior (inferior gluteal line)



Os ischii (ischium)

Corpus (body)

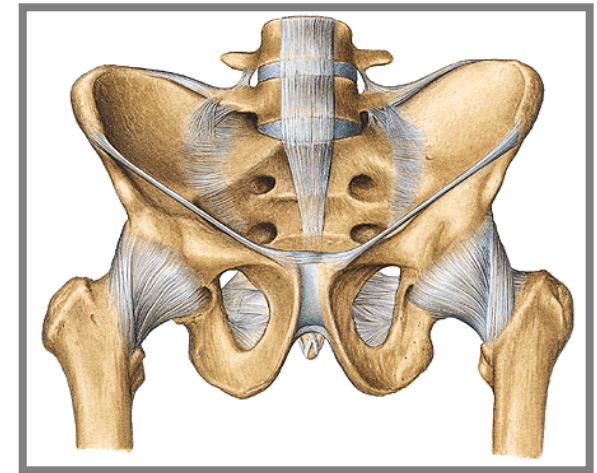
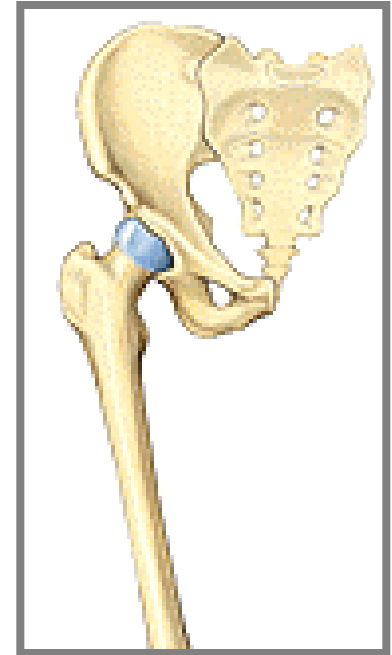
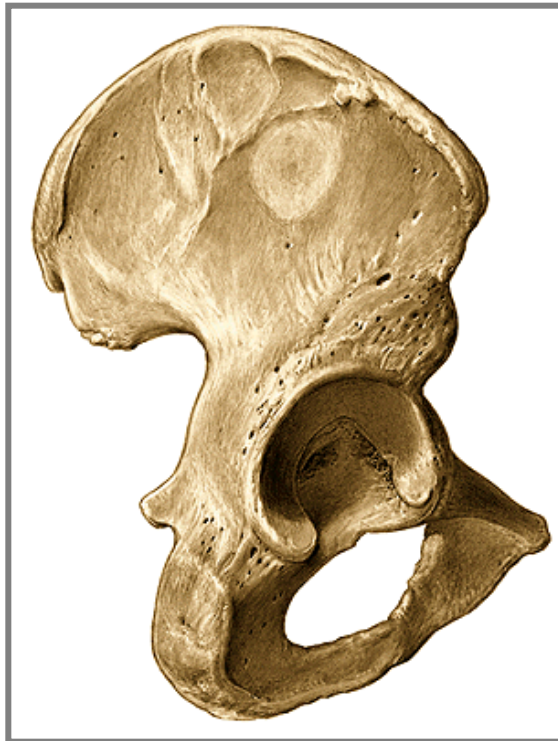
Ramus ossis ischii

Tuber ischiadicum (ischial tuberosity)

Spina ischiadica (ischial spine)

Incisura ischiadica major (greater sciatic notch)

Incisura ischiadica minor (lesser sciatic notch)



Os pubis (pubic bone)

corpus (body)

Ramus superior ossis pubis (superior branch of pubis)

