



The Atlas of Human Skeleton System (*Student's Guide*)

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CHAPTER 1:
INTRODUCTION OF
THE SKELETAL
SYSTEM

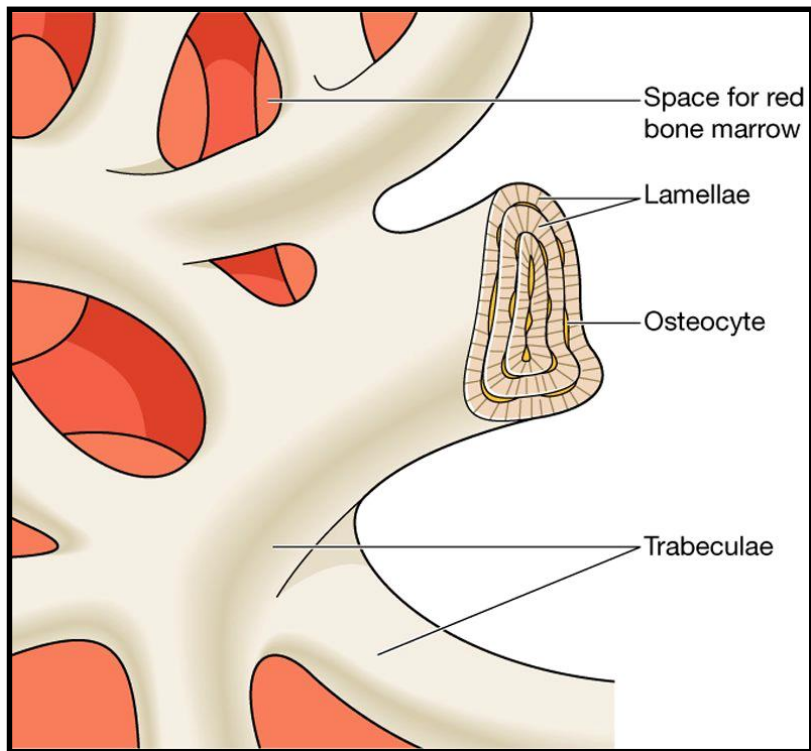


Figure 1.1 Microscopic structure of spongy bone.
(Ross & Wilson 2006)

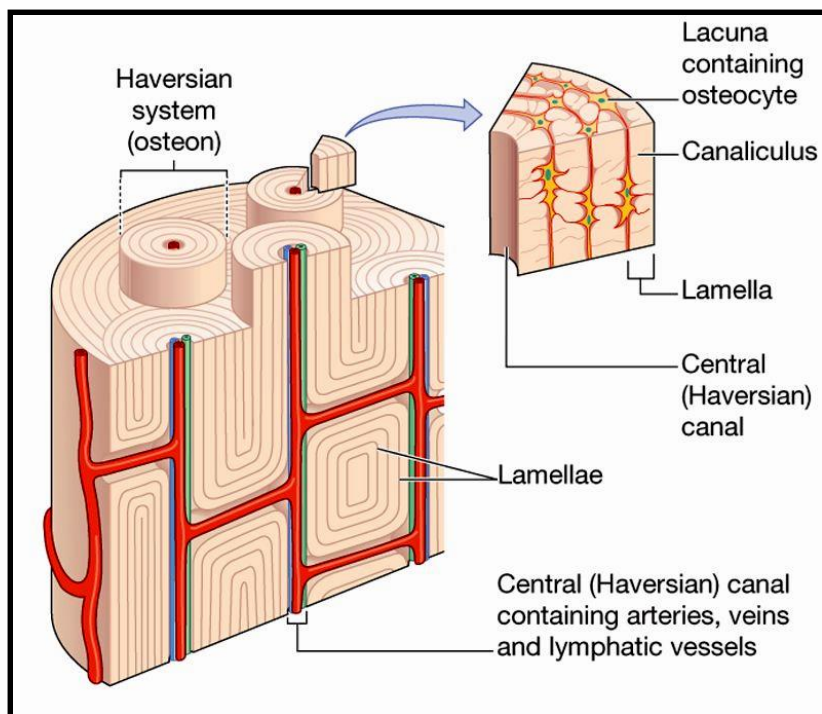


Figure 1.2 Microscopic structure of compact bone.
(Ross & Wilson 2006)

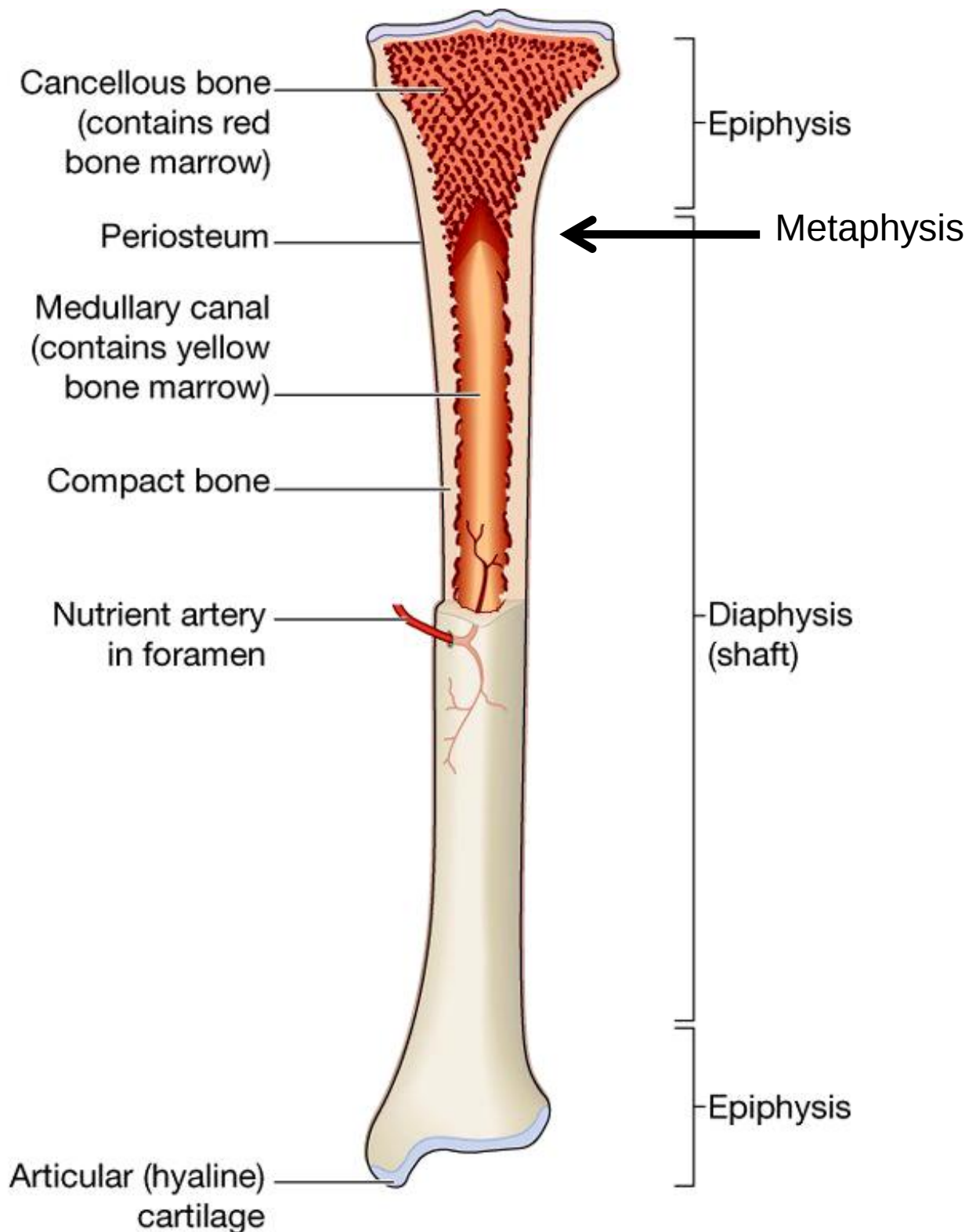


Figure 1.3 – The macroscopic of the long bone.
(Ross & Wilson 2006)

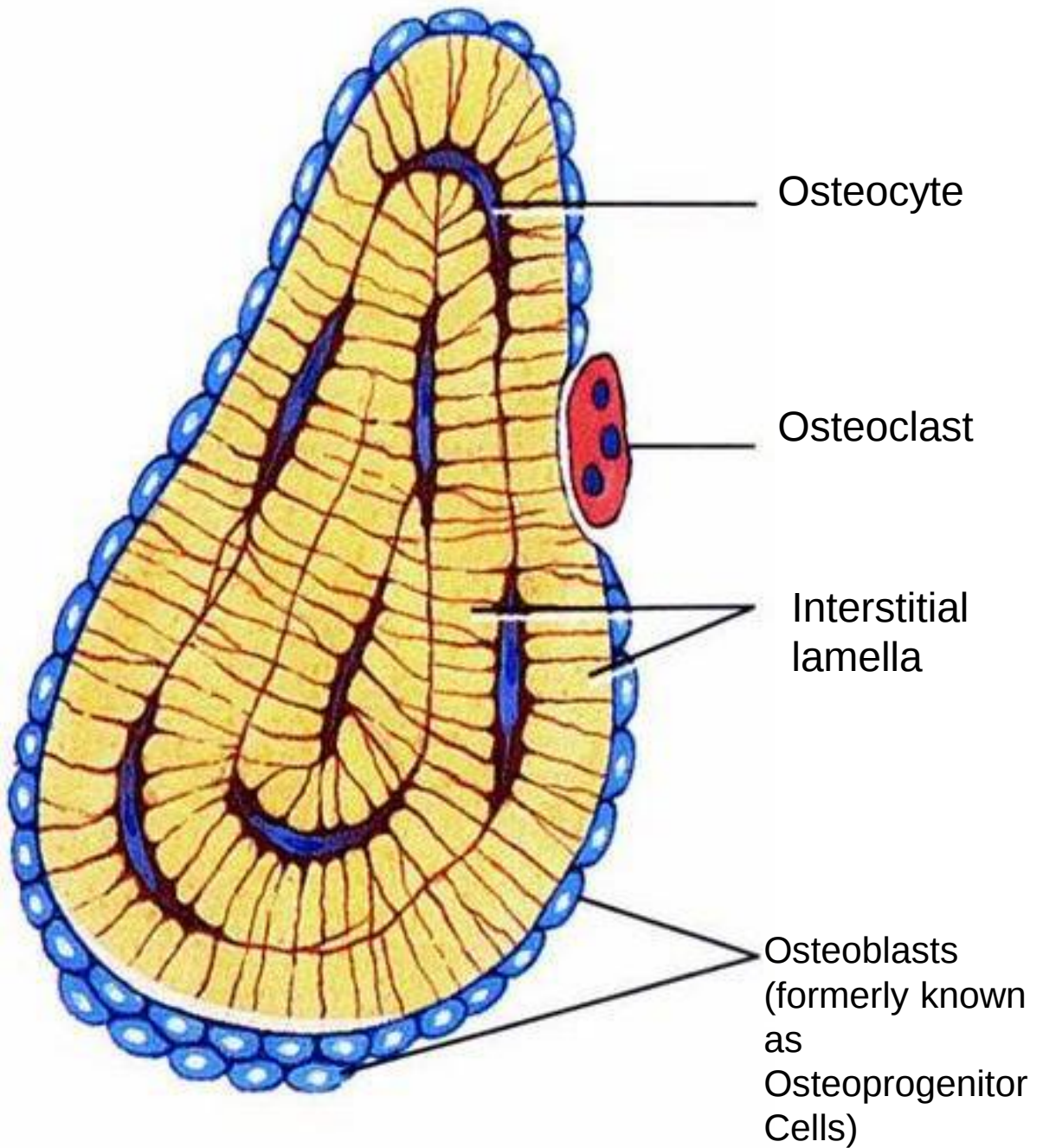
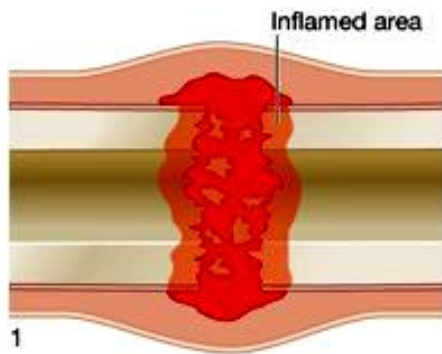
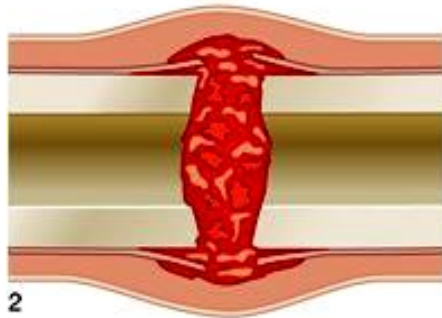


Figure 1.4 – The microscopic of bone cells.

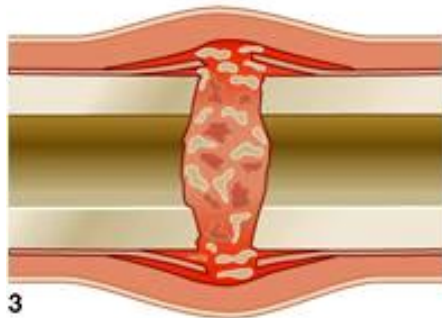
Figure 1.5 –
Bone healing
(Ross & Wilson 2006)



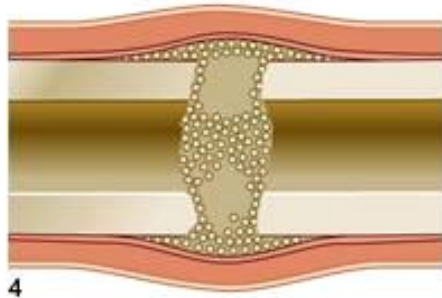
Haematoma and
bone fragments



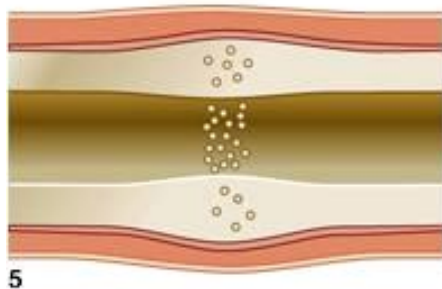
Phagocytosis of clot
and debris.
Growth of granulation
tissue begins



Osteoblasts begin to
form new bone (callus)



Gradual spread and
mineralisation of callus
to bridge the gap



Bone almost healed.
Osteoclasts reshape
and canalise new bone

Shoulder joint

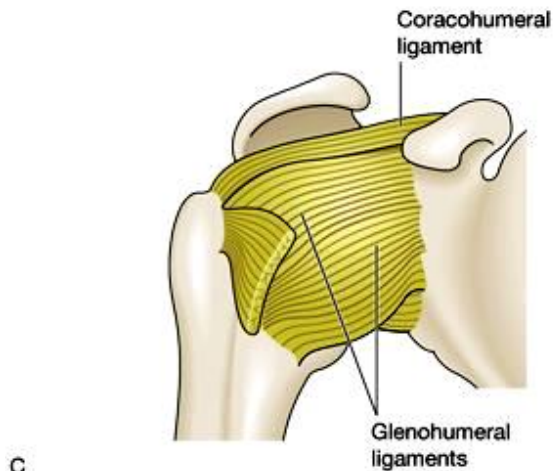
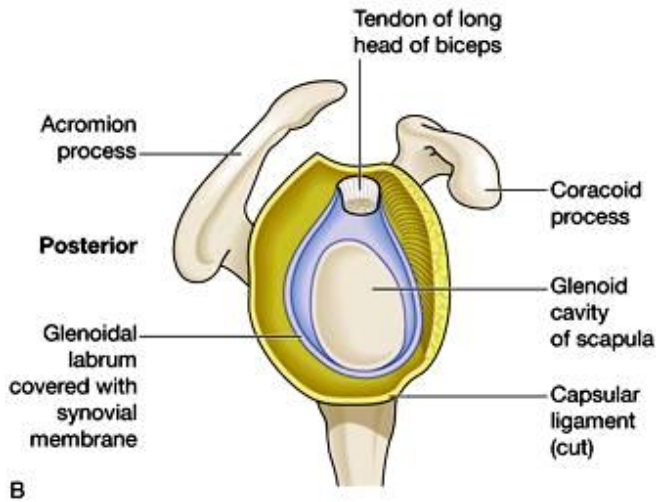
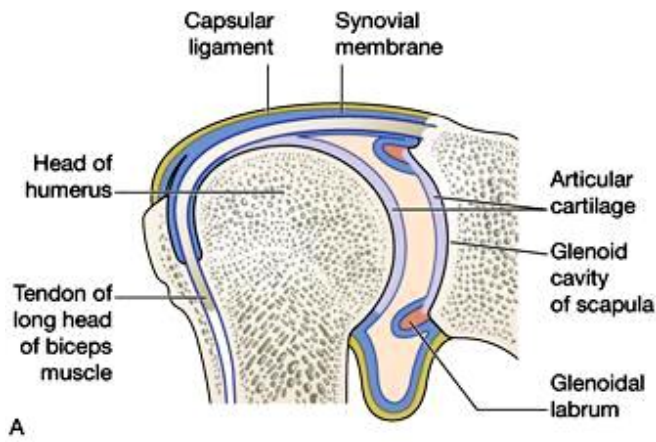


Figure 1.6 –
The shoulder joint
(Ross & Wilson 2006)

The Elbow joint

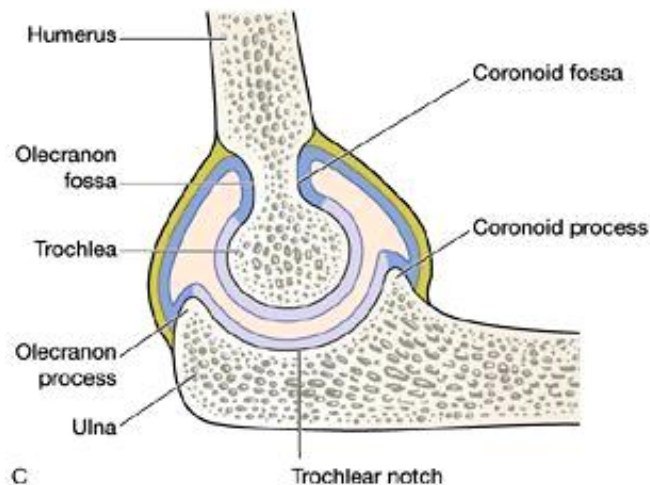
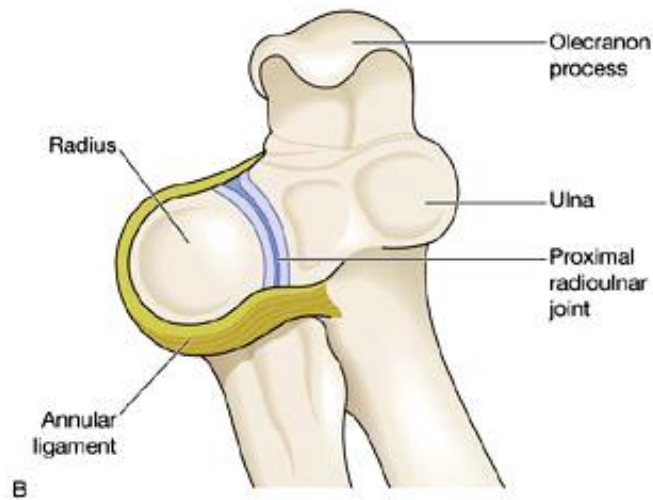
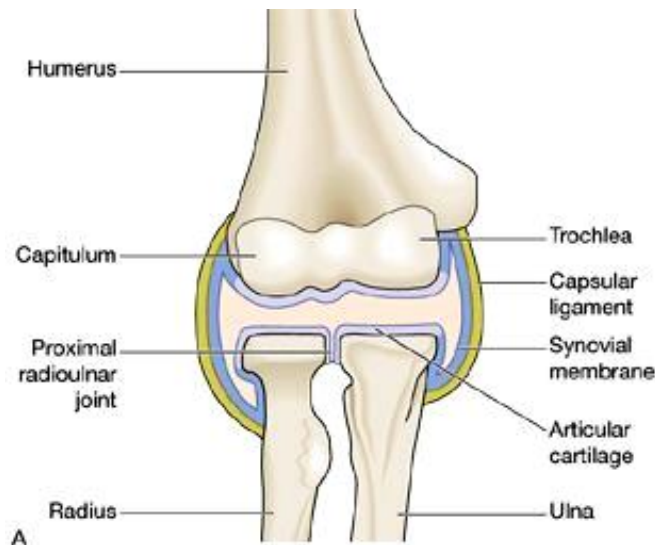


Figure 1.7 –
The elbow joint
(Ross & Wilson 2006)

The Wrist joint

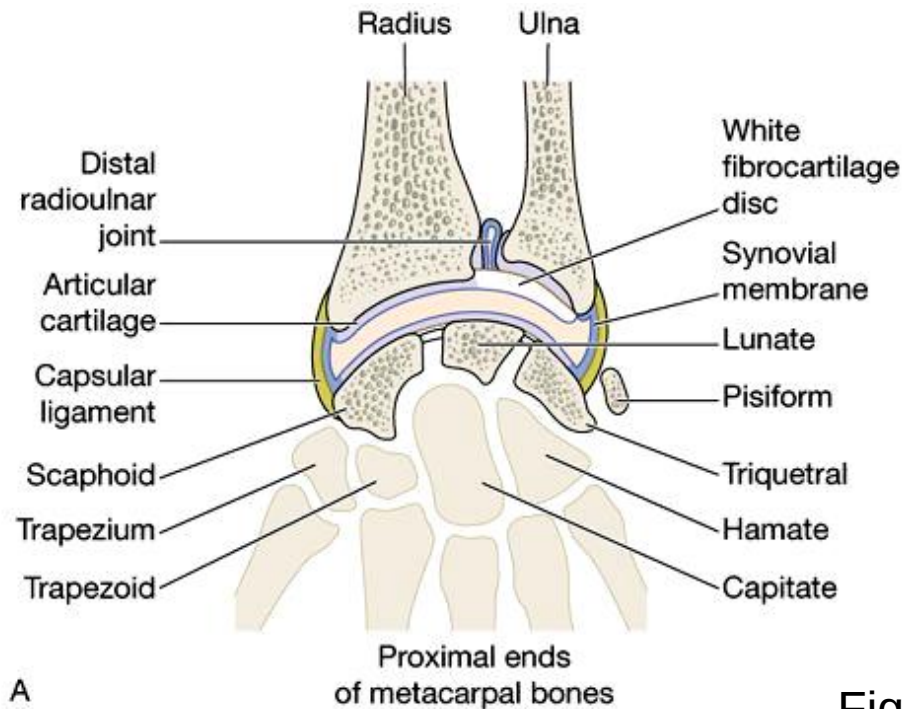
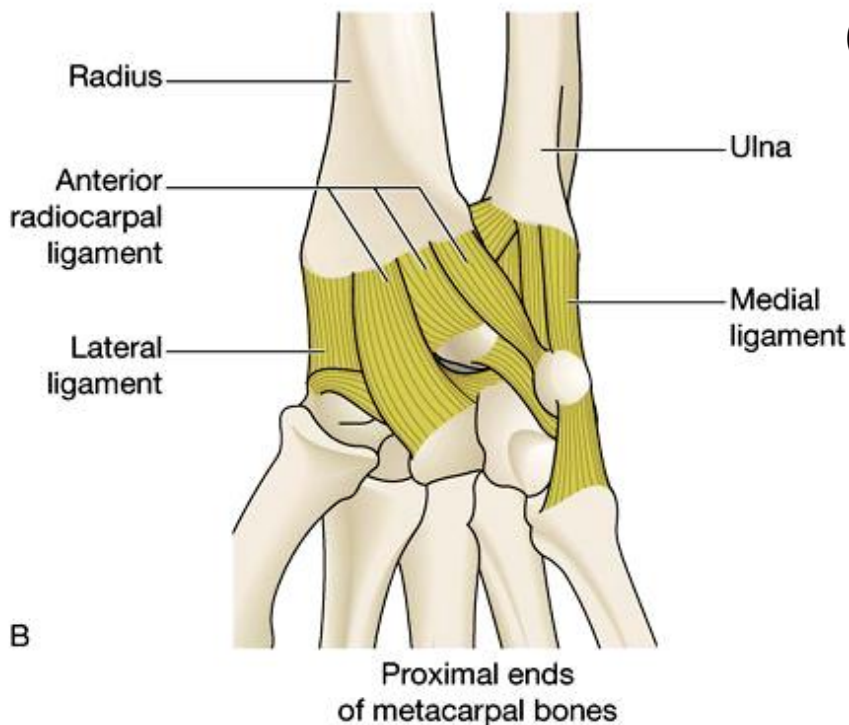