Eminentia iliopubica

Pecten ossis pubis

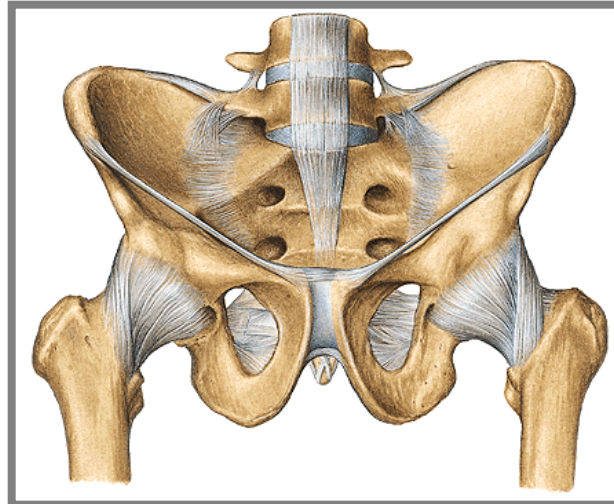
Tuberculum pubicum

Sulcus obturatorius (obturator groove)

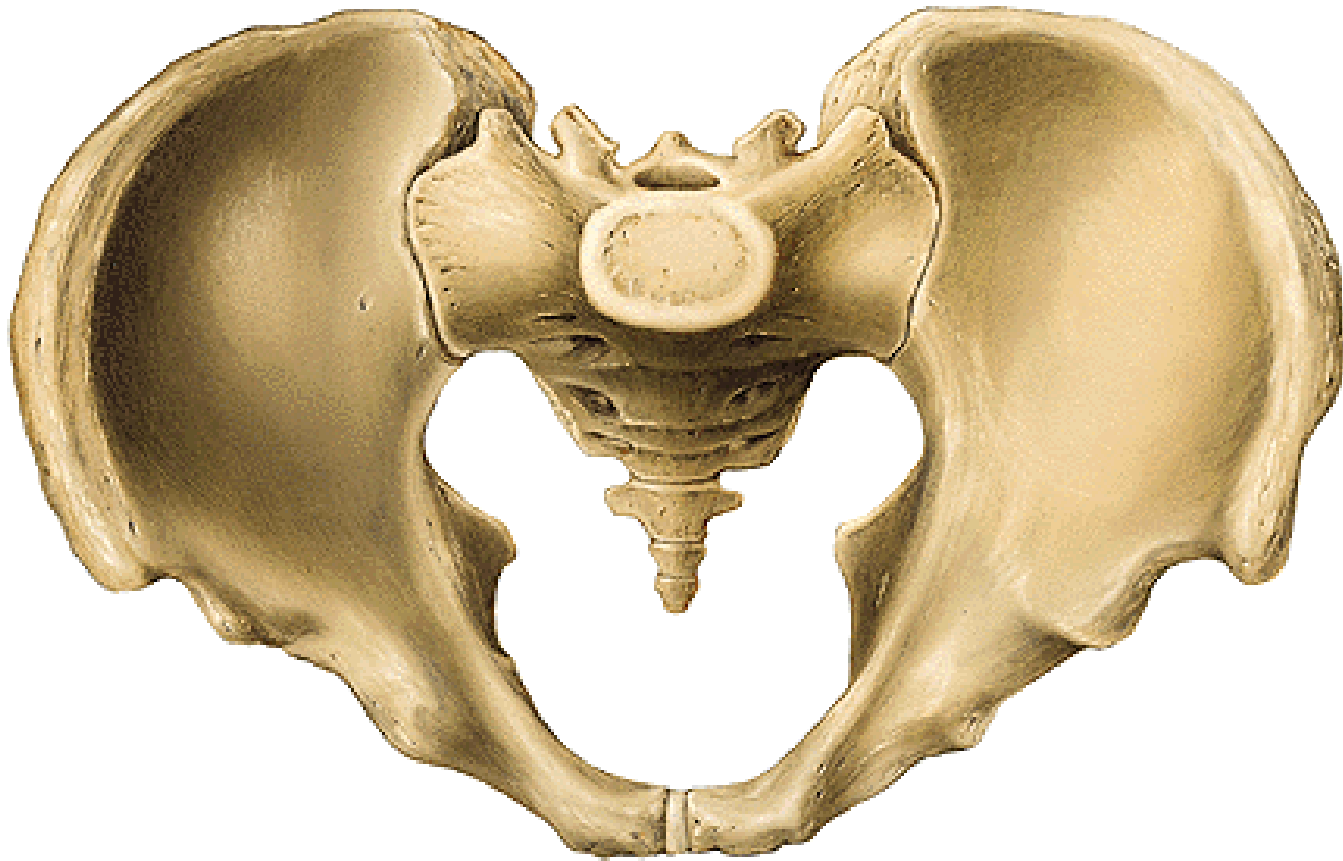
Ramus inferior ossis pubis

Facies symphysealis

Crista pectinea



Pelvis



Femur (thigh bone)

Proximal end

Caput femoris (head of femur)

Fovea capitis femoris

Corpus femoris

Trochanter major – (greater trochanter)

Trochanter minor – (lesser trochanter)

Collum femoris (neck of femur)

Linea intertrochanterica (intertrochanteric line)

Crista intertrochanterica (intertrochanteric crest)

Fossa trochanterica (trochanteric fossa)

Linea aspera

Labium mediale lineae asperae (medial lip of linea aspera)

(**Linea pectinea** – pectineal line)

Labium laterale lineae asperae (lateral lip of linea aspera)

(**Tuberositas glutea** – gluteal tuberosity)



Distal end of the femur

Condylus medialis (tuberculum adductorium – adductor tubercle)

Condylus lateralis

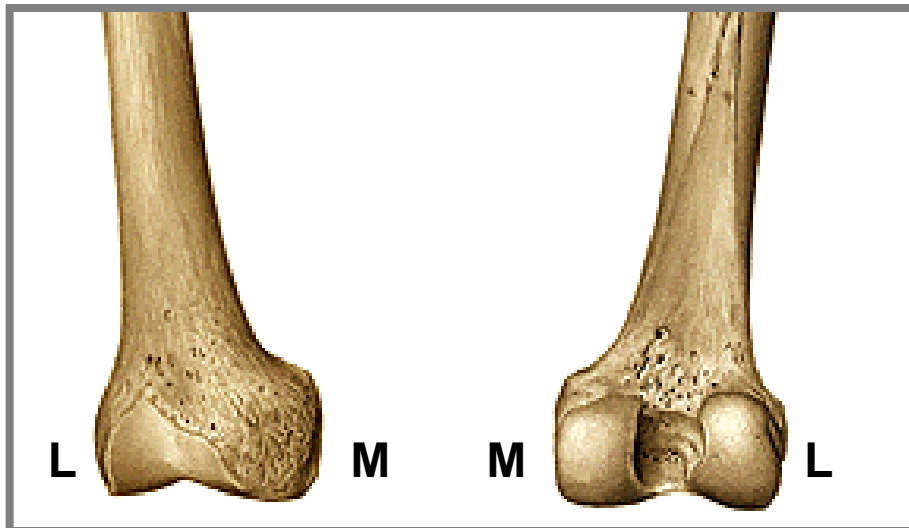
Epicondylus lateralis et medialis

Facies patellaris – (patellar surface)

Fossa intercondylaris

Linea intercondylaris

Facies poplitea (popliteal surface)

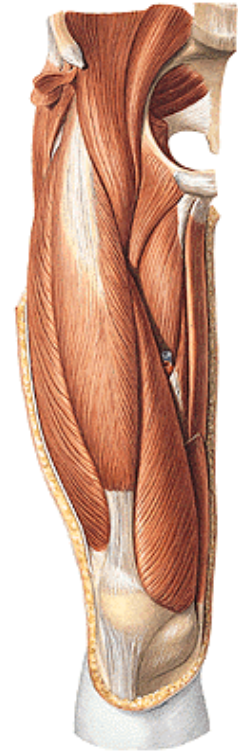


Patella (a sesamoid bone)

Basis patellae (base of patella)

Apex patellae

Facies articularis patellae (articular surface of the patella)



orientation

Total endoprosthesis of knee joint



Tibia (shinbone)

The weight-bearing bone situated on the **medial** side of the leg).