Figure 1.8 –
The wrist joint
(Ross & Wilson 2006)



Joints of the Hands & Fingers

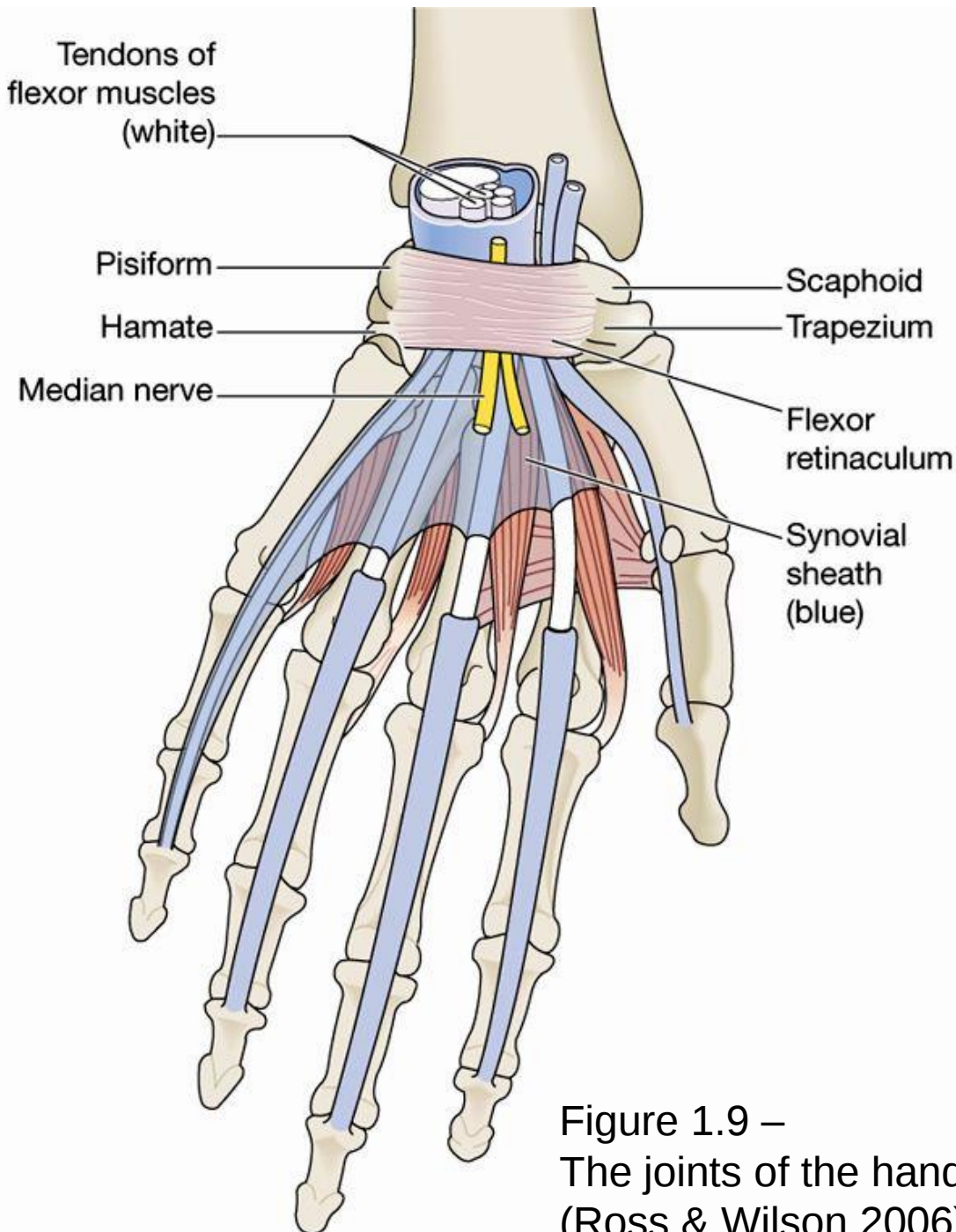


Figure 1.9 –
The joints of the hands & fingers
(Ross & Wilson 2006)

The Hip joint

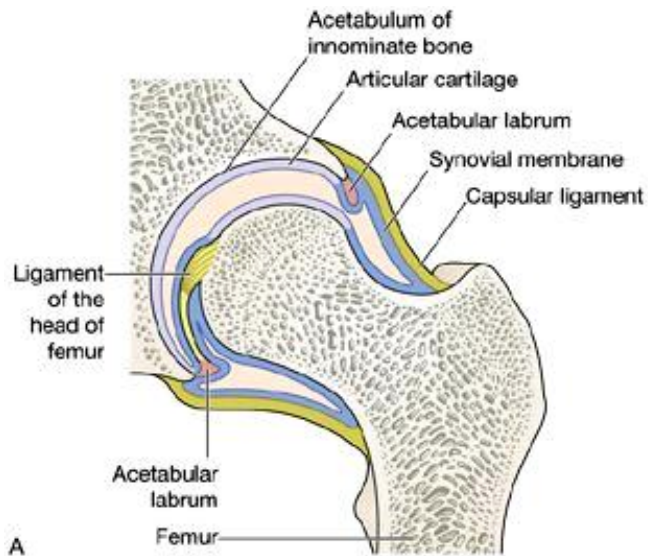
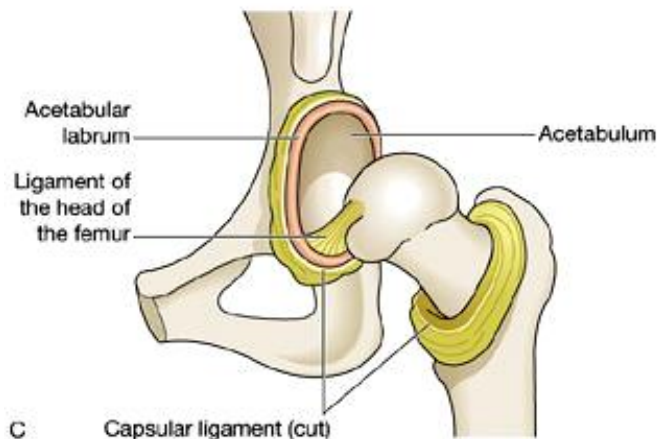
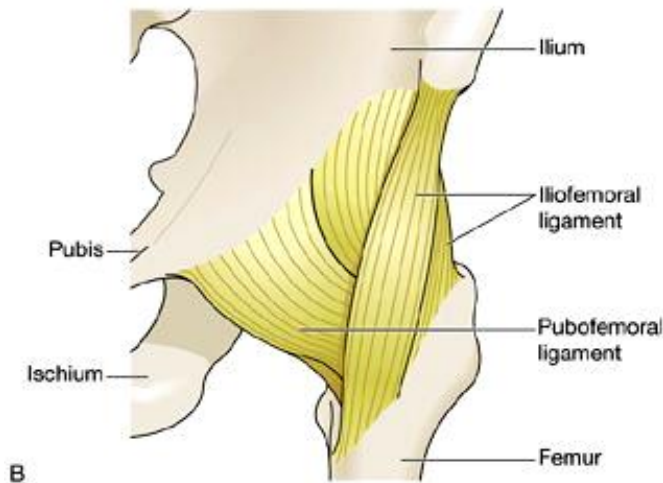


Figure 1.10 –
The hip joint
(Ross & Wilson 2006)



The Knee joint

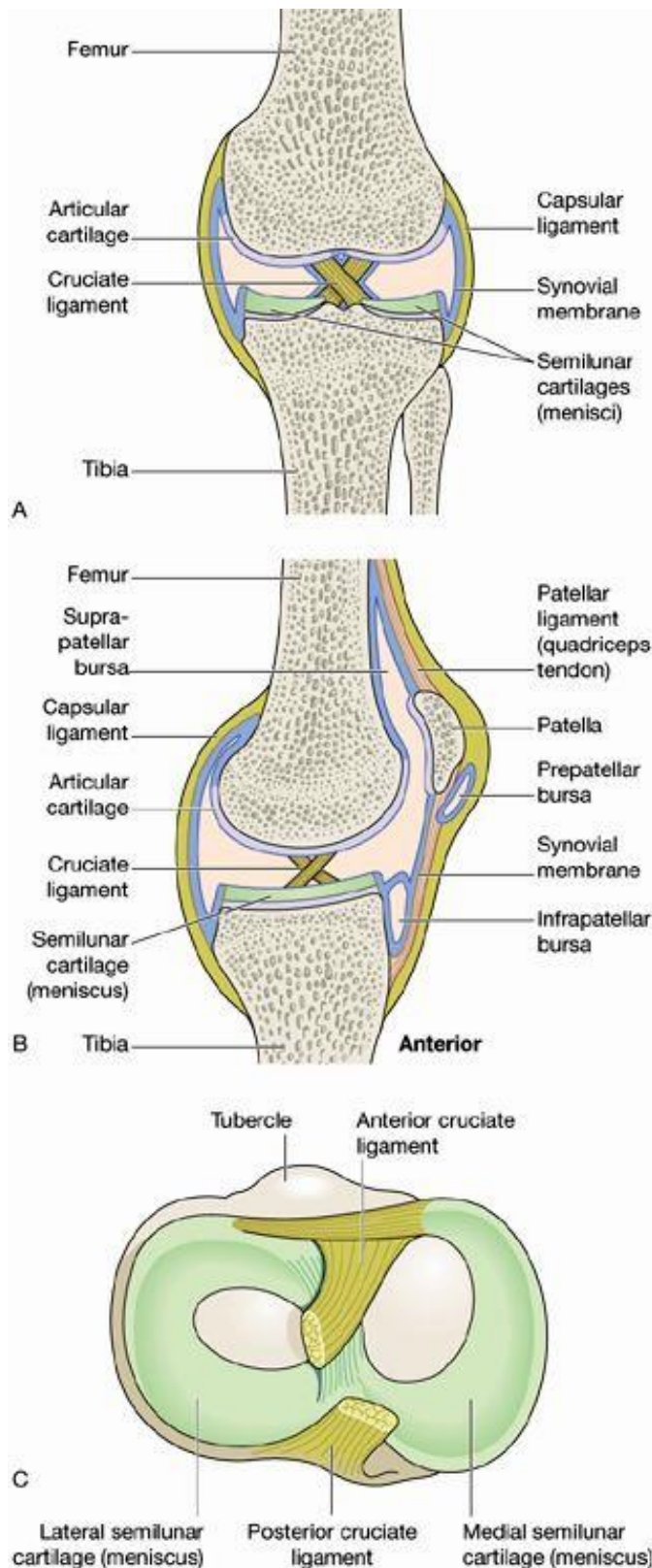


Figure 1.11 –
The knee joint
(Ross & Wilson 2006)

The Ankle joint

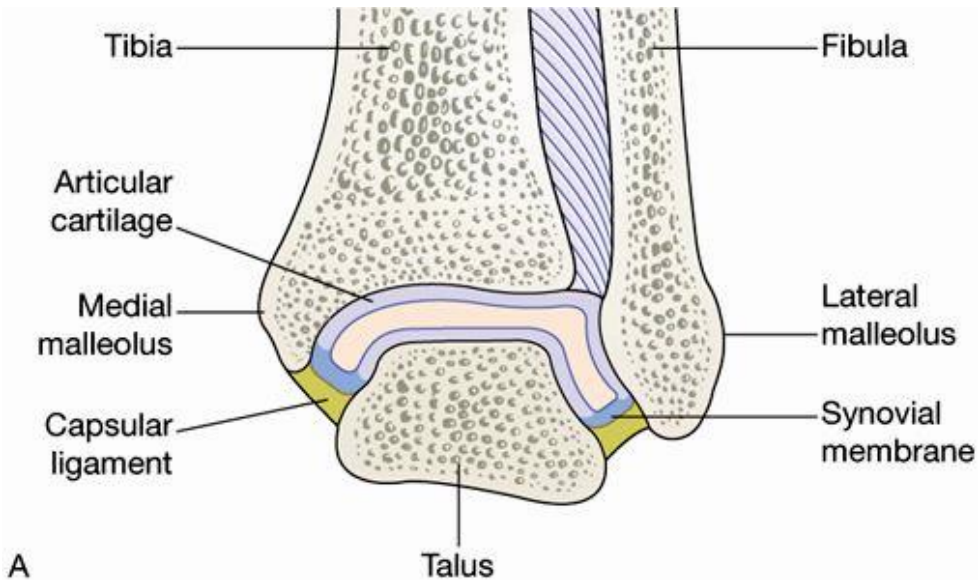
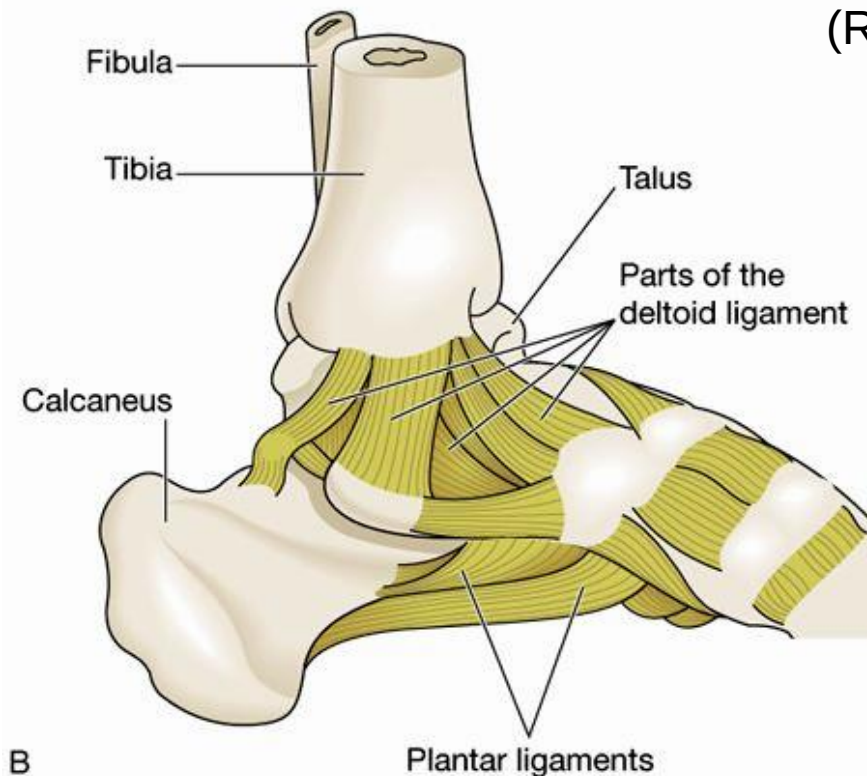


Figure 1.12 –
The ankle joint
(Ross & Wilson 2006)



ANATOMICAL MOVEMENTS

Basic Anatomy

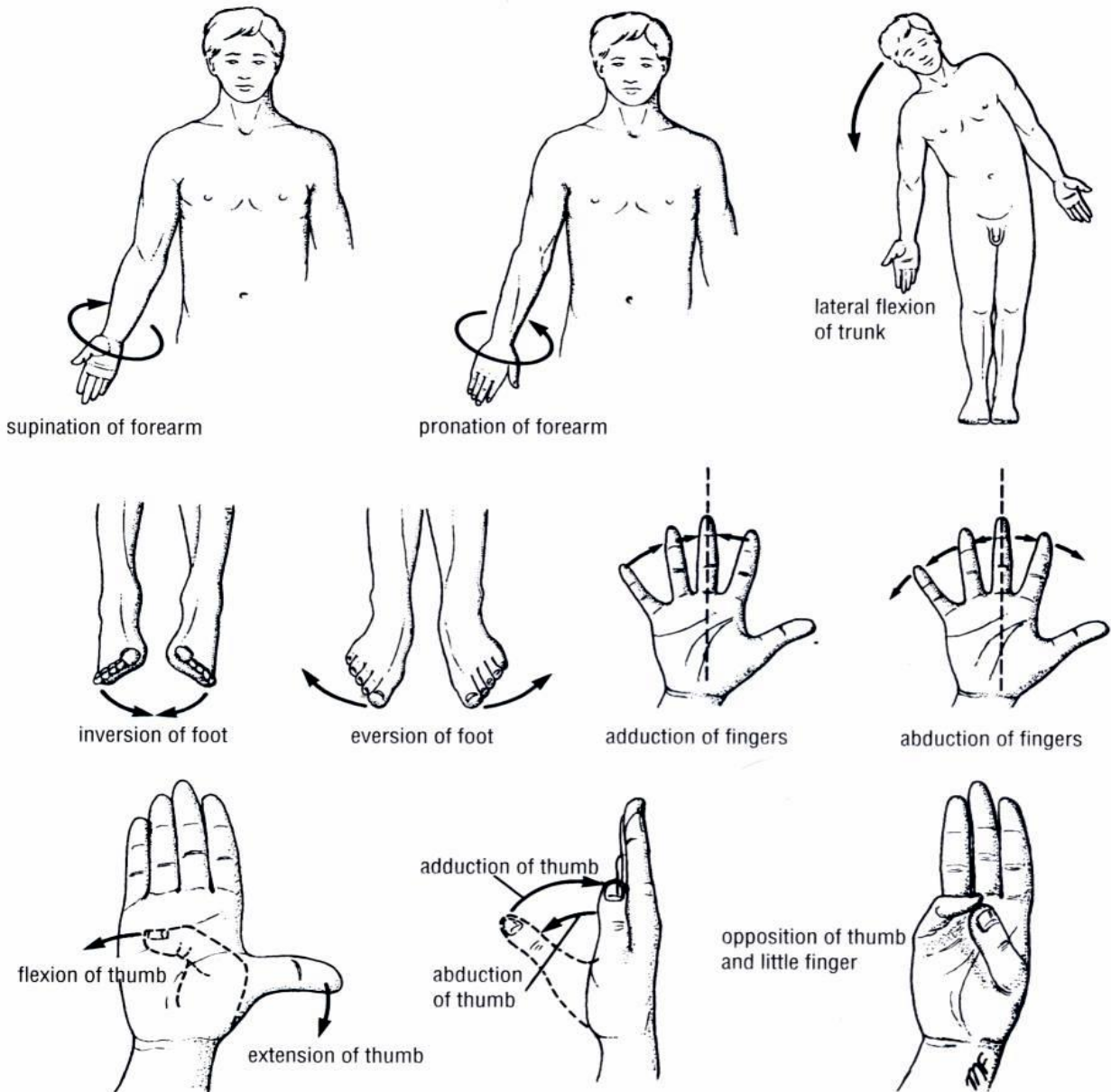


FIGURE 1-3 Additional anatomical terms used in relation to movement.

Figure 1.13 – The anatomical movements

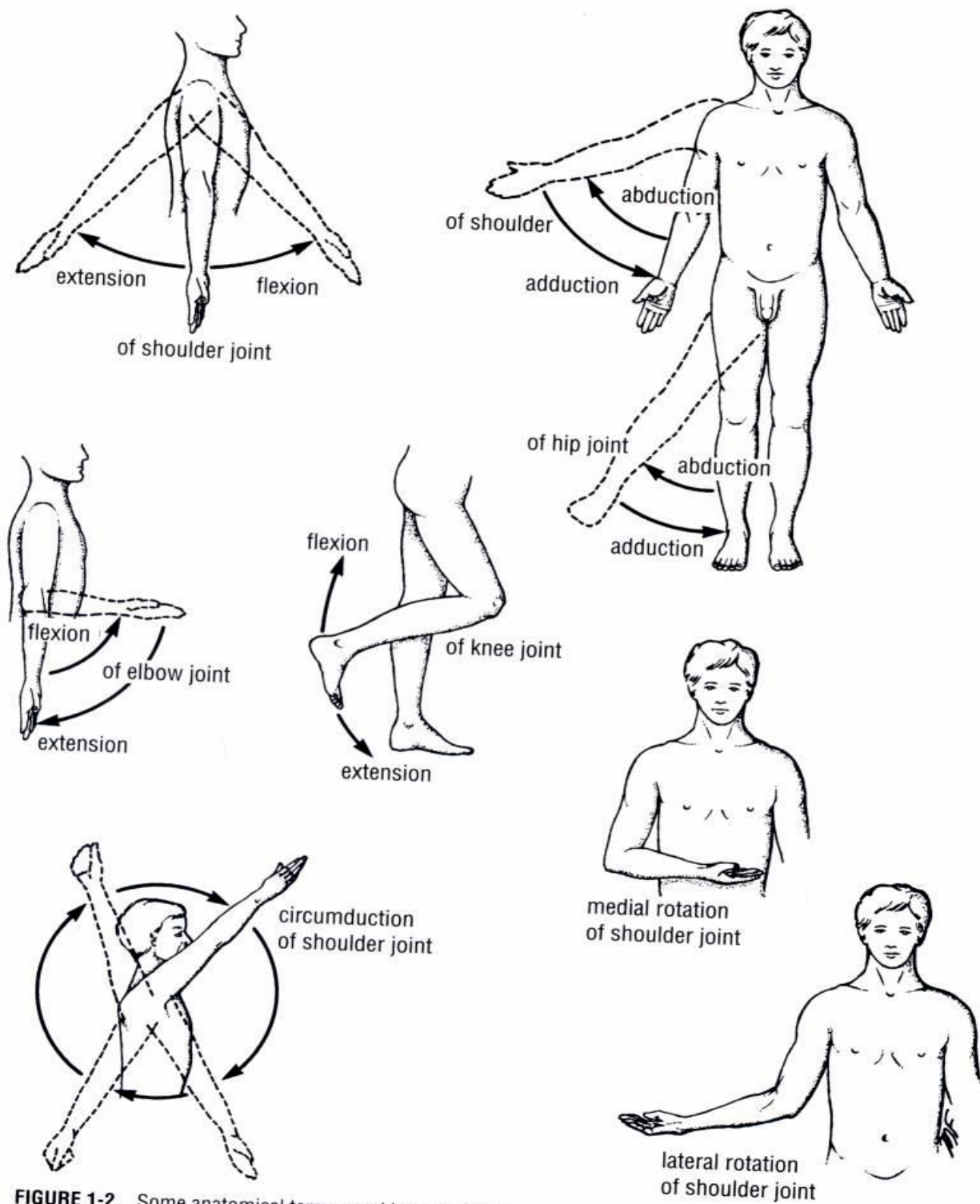


FIGURE 1-2 Some anatomical terms used in relation to movement. Note difference between flexion of elbow and knee.

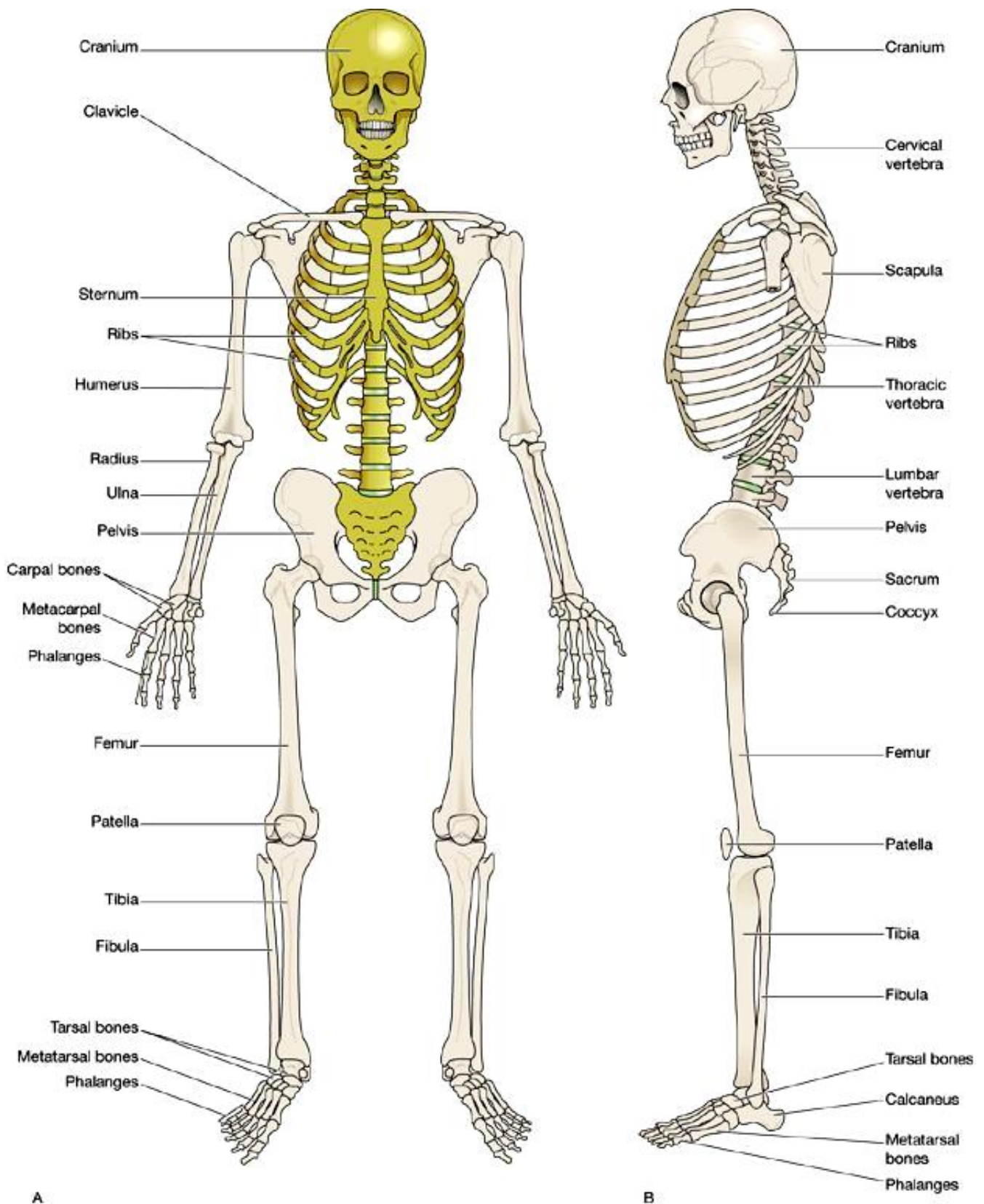
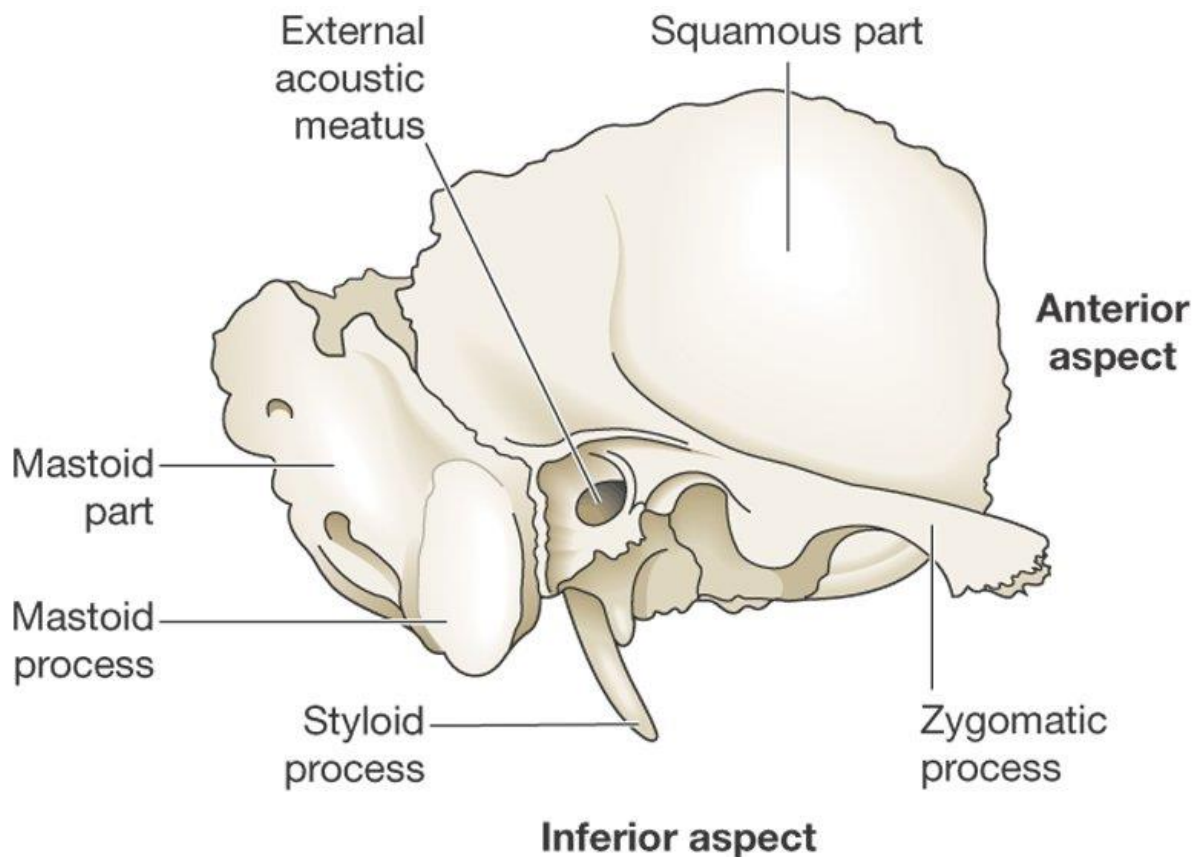
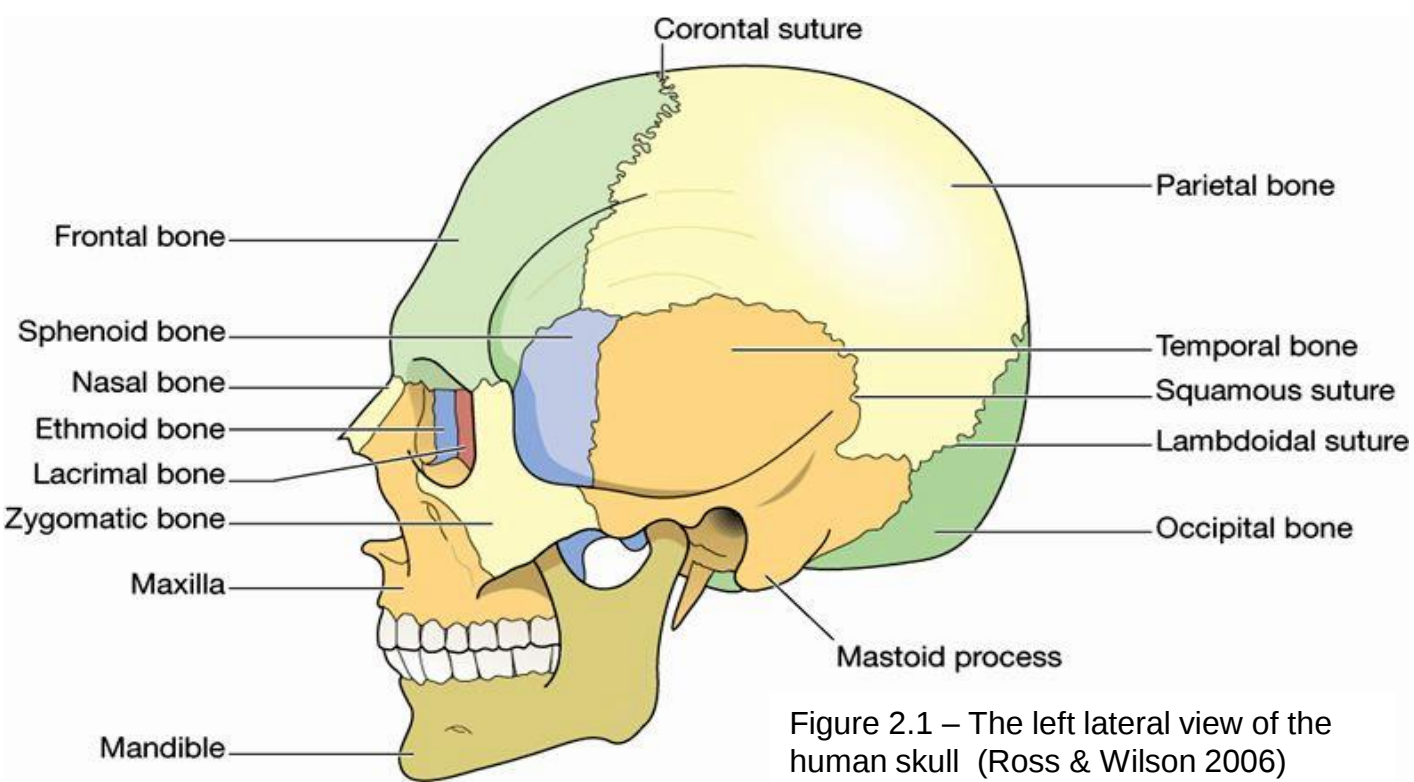


Figure 1.15 – The general human skeletal system.
(Ross & Wilson 2006)

CHAPTER 2:
AXIAL SKELETON
- THE SKULL -



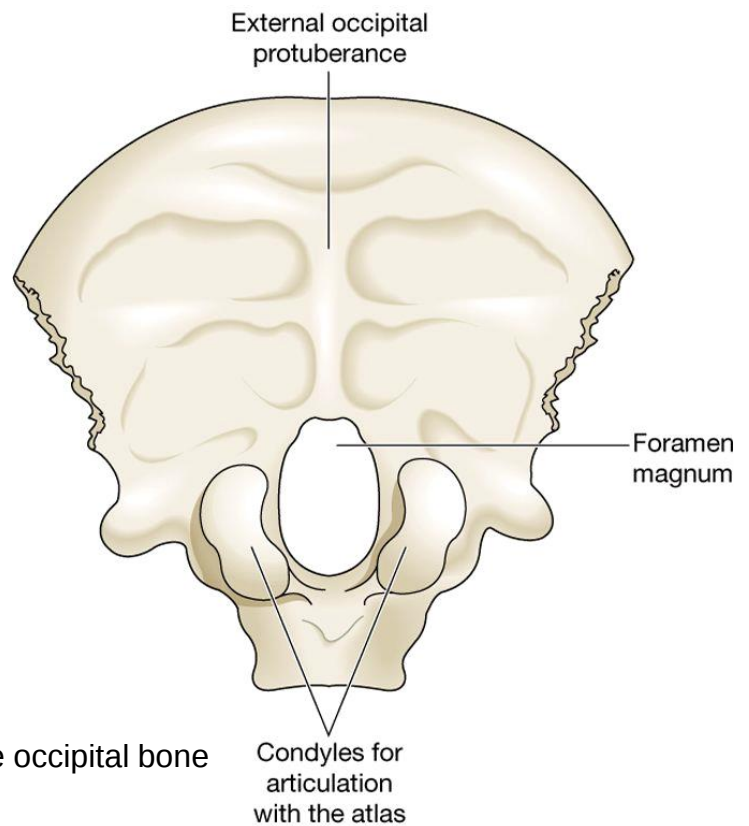


Figure 2.3 – The inferior view of the occipital bone (Ross & Wilson 2006)

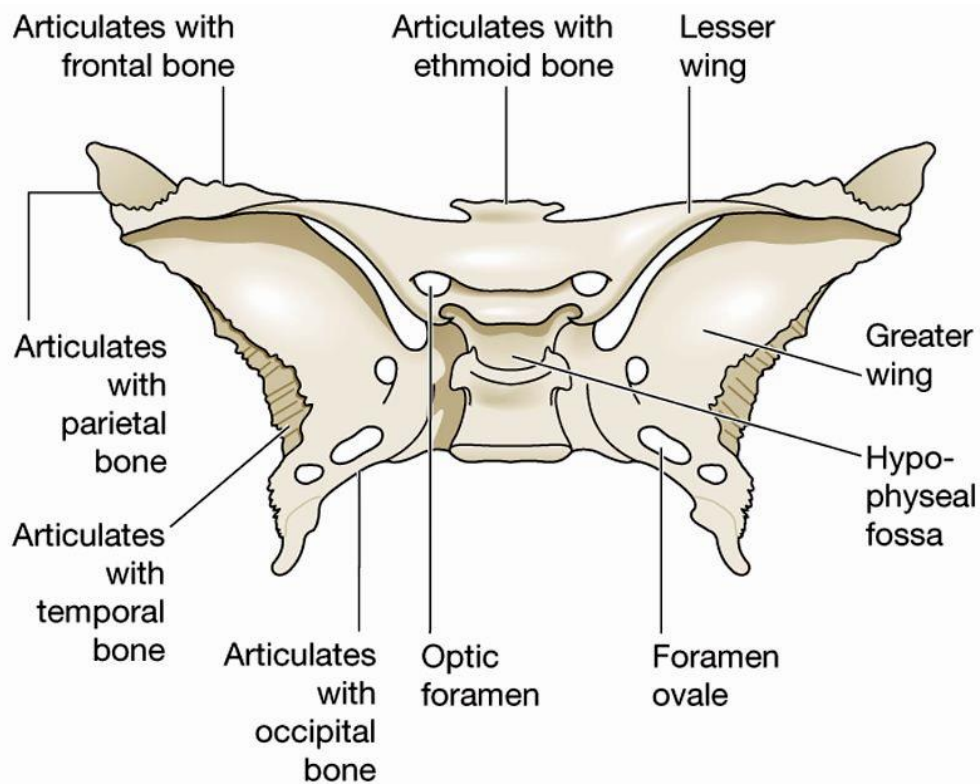
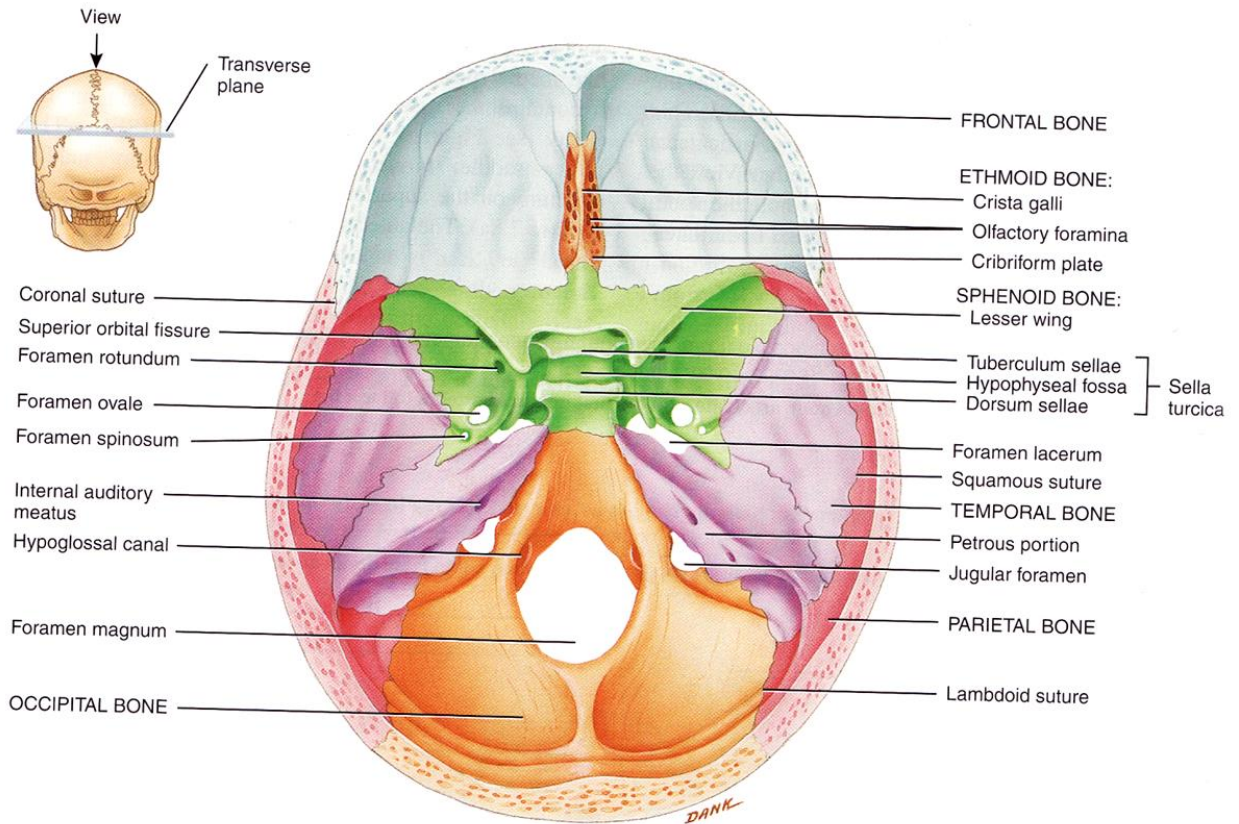


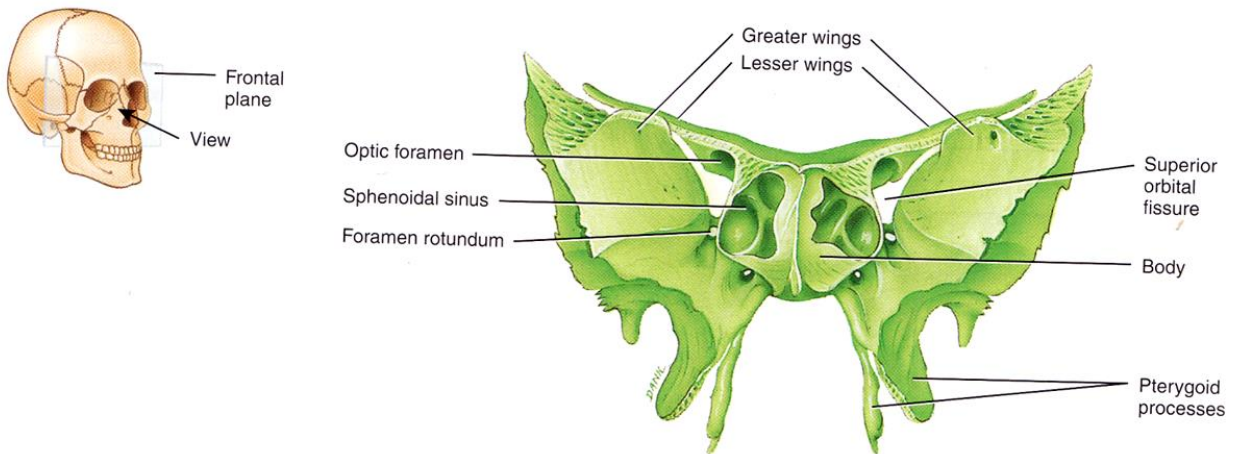
Figure 2.4 – The anterior view of the sphenoid bone (Ross & Wilson 2006)

Figure 7.8 Sphenoid bone. (See Tortora, *A Photographic Atlas of the Human Body, Second Edition*, Figures 3.8 and 3.9.)

The sphenoid bone is called the keystone of the cranial floor because it articulates with all other cranial bones, holding them together.



(a) Superior view of sphenoid bone in floor of cranium



(b) Anterior view of sphenoid bone

Figure 2.6 (a) – The ethmoid bone

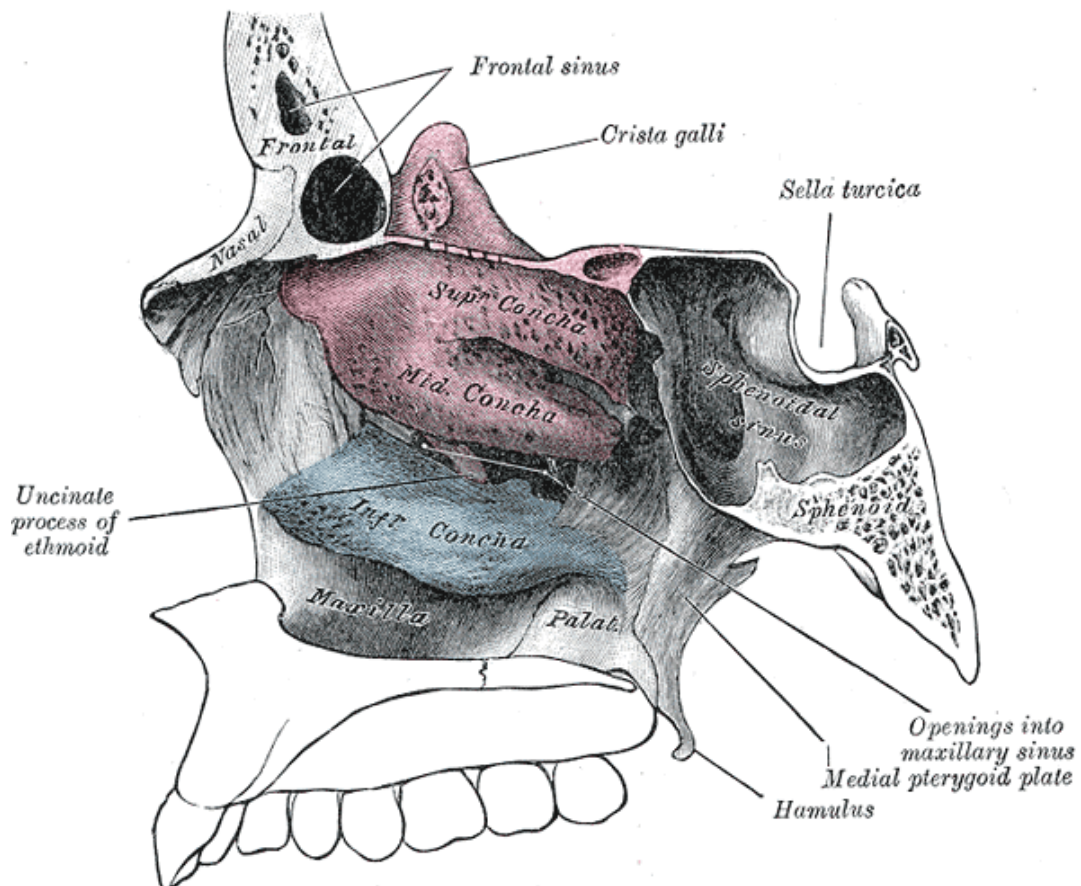
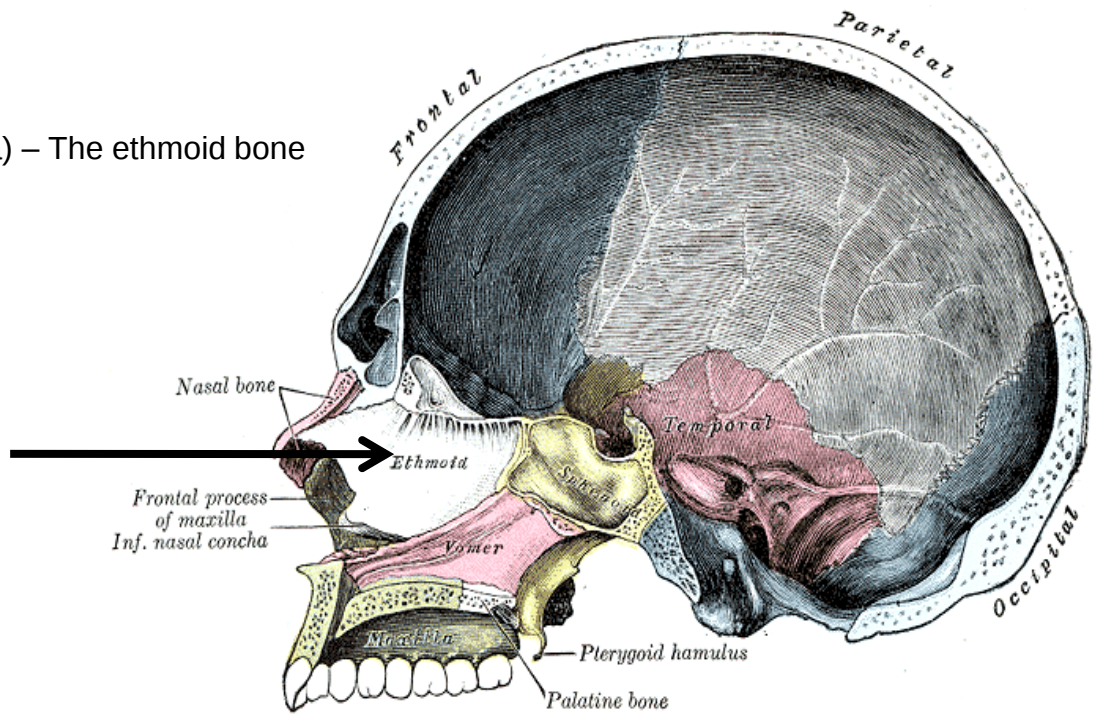