Proximal end

Condylus medialis (medial condyle)

Condylus lateralis (lateral condyle)

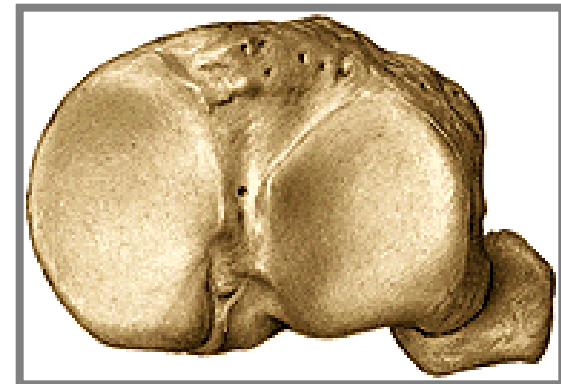
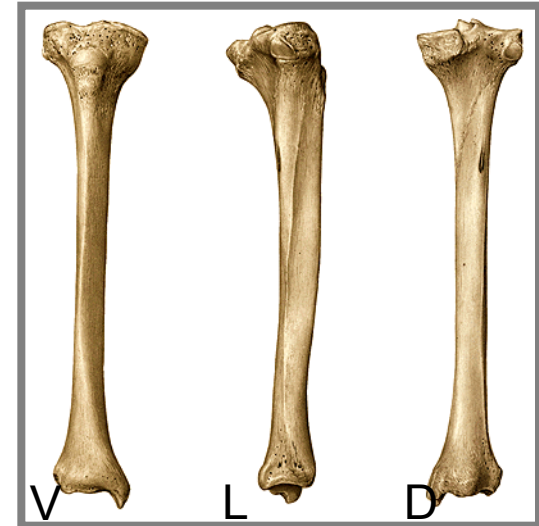
Facies articularis superior (superior articular facet)

Eminentia intercondylaris (intercondylar eminence)

Tuberculum intercondylare mediale and laterale

Area intercondylaris anterior and posterior

Facies articularis fibularis



Proximal end

Corpus (body)

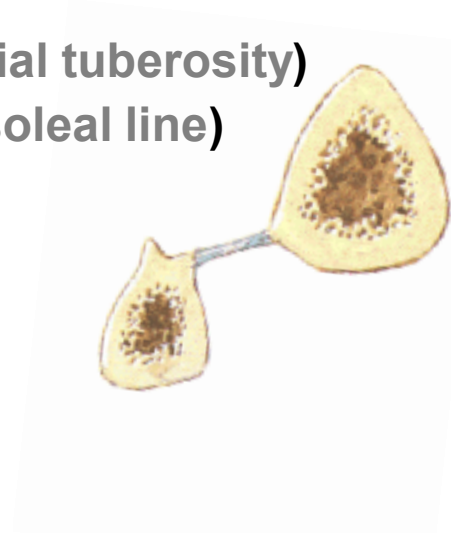
Tuberositas tibiae (tibial tuberosity)

Linea musculi solei (soleal line)