Figure 2.6 (b) – The ethmoid bone (with 3 concha)

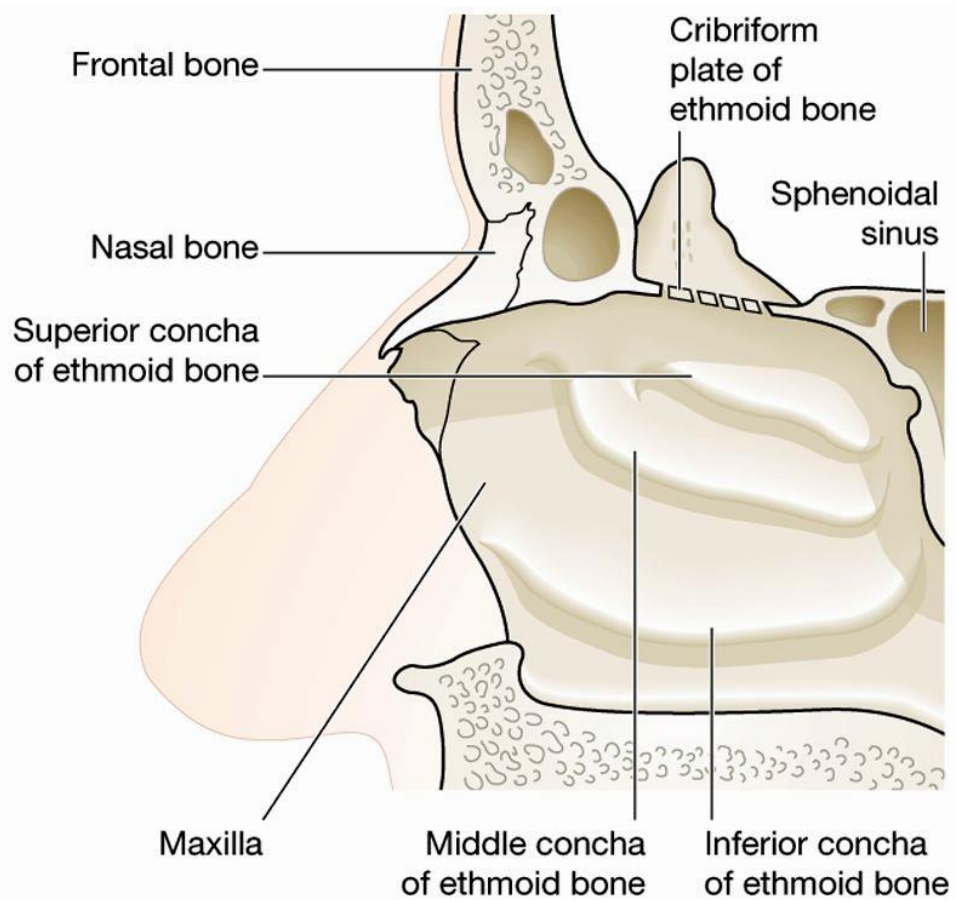


Figure 2.7 (a) – The 3 concha (left lateral view – Ross & Wilson 2006)

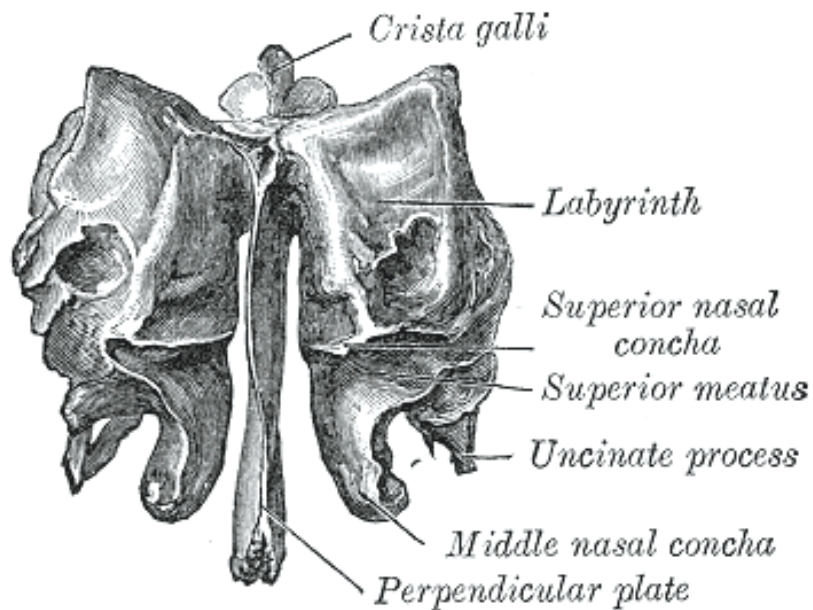


Figure 2.7 (b) – The anterior view of the nasal concha

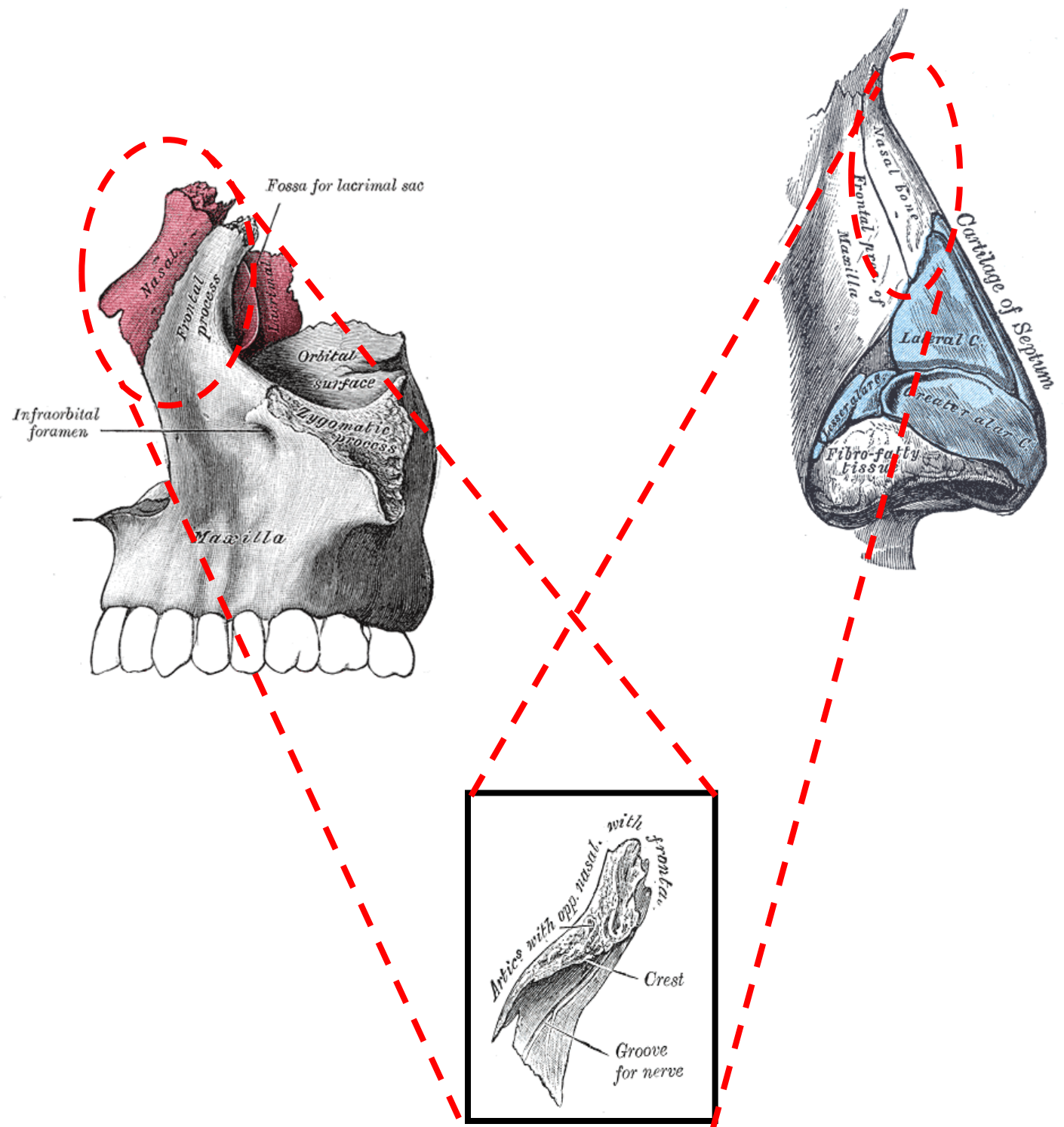


Figure 2.8 - Left lateral view of nasal bone

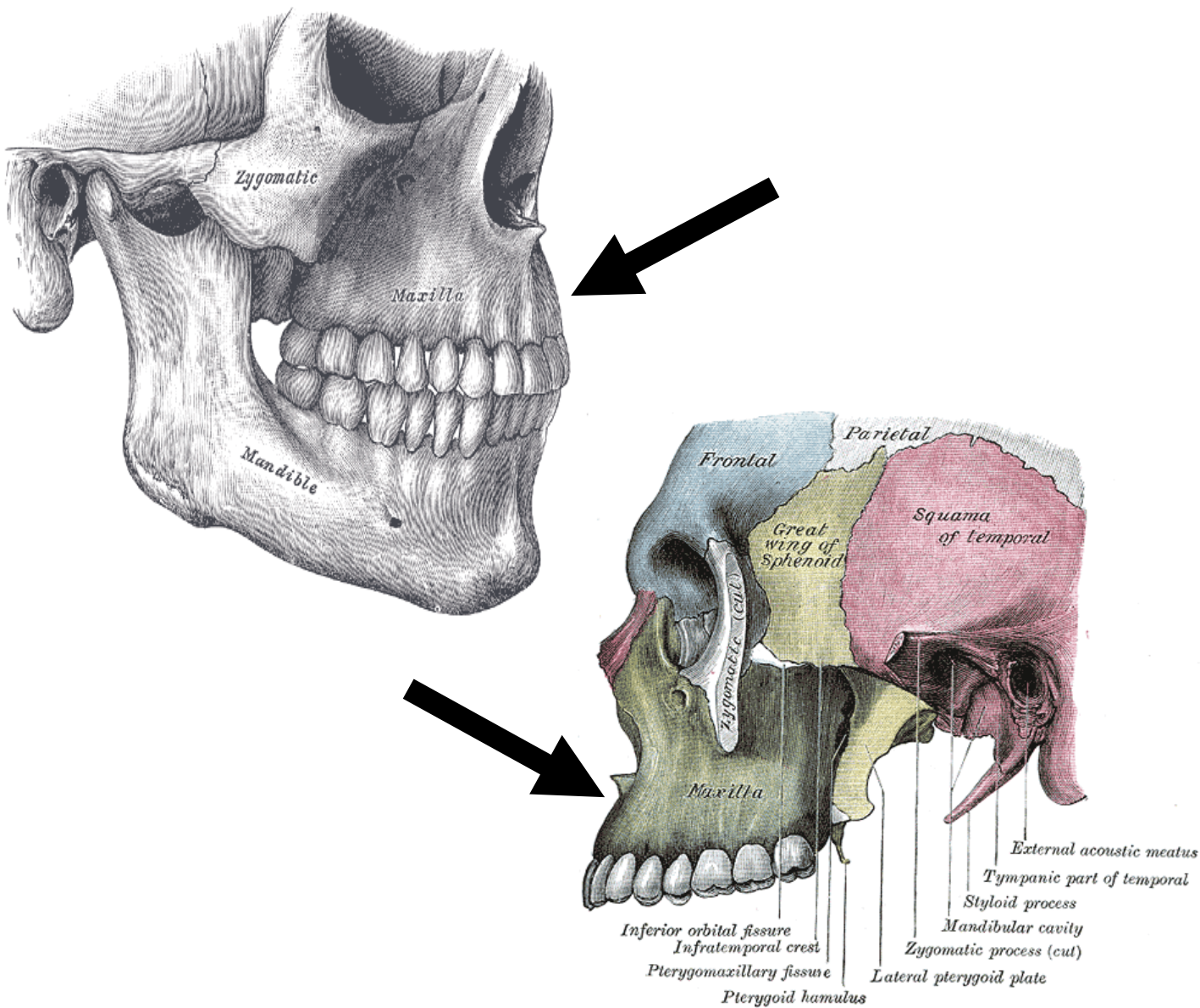


Figure 2.9 – The maxilla bone.

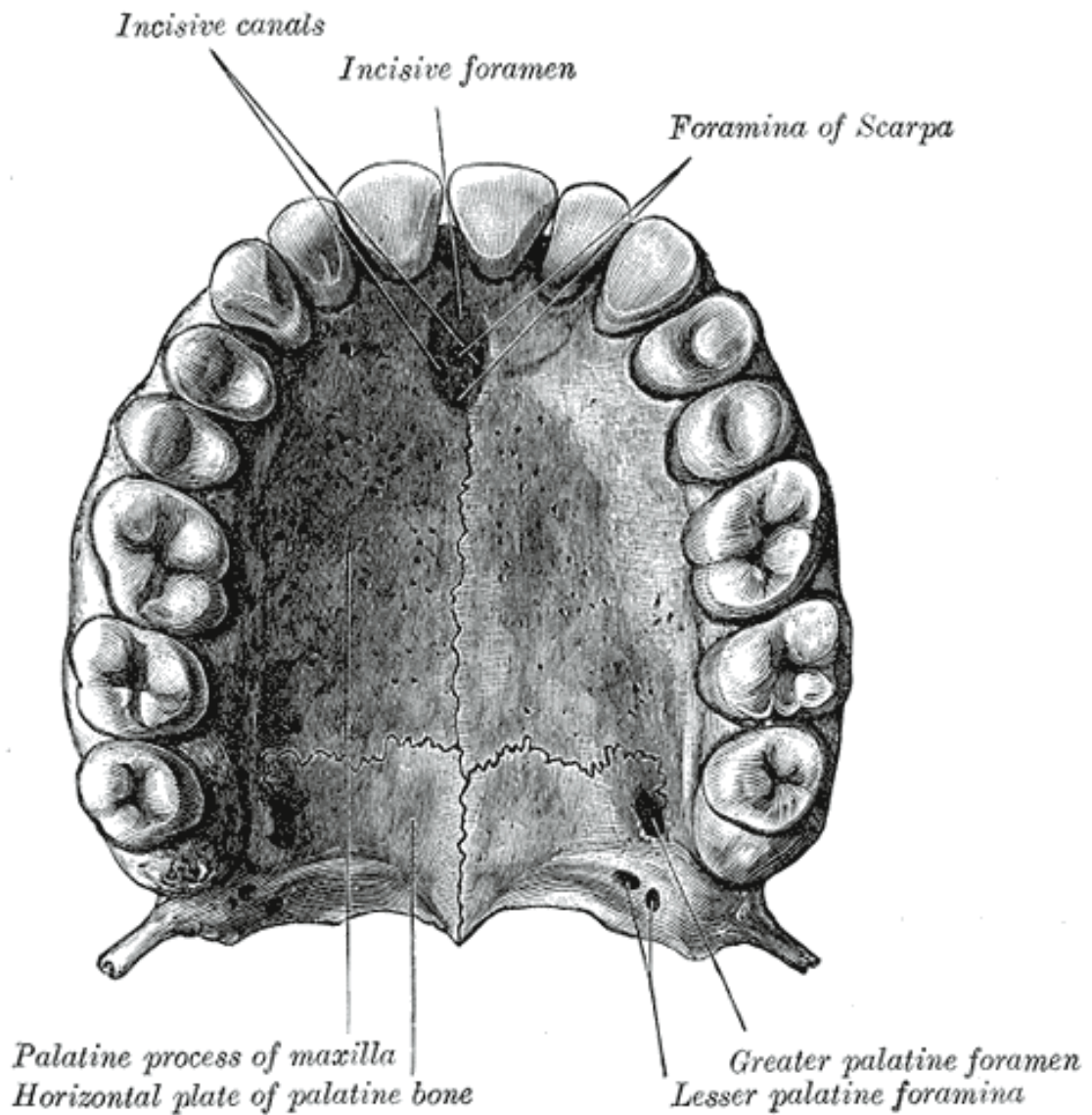


Figure 2.10 – The hard plate of the maxilla - palatine

FACIAL – Left Zygomatic bone

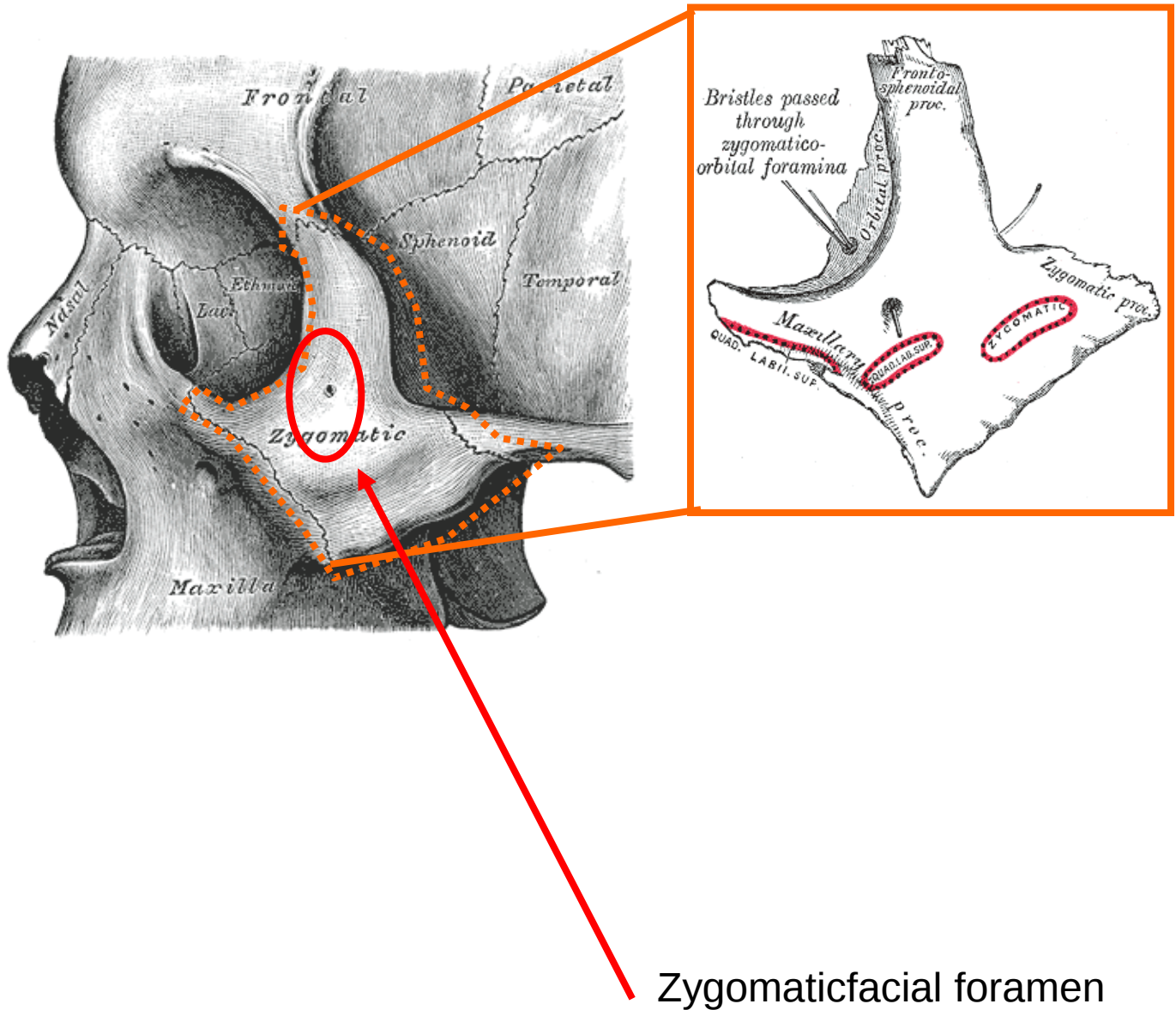
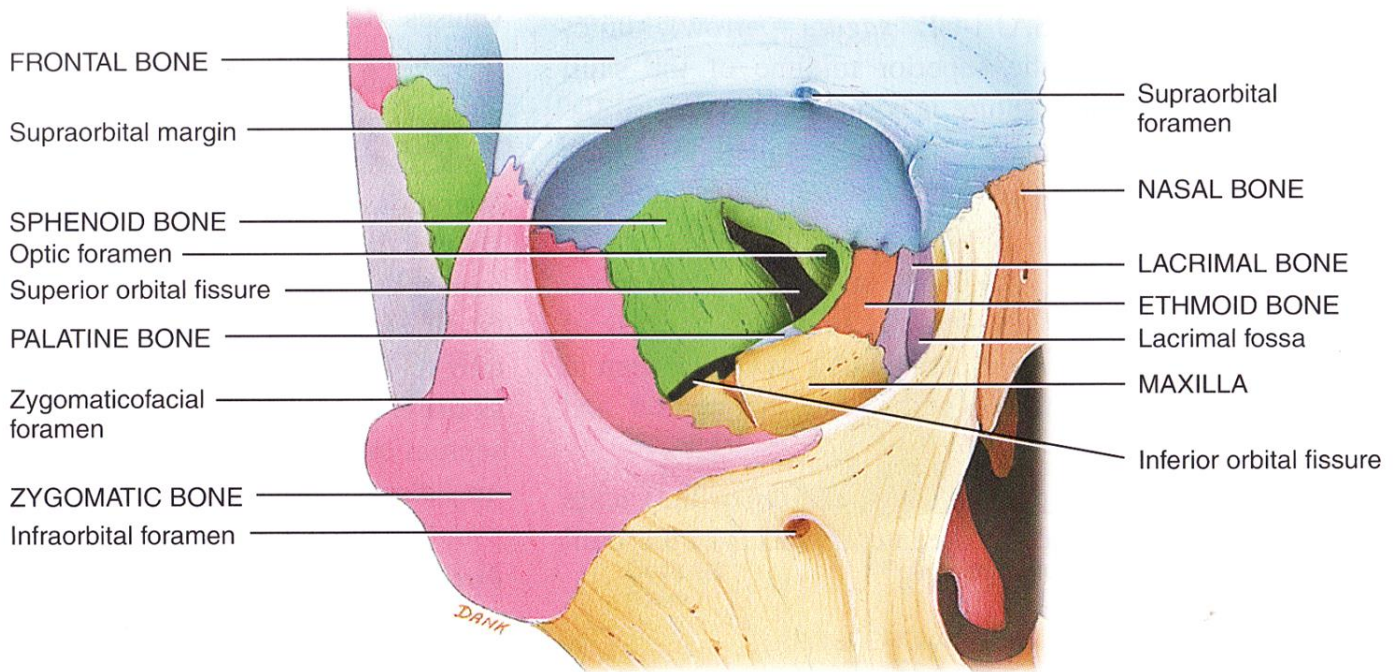


Figure 2.11 – The zygomatic bone



Anterior view showing the bones of the right orbit

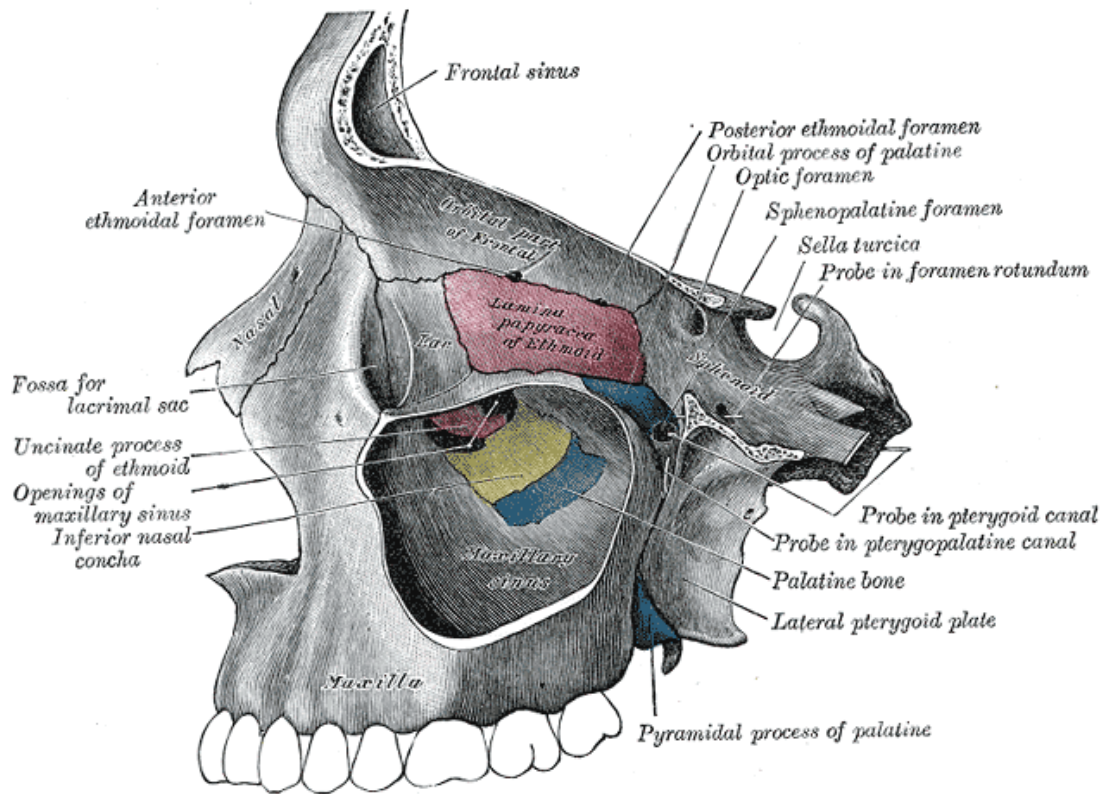


Figure 2.12 – The anterior & left lateral view of the skull

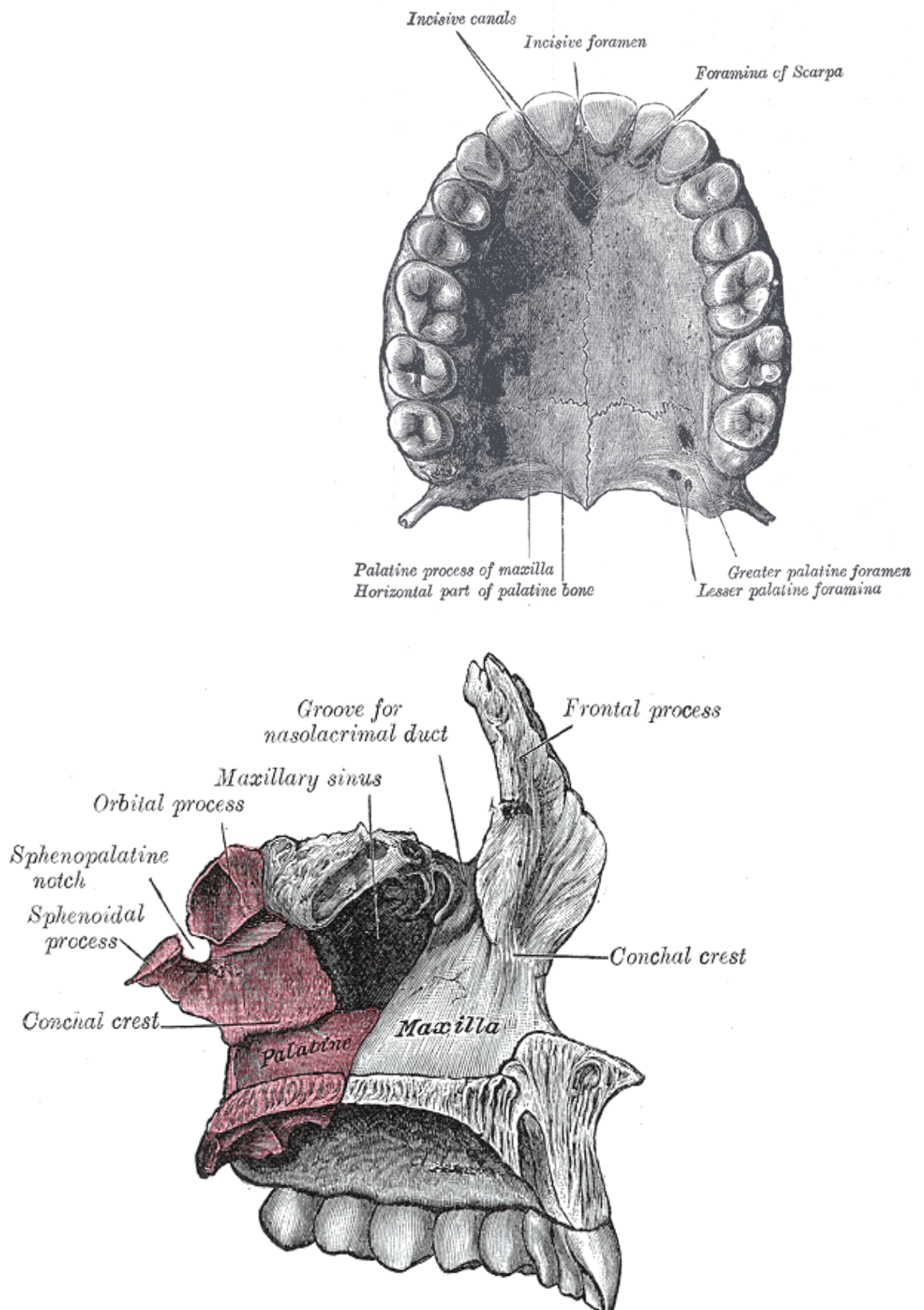


Figure 2.13 – The palatine bone

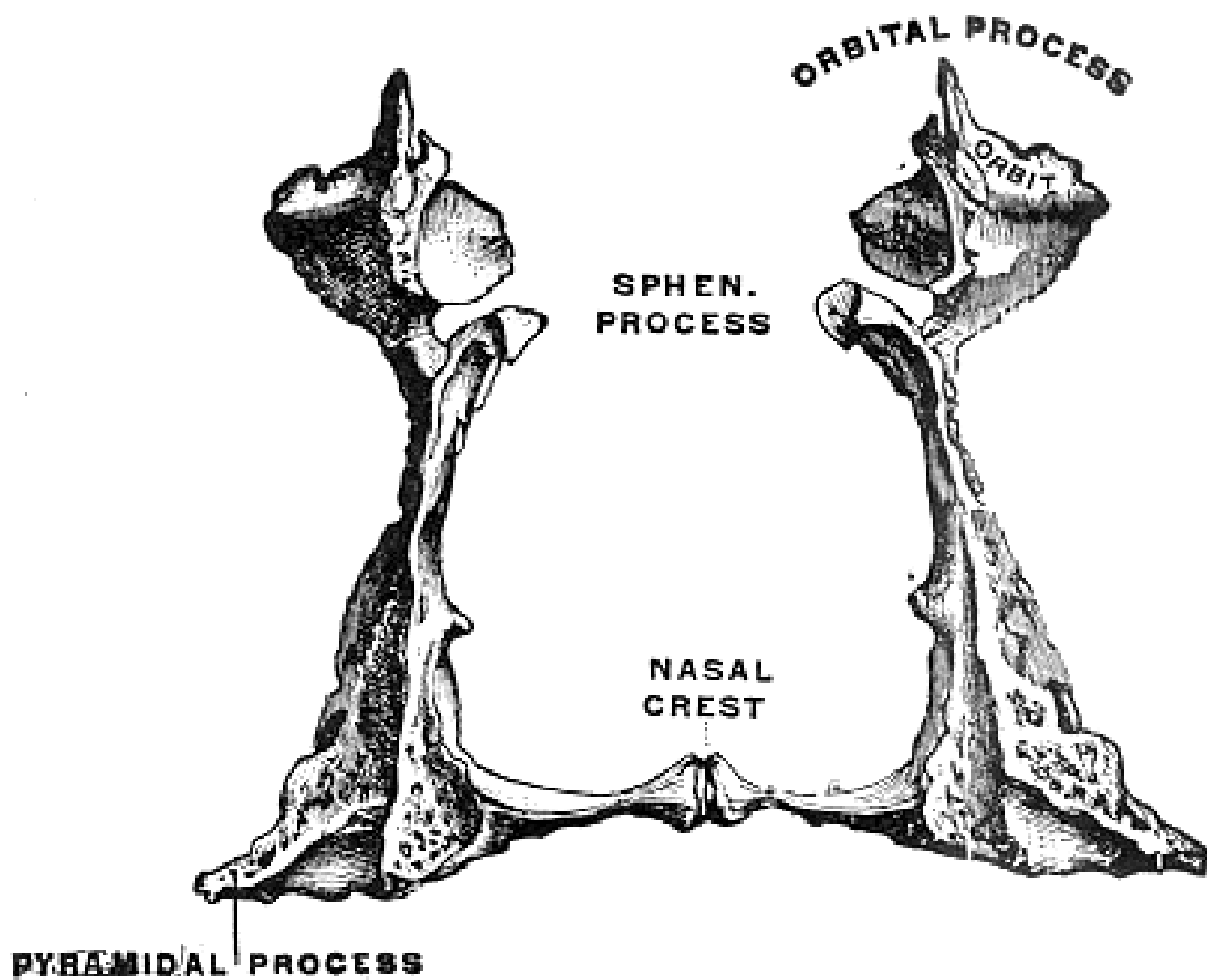


Figure 2.14 – The palatine bone (cont'd)

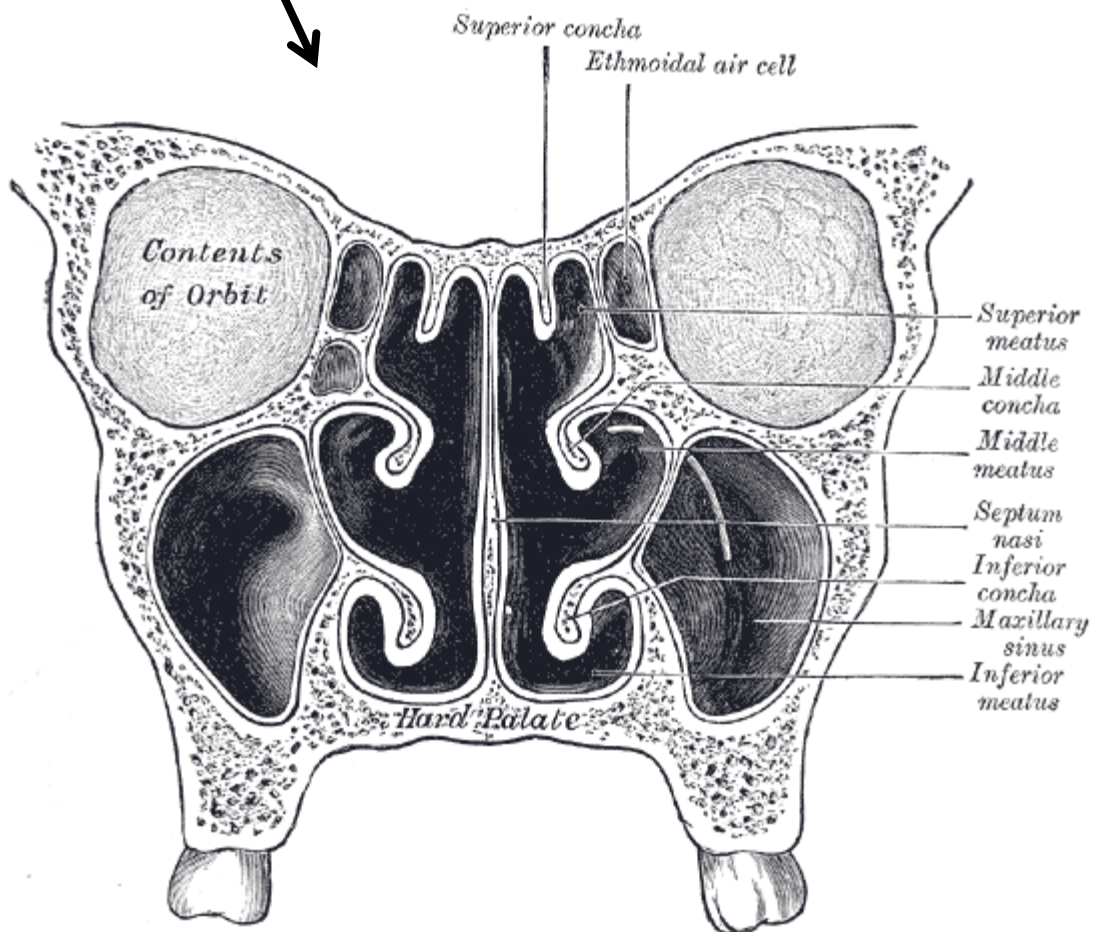
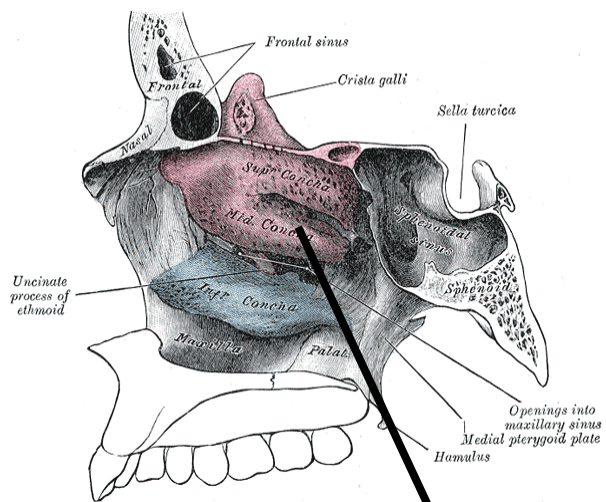


Figure 2.15 – The anterior view of the nasal concha

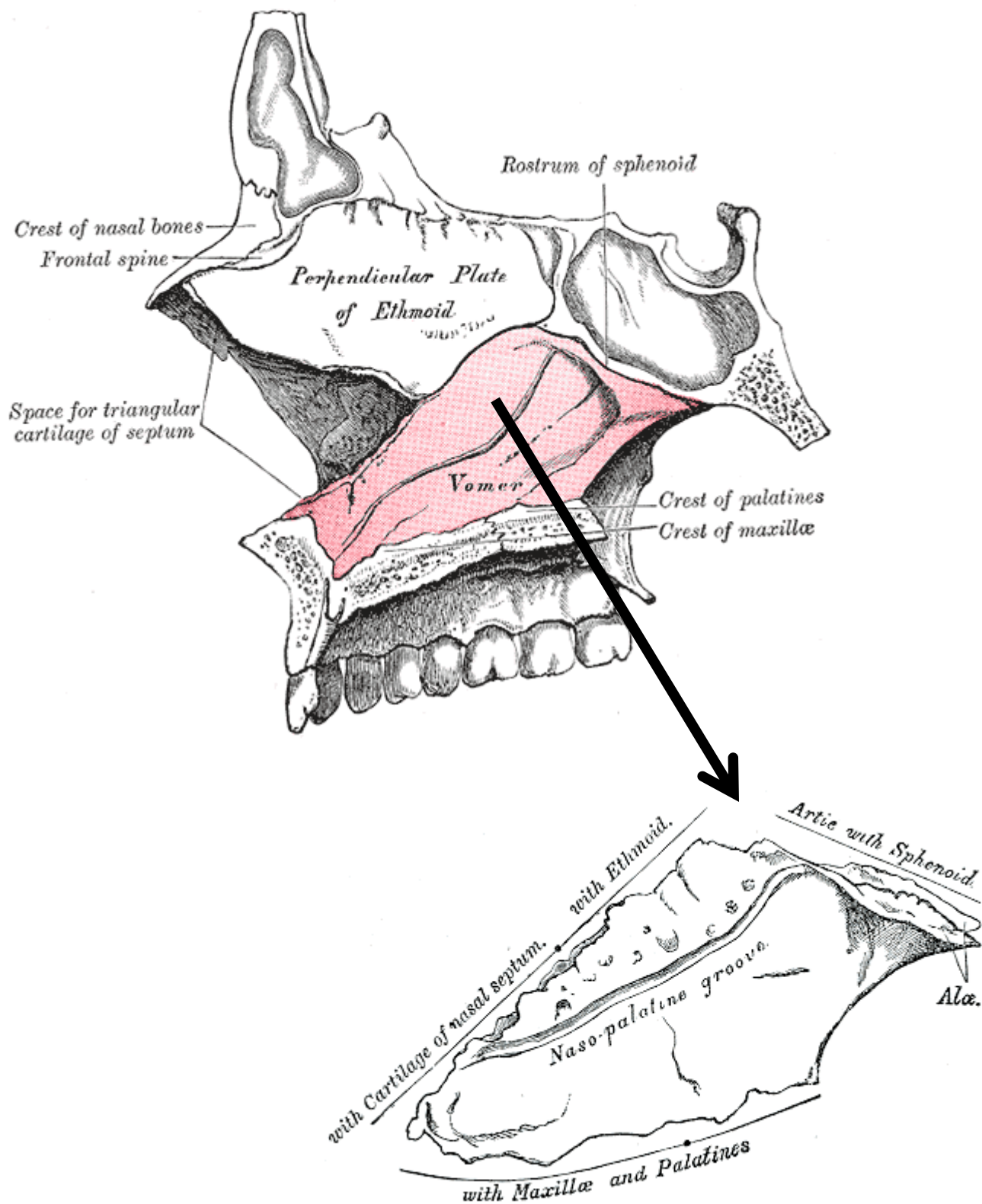


Figure 2.16 – The vomer bone.

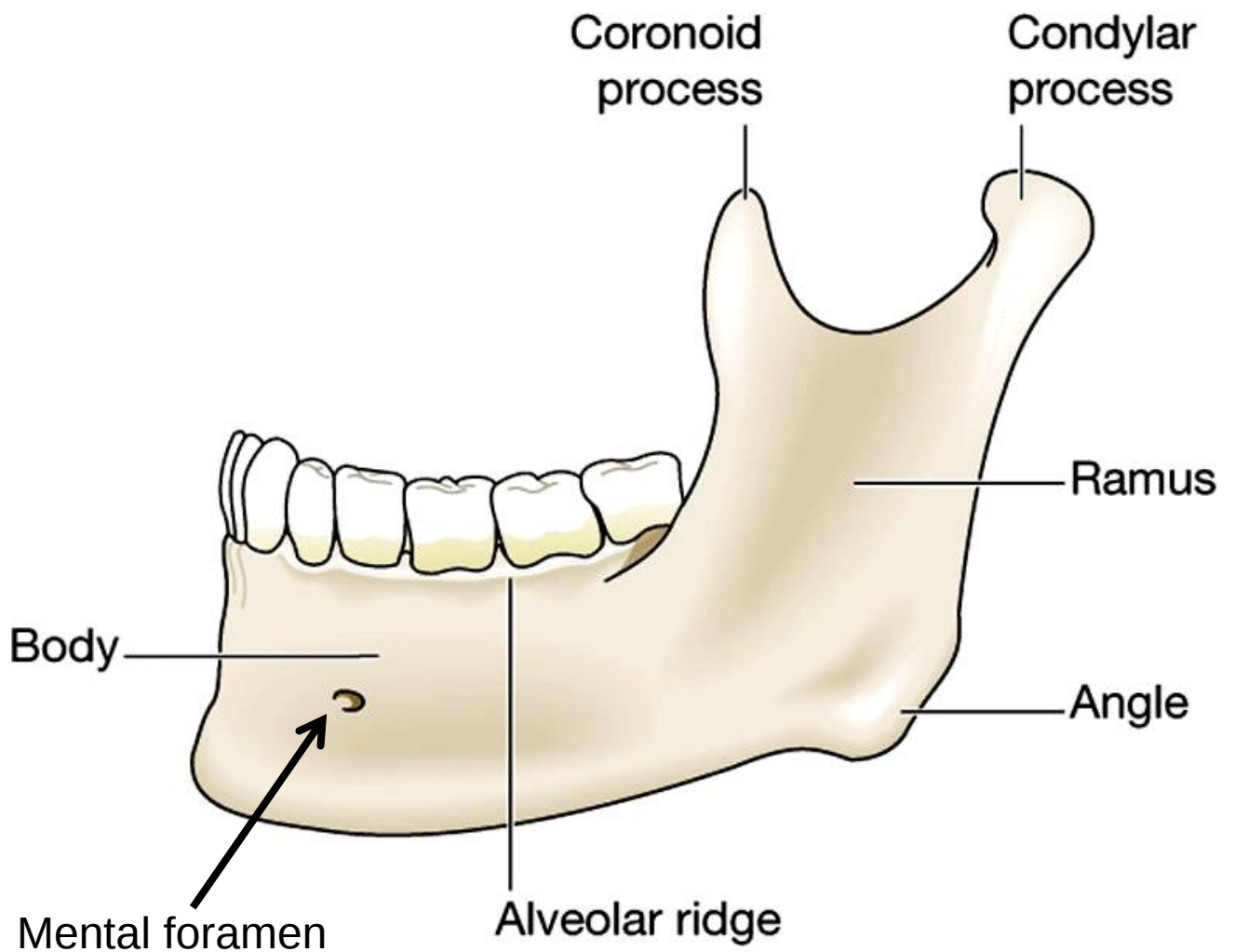
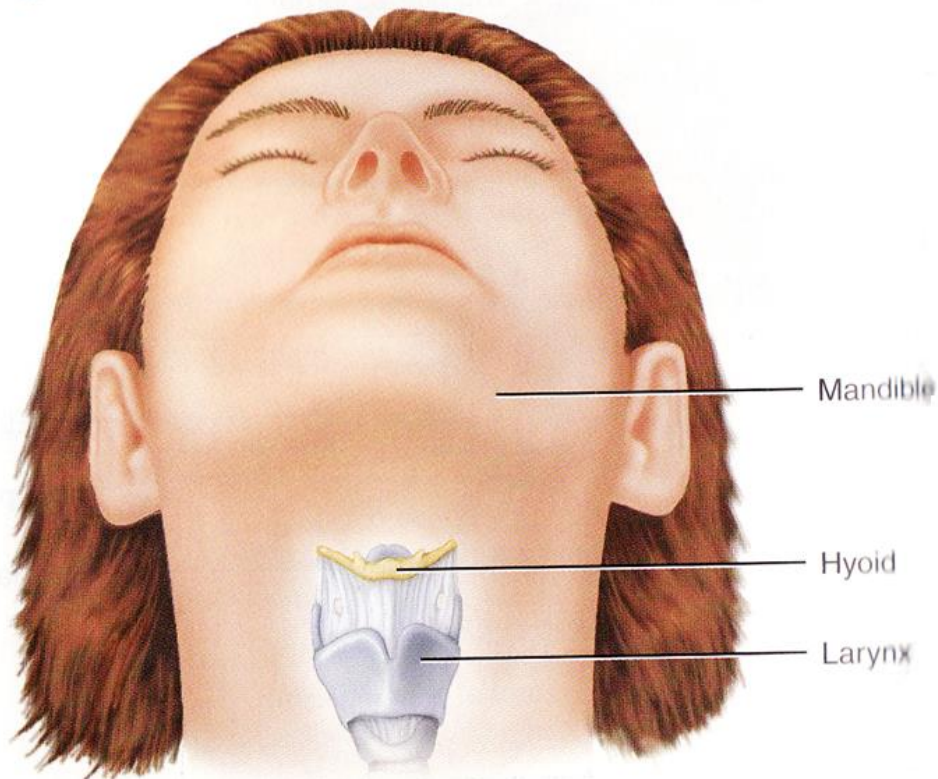
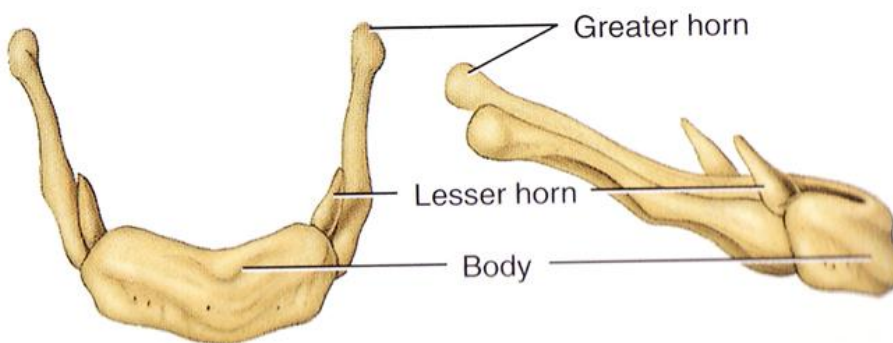


Figure 2.17 – The mandible bone (Ross & Wilson 2006)

 The hyoid bone supports the tongue, providing attachment sites for muscles of the tongue, neck, and pharynx.