Margo medialis

Margo anterior

Margo interosseus



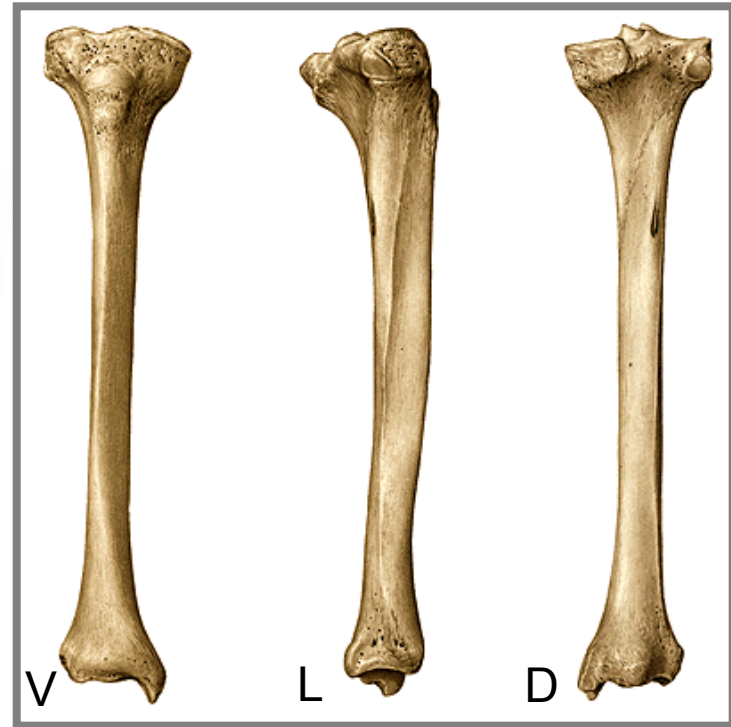
Distal end of tibia

Malleolus medialis (medial malleolus)

Facies articularis malleoli medialis (medial malleolar articular surface)

Incisura fibularis (fibular notch)

Facies articularis inferior tibiae (inferior articular surface)



Fibula (calf bone, the slender bone on the lateral side of the leg)

Proximal end

Caput fibulae (head of fibula) with apex

Collum fibulae (neck of fibula)

Facies articularis capitis fibulae

(articular facet of the fibular head)

Corpus – body

Margo anterior (anterior margin)

Margo medialis

Margo posterior

Margo interosseus (interosseous margin)

Distal end of fibula

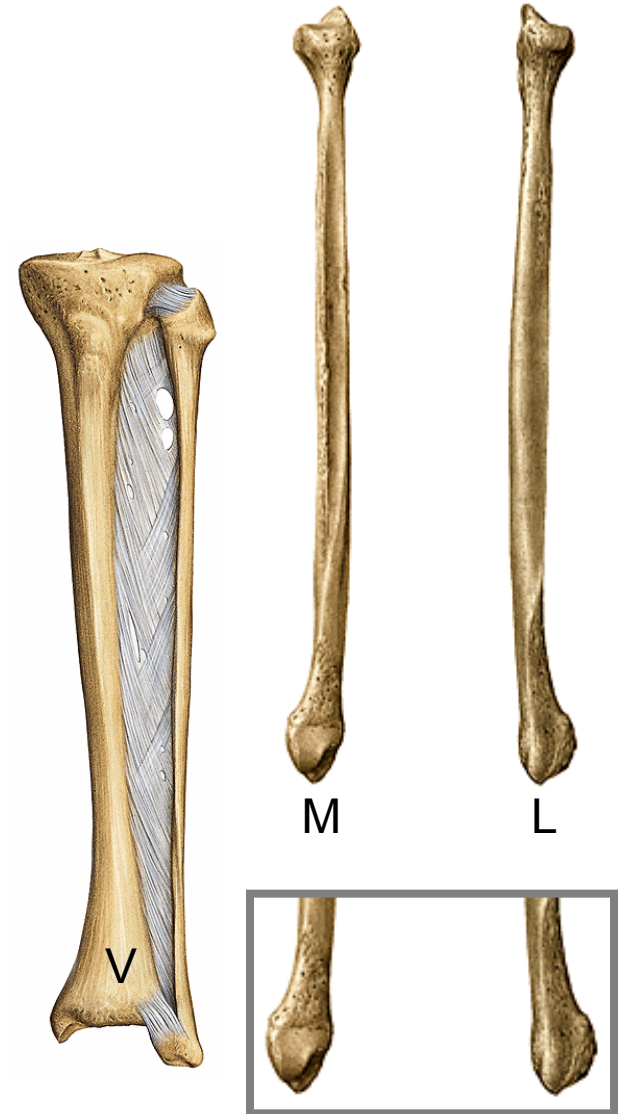
Malleolus lateralis (lateral malleolus)

Facies articularis malleoli lateralis

(facet for articulation with the talus)

Sulcus malleoli lateralis (lateral malleolar groove)

Fossa malleoli lateralis (lateral malleolar fossa)



Ossa pedis (bones of the foot)

- I. **Ossa tarsi** - (tarsus)
- II. **Ossa metatarsi** (metatarsus)
- III. **Ossa digitorum pedis** (bones of digits)

Ossa tarsi – (7 tarsal bones)