(a) Position of hyoid



(b) Anterior view

(c) Right lateral view

Figure 2.18 – The hyoid bone (Tortora & Derrickson 2006)

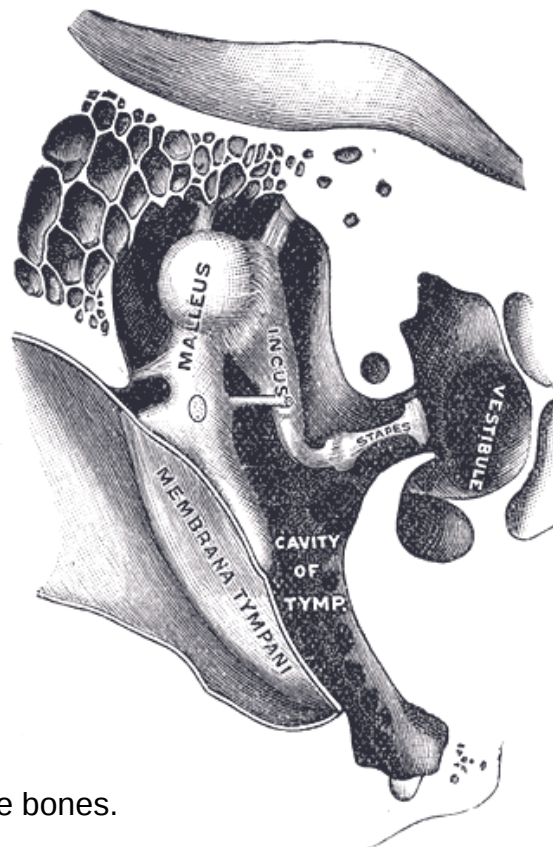
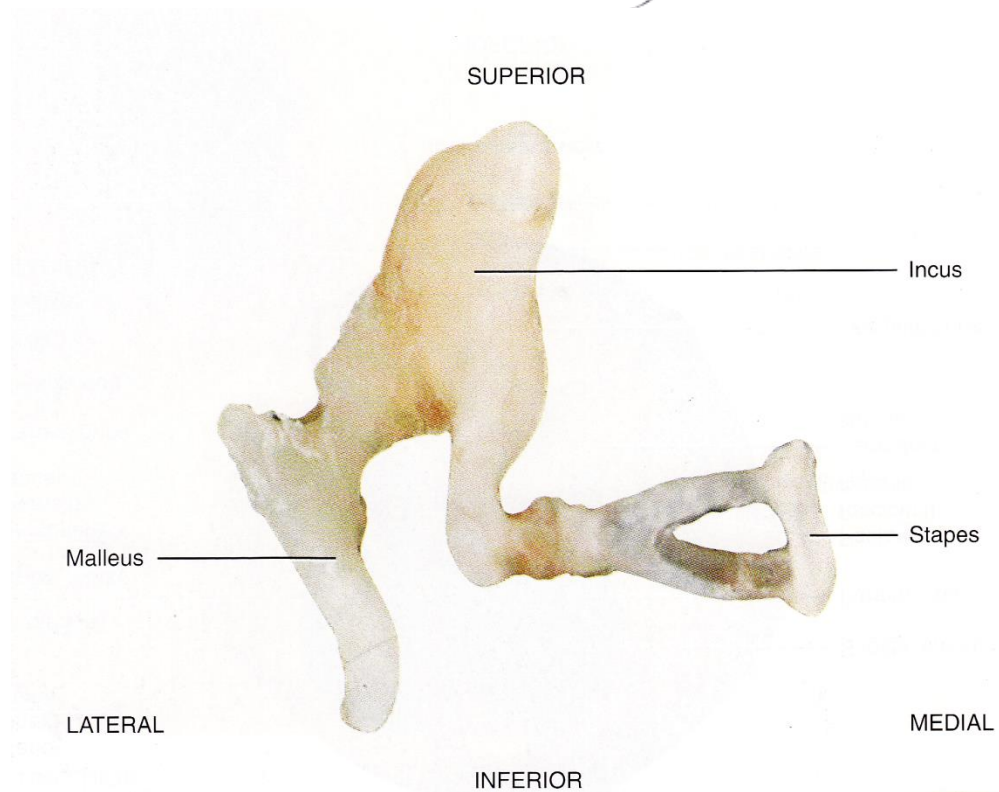


Figure 2.19 – The ossicle bones.



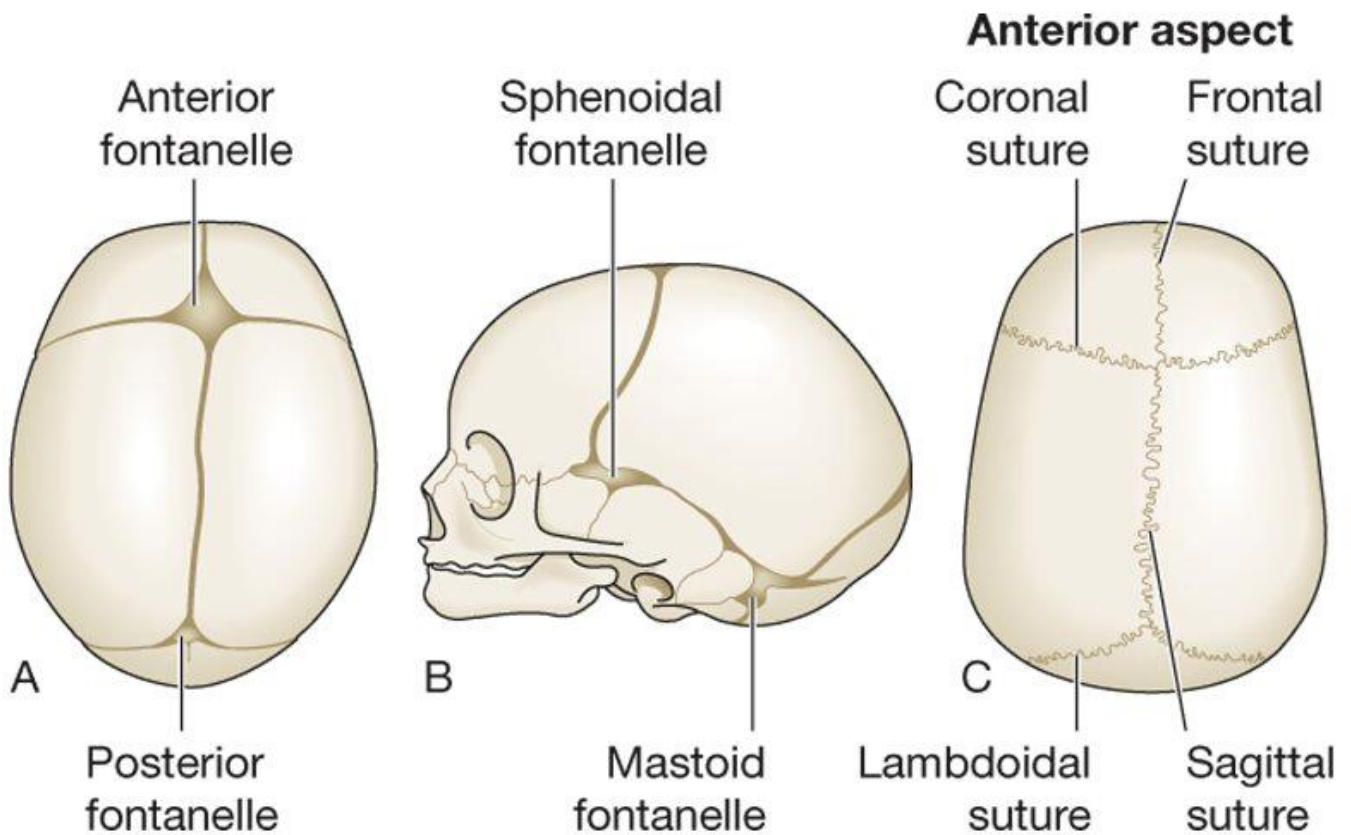
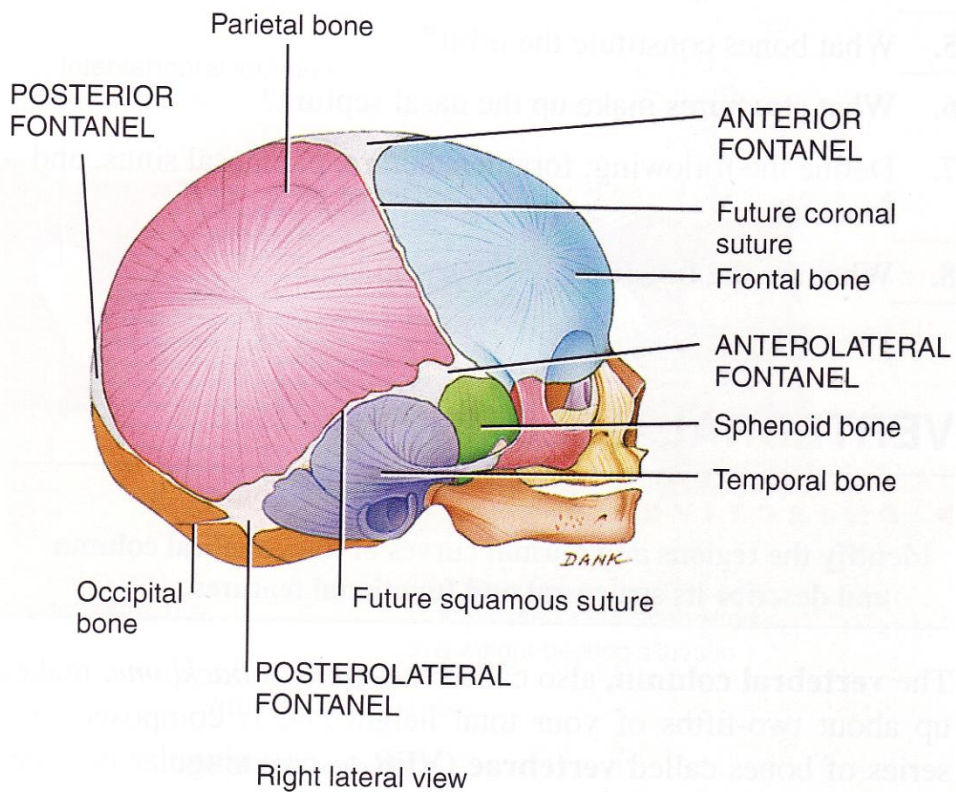


Figure 2.20 – The fontanelles of the new born baby (Ross & Wilson 2006)



Fontanels are mesenchyme-filled spaces between cranial bones that are present at birth.



CHAPTER 3:
AXIAL SKELETON
- THE VERTEBRAE -

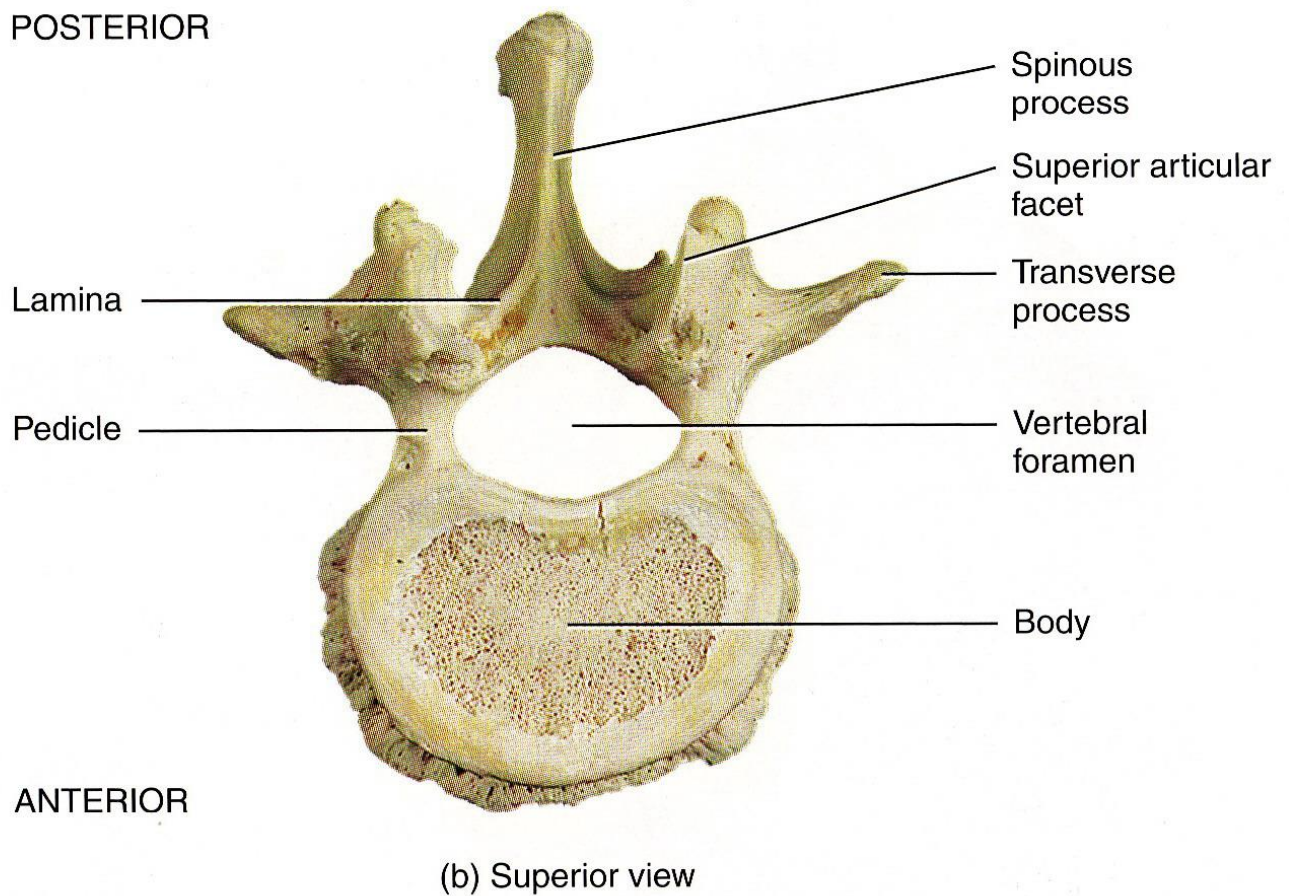
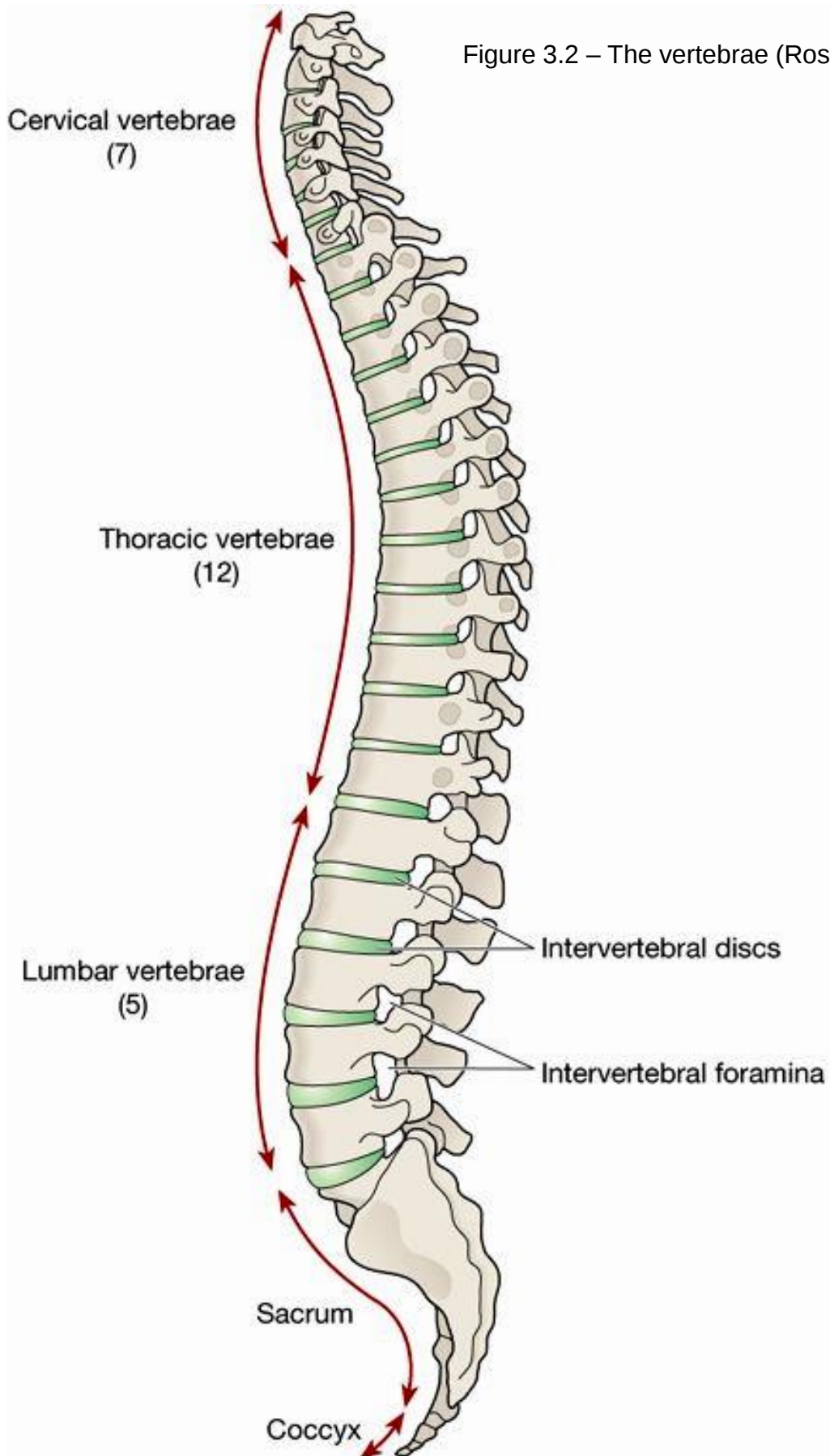


Figure 3.1 – The typical structure of a vertebra

Figure 3.2 – The vertebrae (Ross & Wilson 2006)





The cervical vertebrae are found in the neck region.

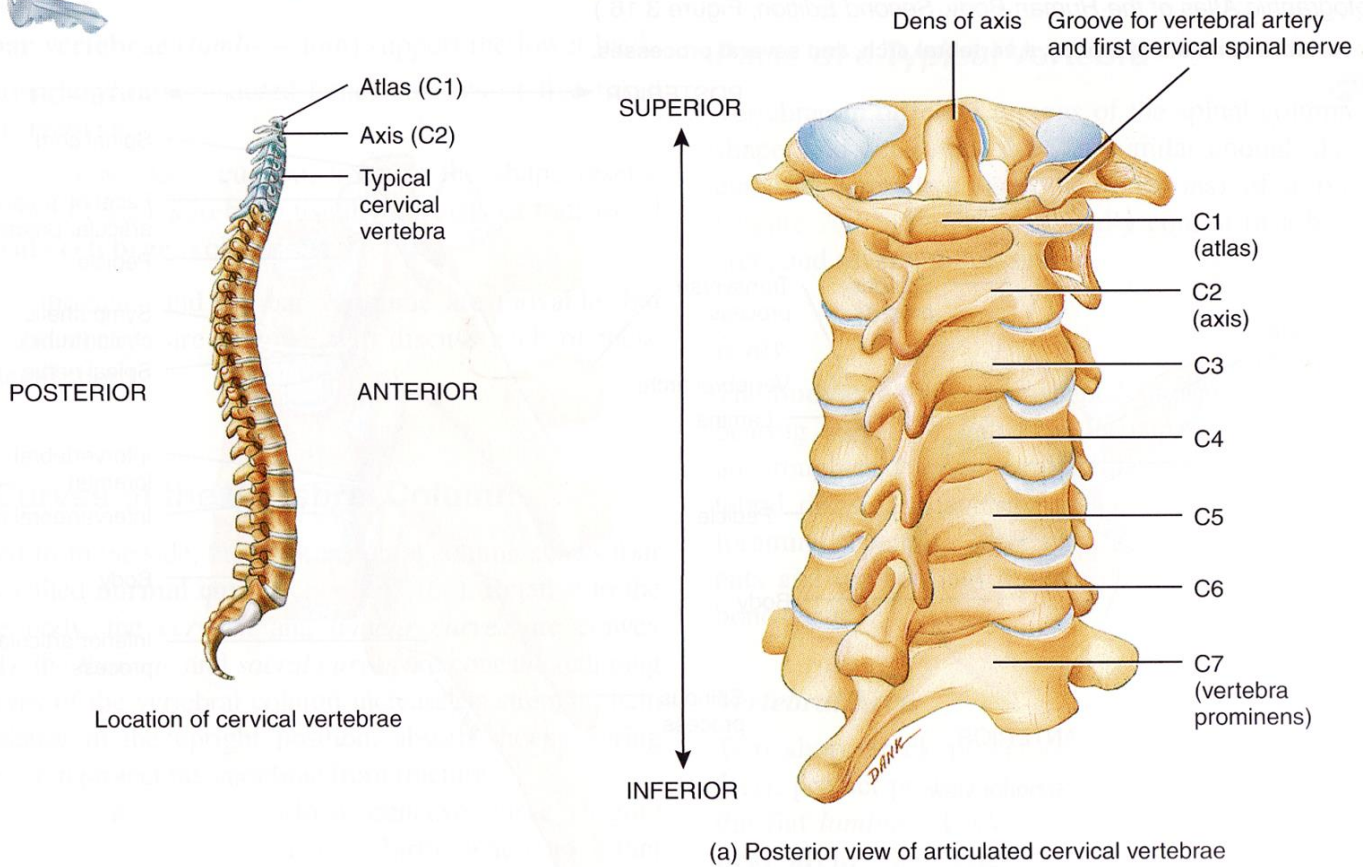


Figure 3.3 – The cervical vertebrae (Tortora & Derrickson 2006)

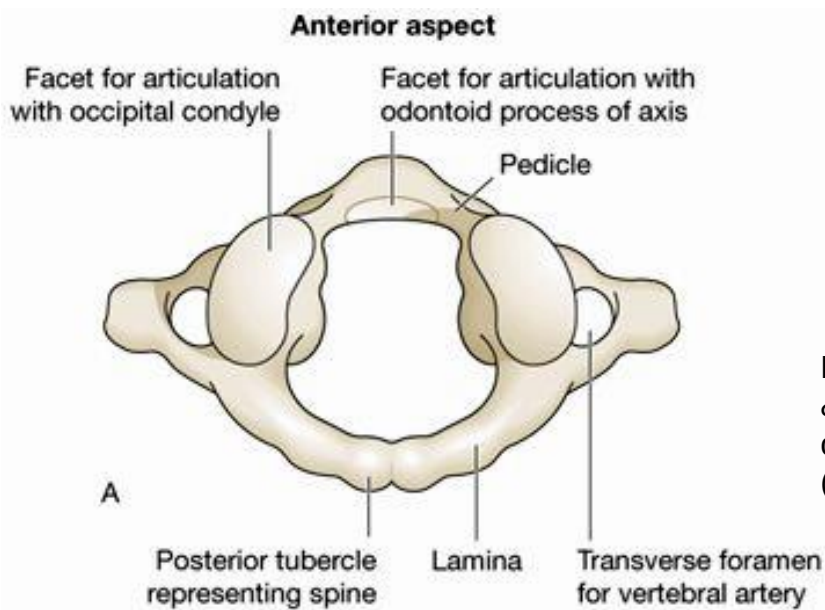
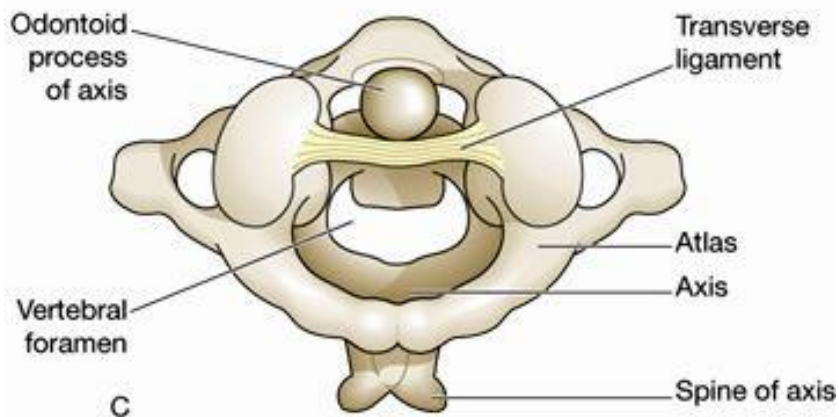
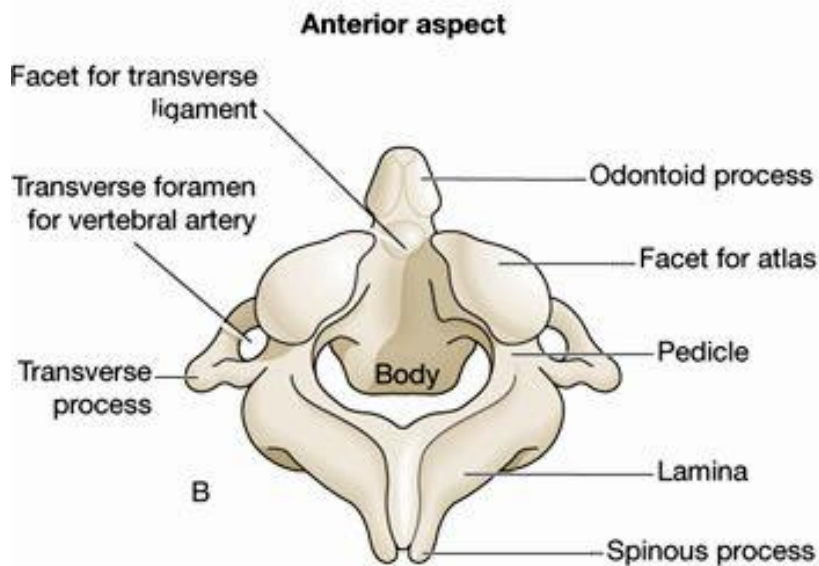
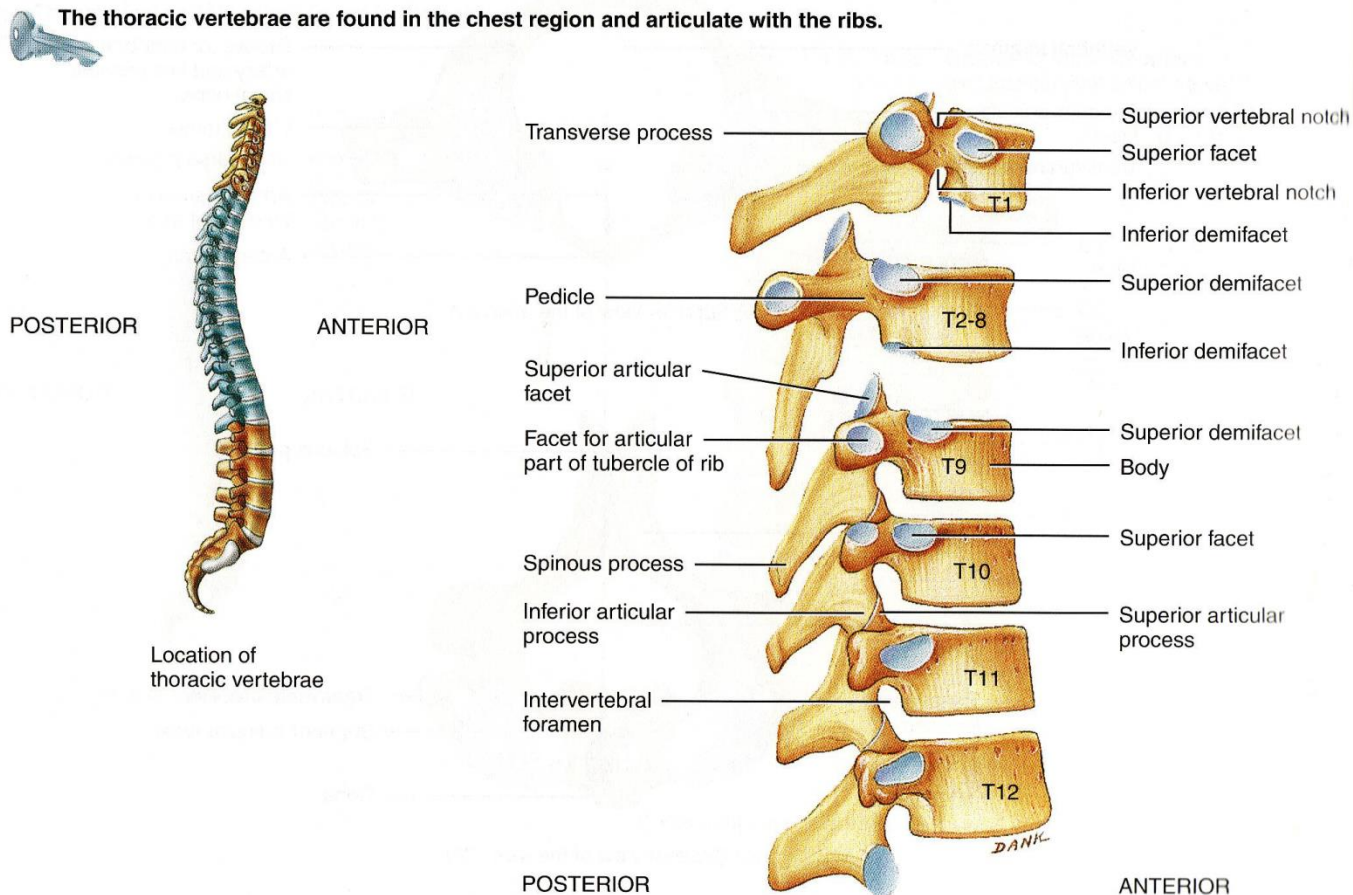


Figure 3.4 – The atlas (A) & axis (B) of the cervical vertebrae (Ross & Wilson 2006)





(a) Right lateral view of several articulated thoracic vertebrae

Figure 3.5 – The Thoracic vertebrae (Tortora & Derrickson 2006)

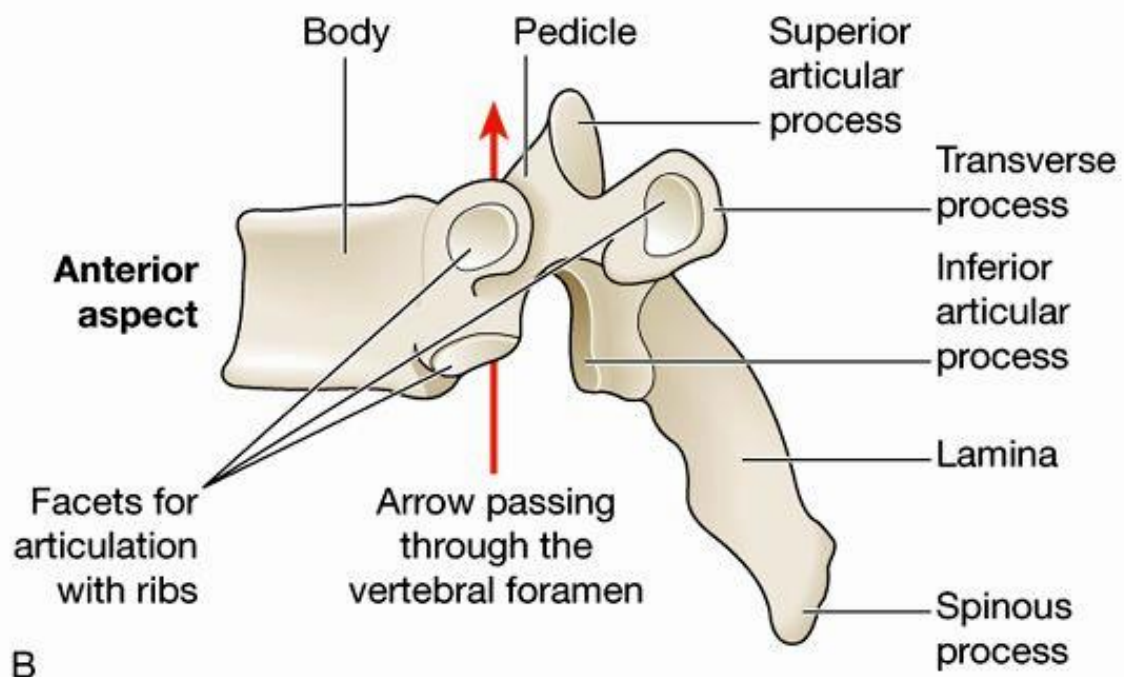
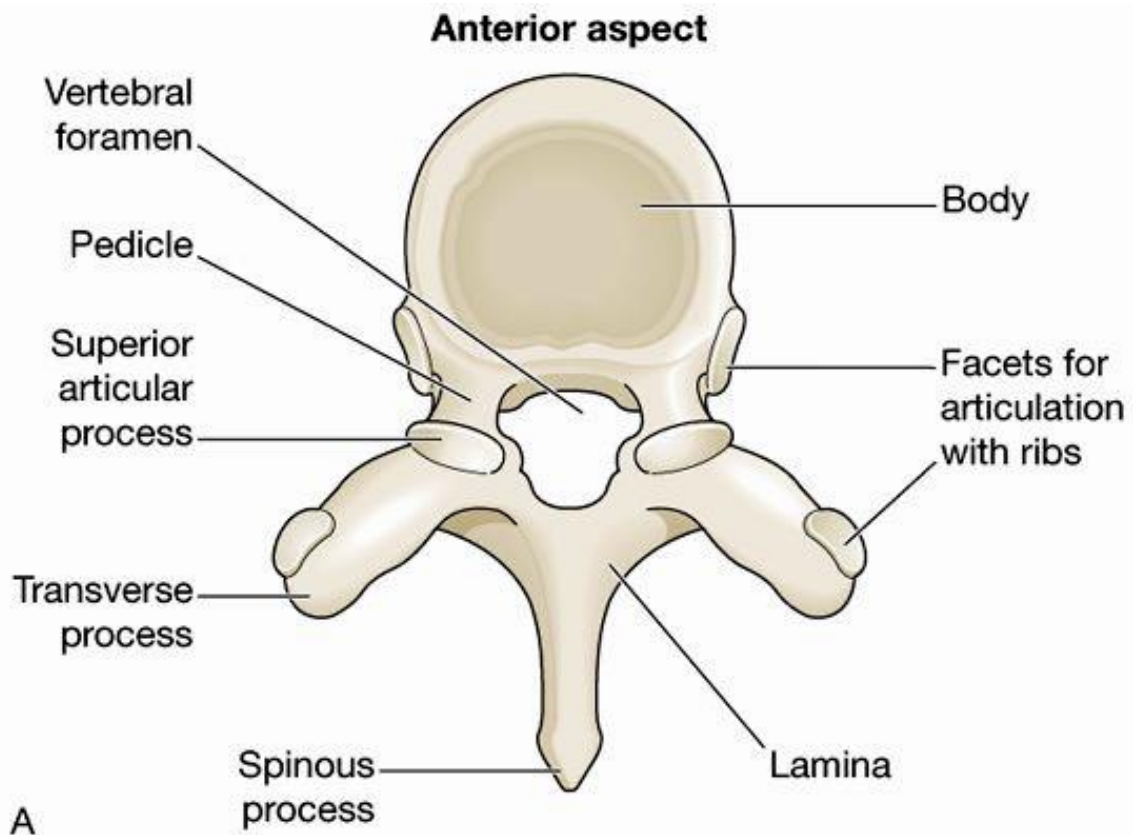
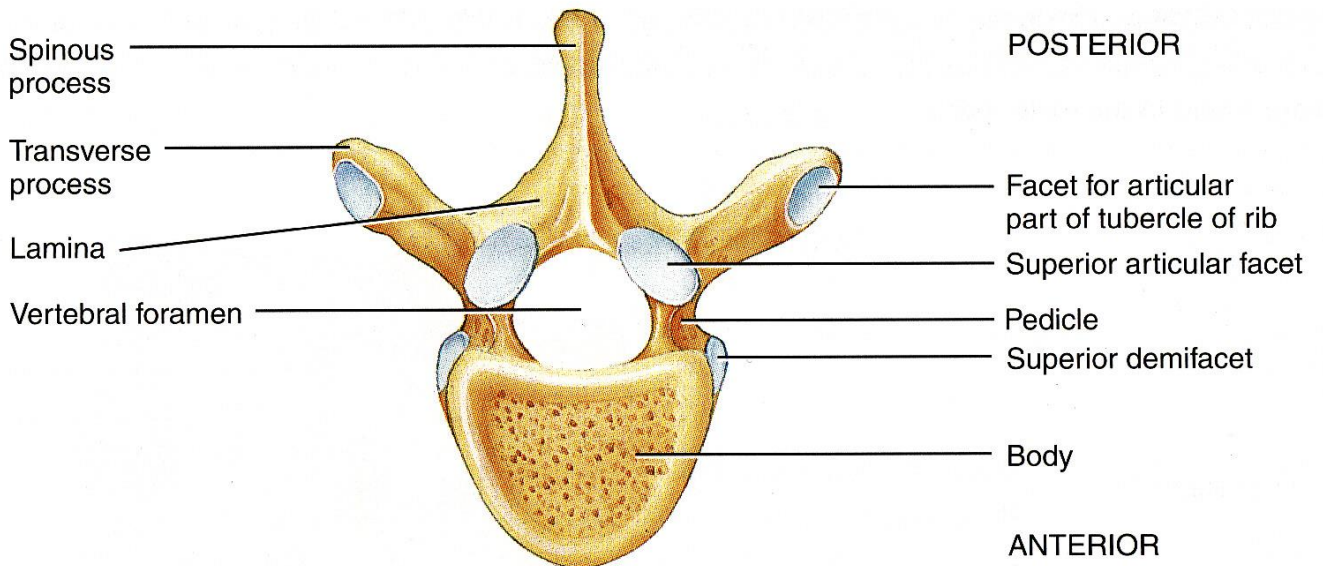
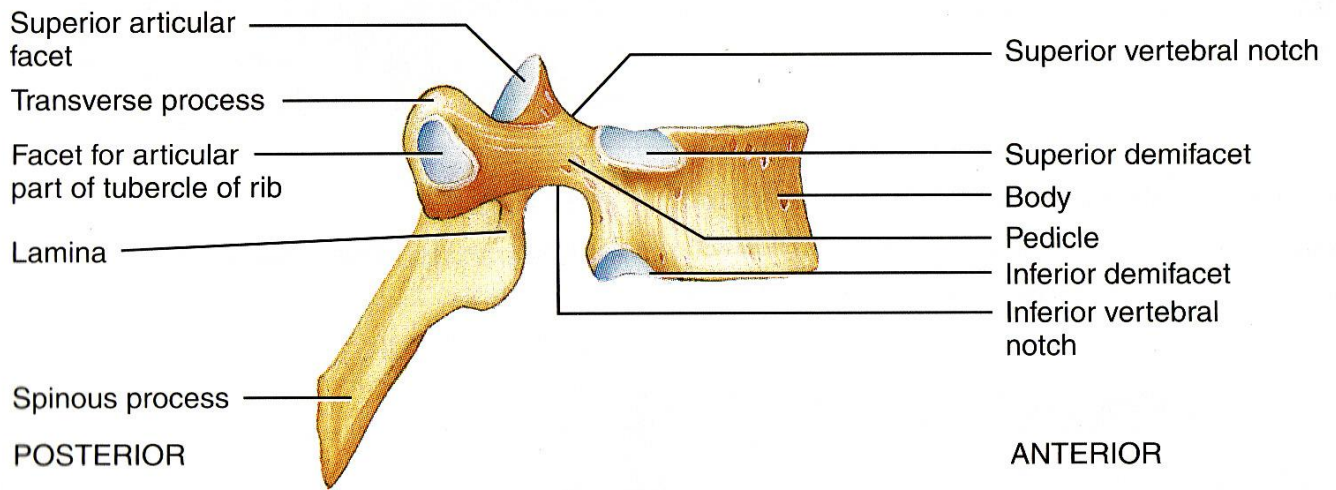


Figure 3.6 – The structure of the thoracic vertebra (Ross & Wilson 2006)



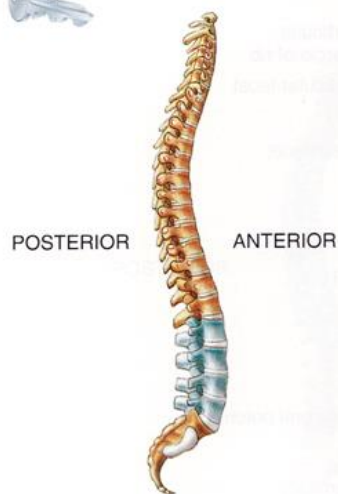
(b) Superior view



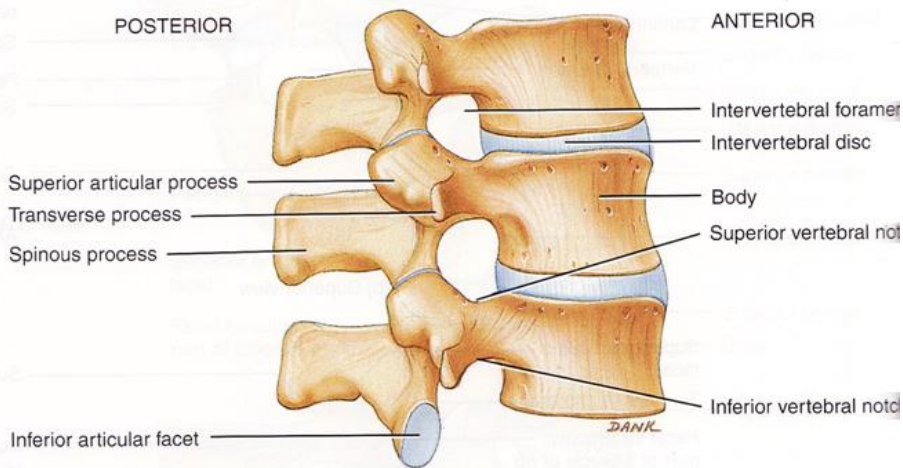
(c) Right lateral view

Figure 3.7 – The structure of the thoracic vertebra (Tortora & Derrickson 2006)

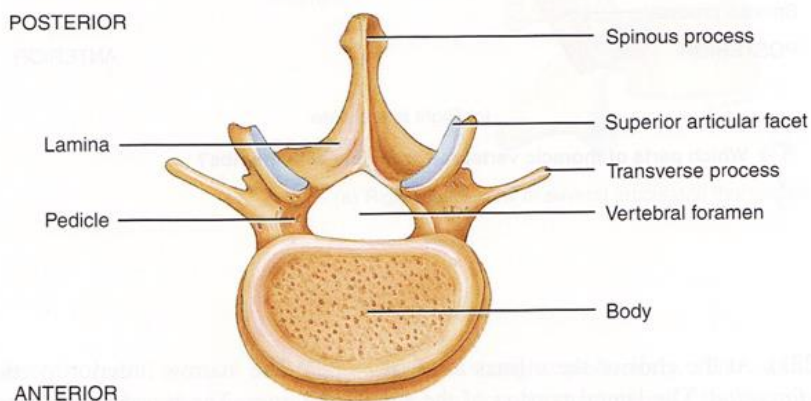
Lumbar vertebrae are found in the lower back.