Talus

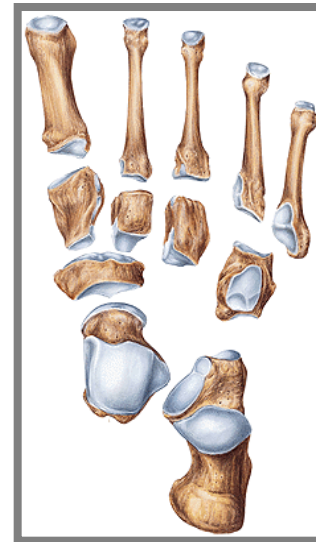
Calcaneus (heel bone)

Os naviculare (navicular bone)

Os cuboideum (cuboid bone)

Ossa cuneiformia (cuneiform bones)

os cuneiforme mediale
intermedium
laterale



Talus



Caput tali (head of talus) with **facies articularis navicularis** (navicular articular surface)

Collum tali (neck)

Corpus tali (body)

Trochlea tali

Facies articularis superior

Facies articularis malleoli lateralis and medialis

Facies articularis calcanea posterior, media and anterior

Sulcus tali (talar groove)

Processus lateralis tali

Processus posterior tali with **tuberculum laterale** and **mediale**

Sulcus tendinis musculi flexoris hallucis longi

(Groove for the tendon of the flexor hallucis longus muscle)



orientation

Calcaneus

Tuber calcanei with **processus medialis** and **lateralis**

Facies articularis talaris posterior, media and anterior

Sulcus calcanei – (calcaneal groove)

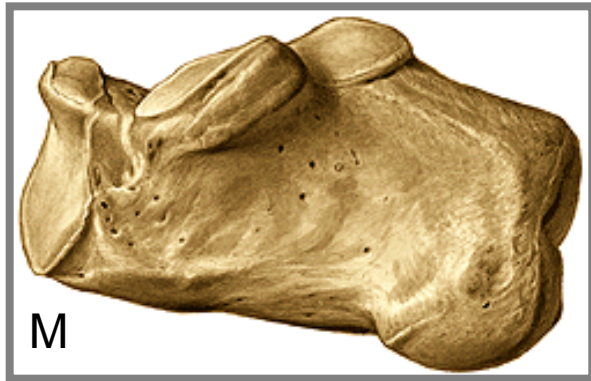
Sustentaculum tali

Sulcus tendinis muscui flexoris hallucis longi (Groove for the tendon of flexor hallucis longus muscle)

Trochlea peronealis

Facies articularis cuboidea

Sulcus calcanei + Sulcus tali = Sinus tarsi



Os naviculare (navicular bone)

Tuberositas ossis navicularis (navicular tuberosity)

Os cuboideum

Sulcus tendinis musculi peronei (fibularis) longi
(groove for fibularis longus muscle tendon)

Ossa cuneiformia (mediale, intermedium
and laterale)



Dorsal



Plantar



Lateral view

Ossa metatarsi (I. – V.)

Basis (tuberositas ossis metatarsi I. et V.)

Corpus (body)

Caput (head)

I. st MT has sesamoid bones – medial and lateral

Ossa digitorum pedis (phalanges - 14)

Big toe has phalanx proximalis and distalis only

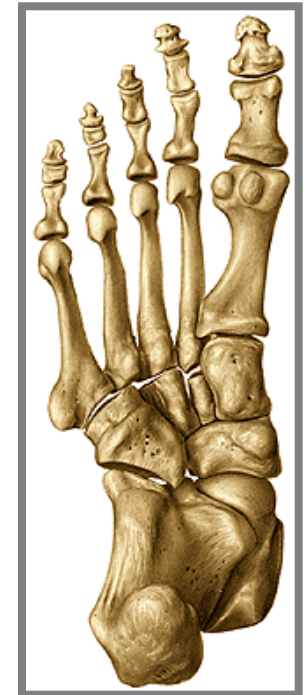
II. – V. toe have phalanx proximalis, media and distalis

Basis phalangis

Corpus phalangis

Trochlea/head

(distal phalanx ends with tuberositas phalangis distalis)



Used pictures come from:

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