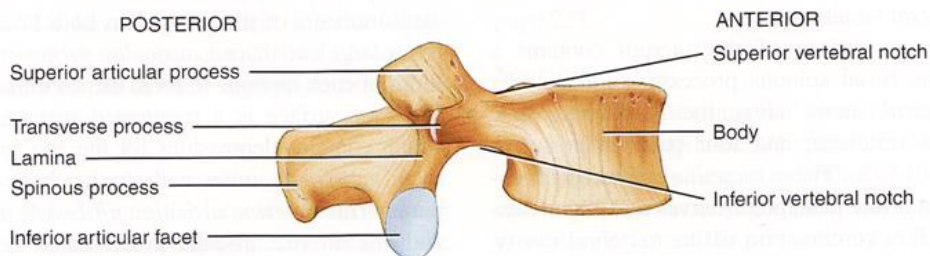
Location of lumbar vertebrae



(a) Right lateral view of articulated lumbar vertebrae



(b) Superior view



(c) Right lateral view

Figure 3.8 – The lumbar vertebrae (Tortora & Derrickson 2006)

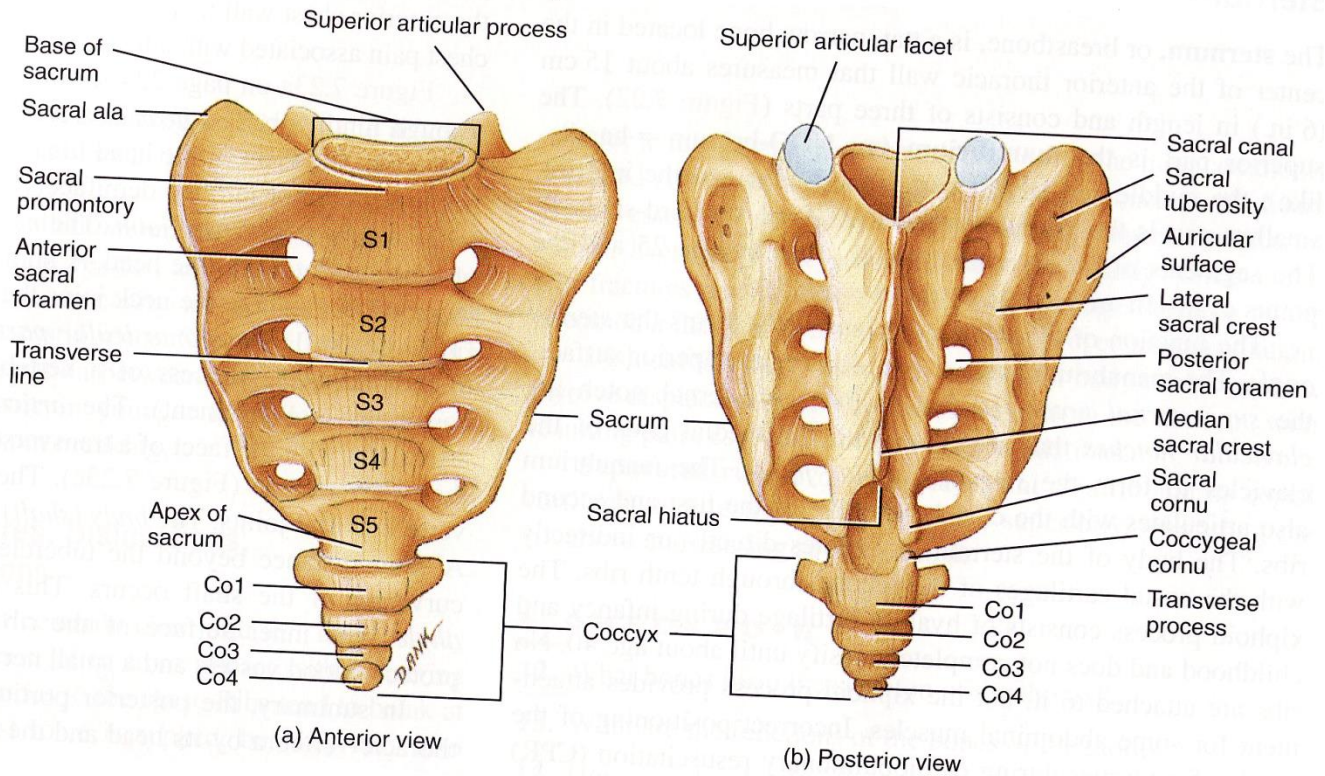


Figure 3.9 – The sacral & coccyx bones (Tortora & Derrickson 2006)

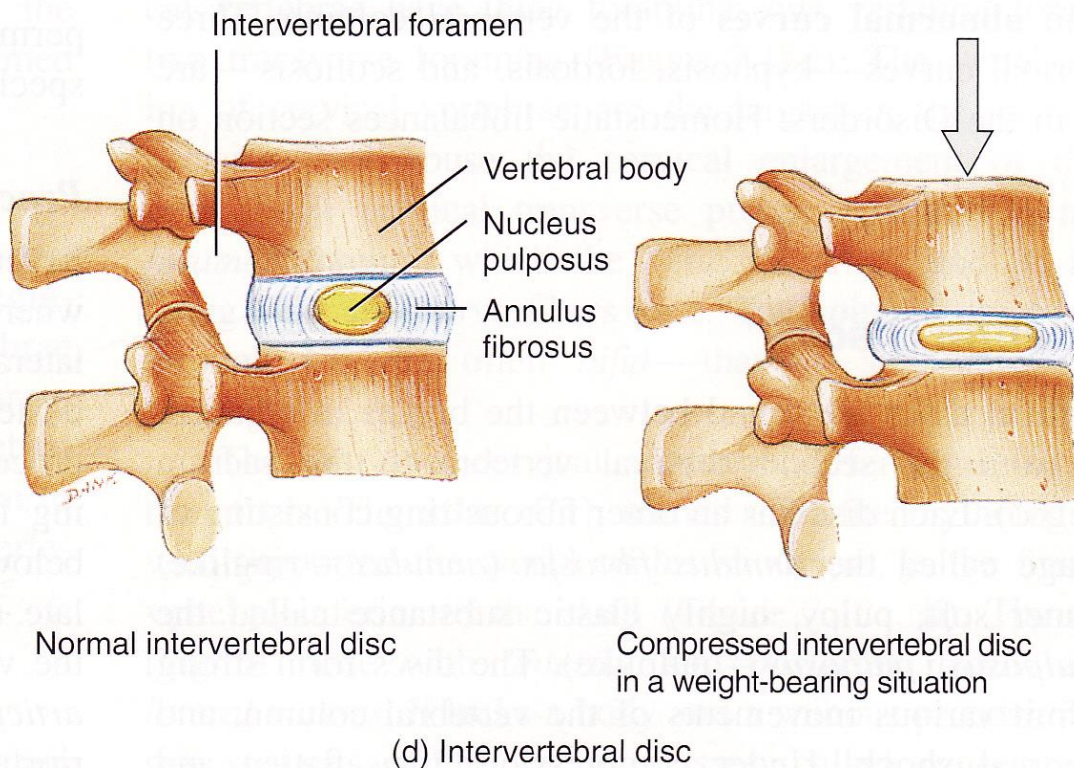
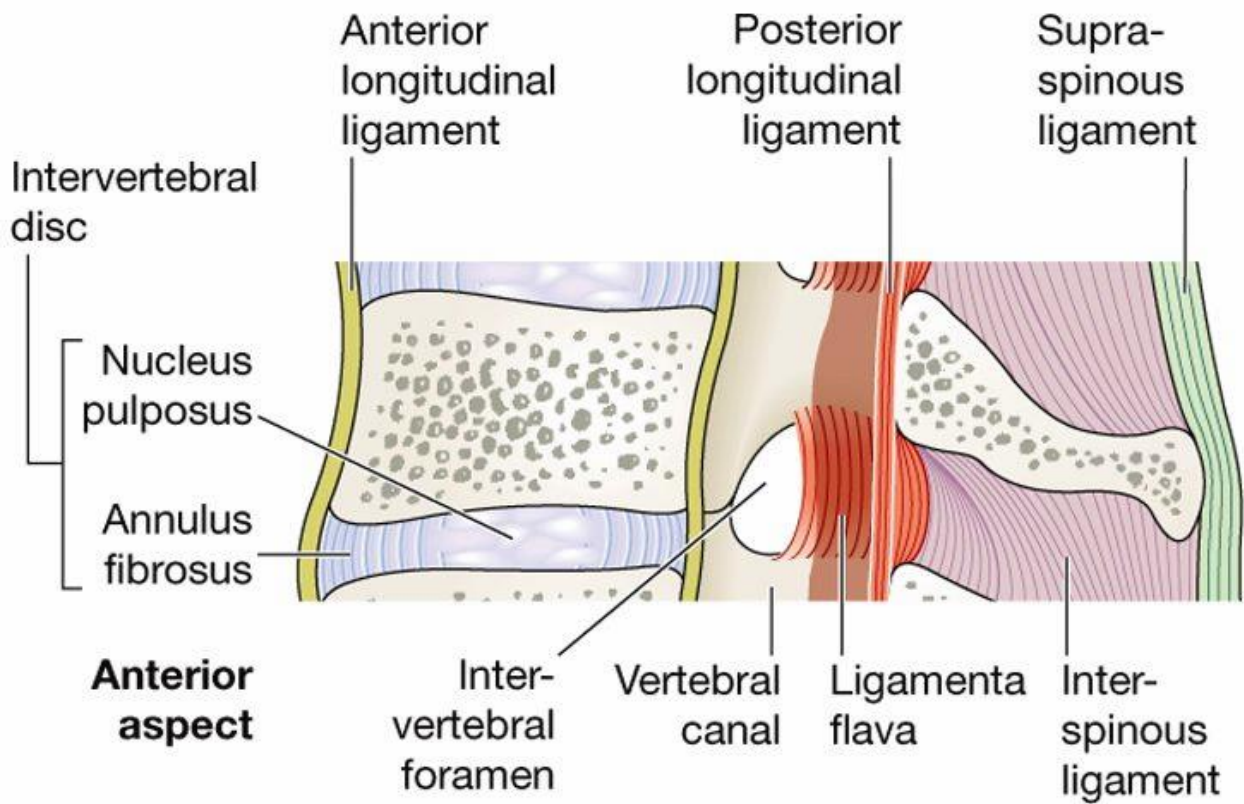


Figure 3.10 – The intervertebral disc & intervertebral foramina
(Ross & Wilson 2006, Tortora & Derrickson 2006)

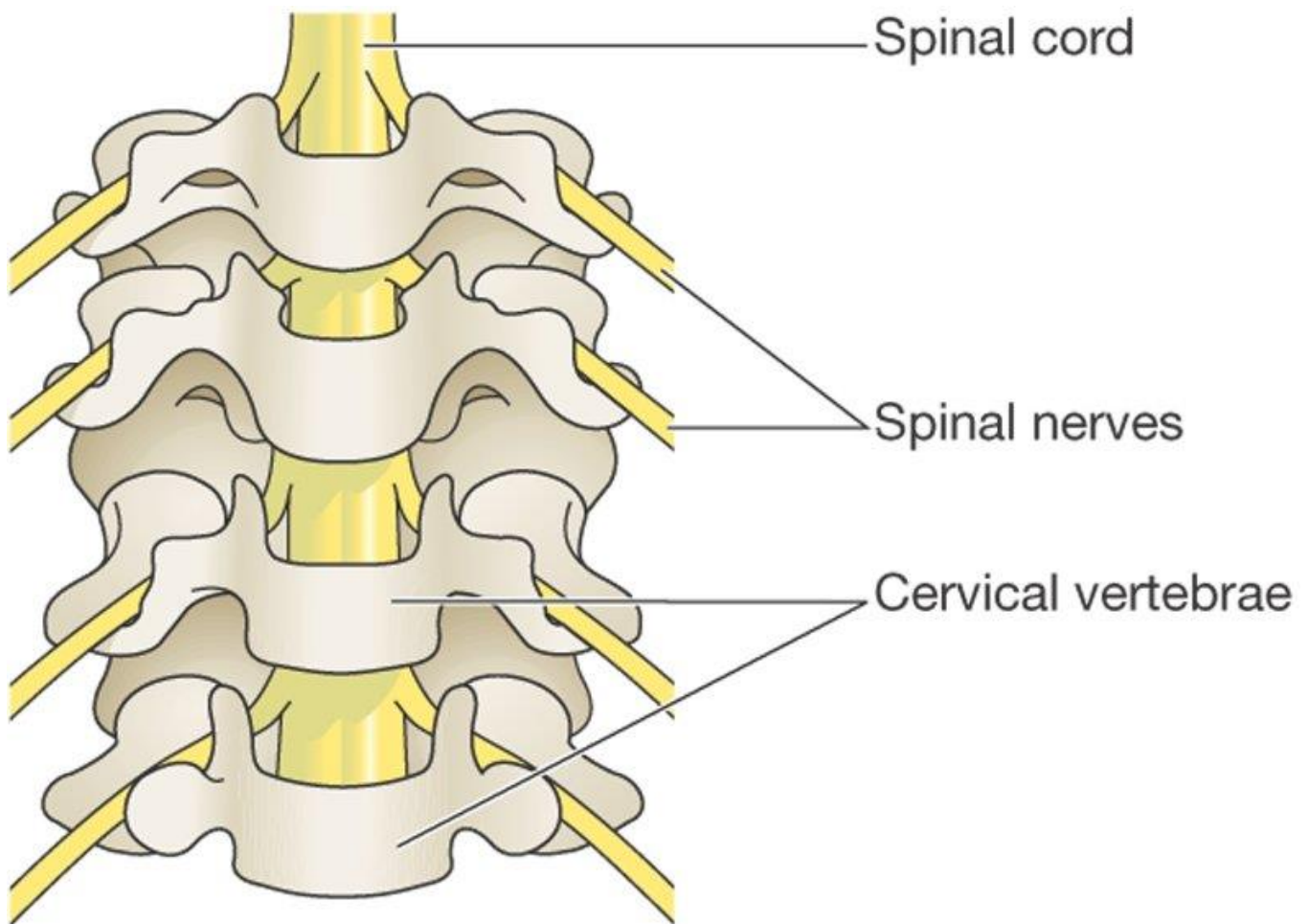


Figure 3.11 – The passageway of the spinal nerves through the intervertebral foramina
(Ross & Wilson 2006)

CHAPTER 4:
AXIAL SKELETON
- THE STERNUM &
THORACIC-

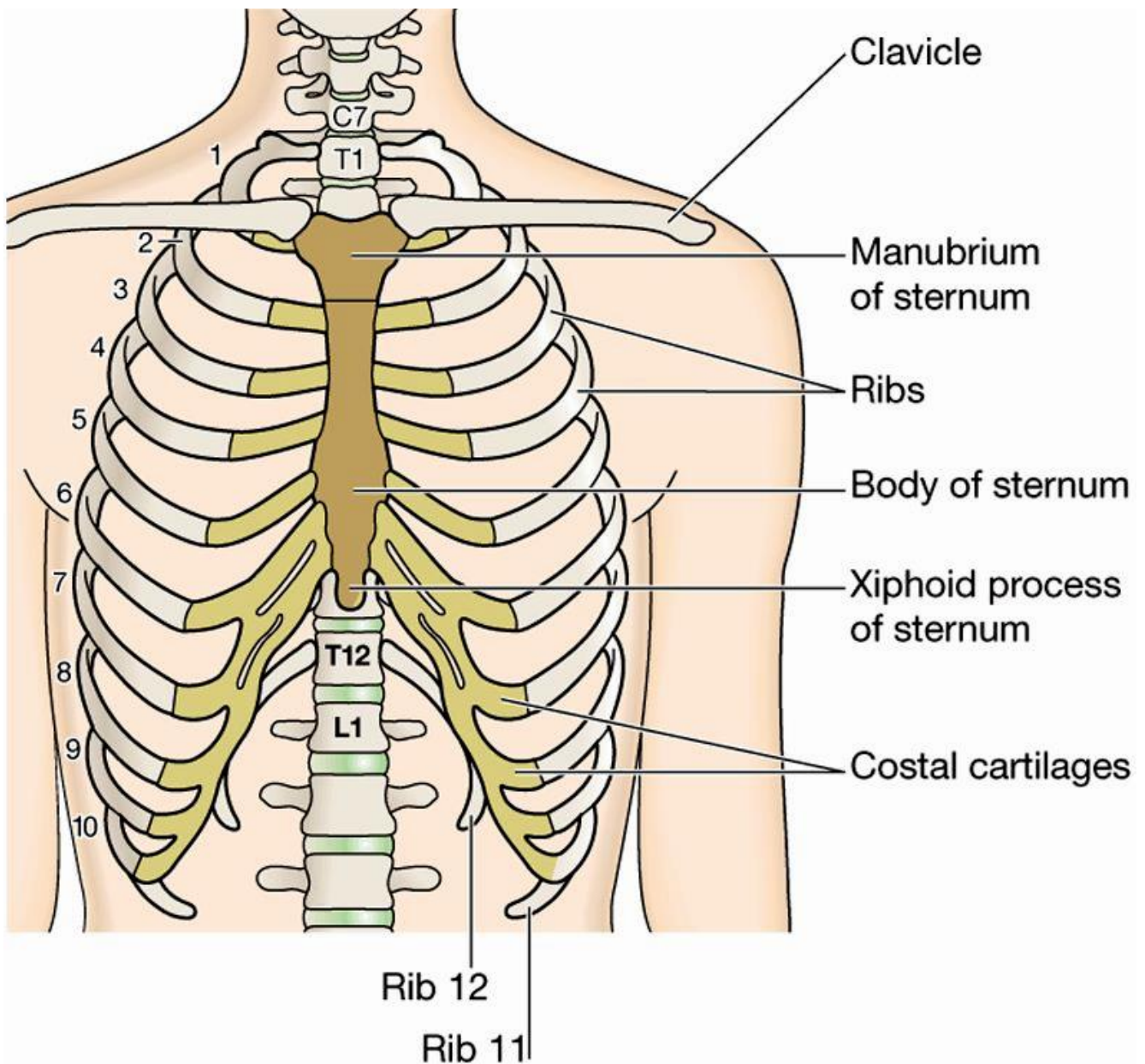


Figure 4.1 – The anterior view of the thoracic cage
(Ross & Wilson 2006)

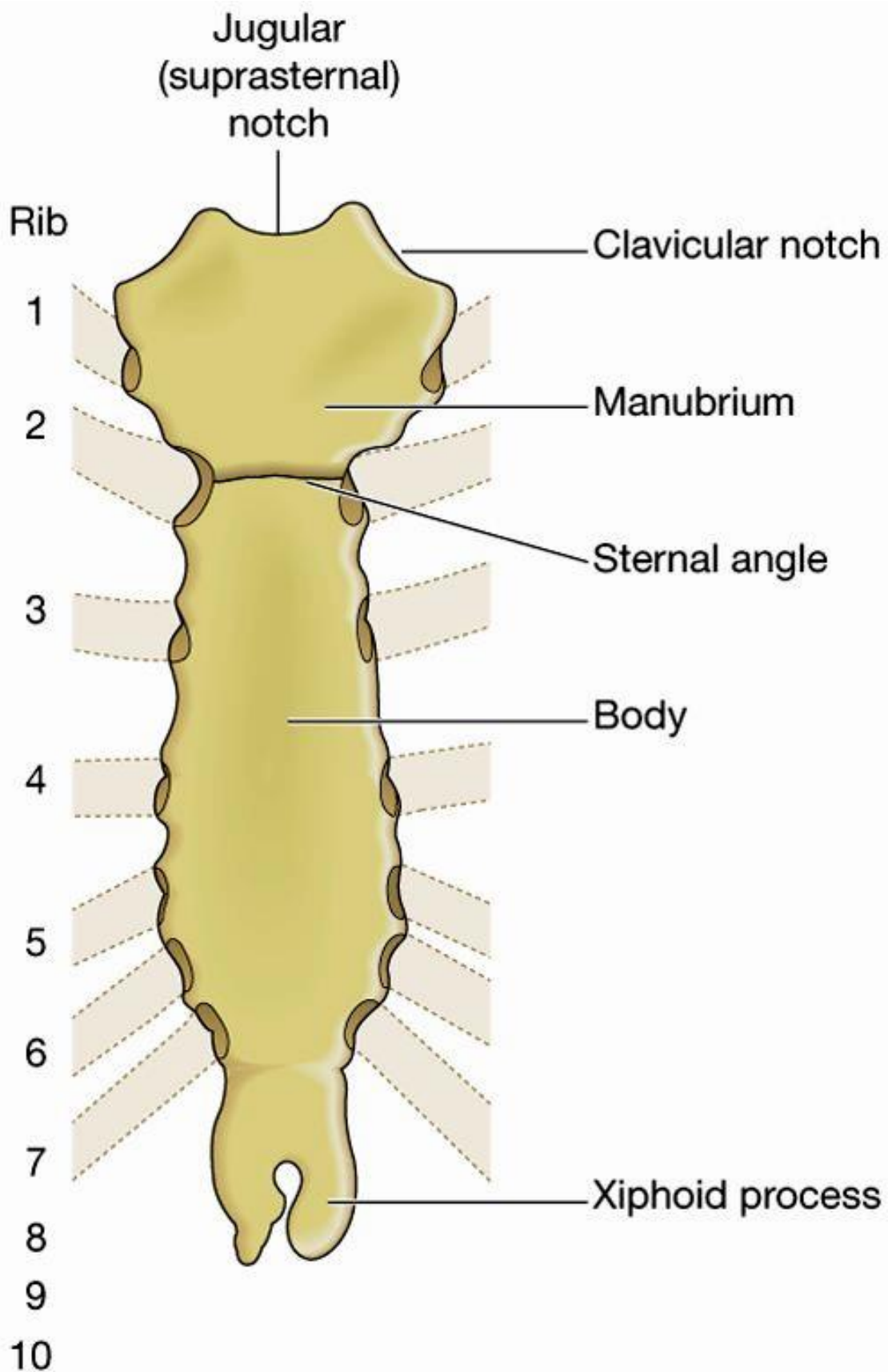


Figure 4.2 – The sternum bone – anterior view (Ross & Wilson 2006)

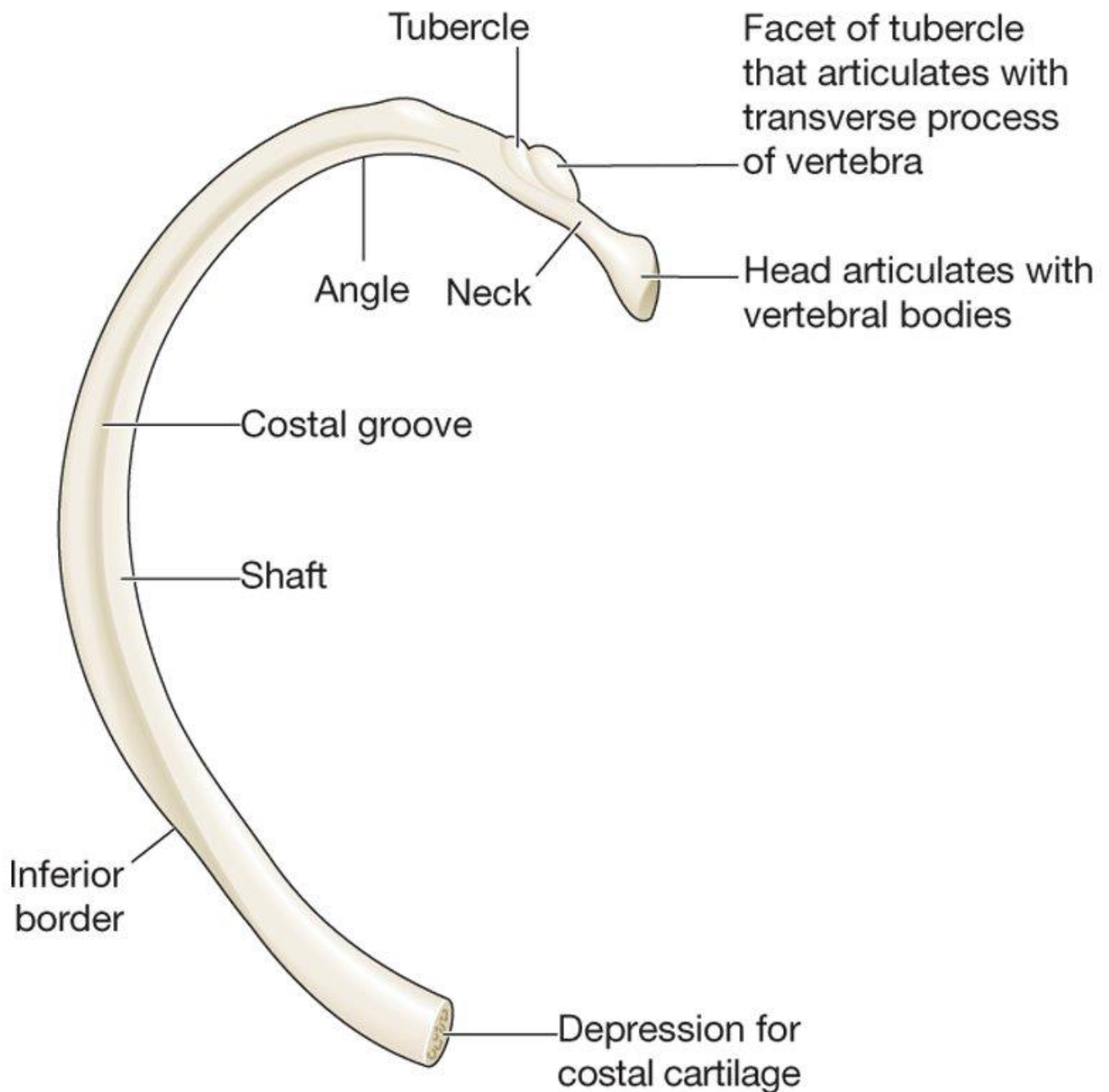


Figure 4.3 – The typical structure of a rib (Ross & Wilson 2006)

CHAPTER 5:
APPENDICULAR
SKELETON
- THE SHOULDER &
PELVIC GIRDLE -

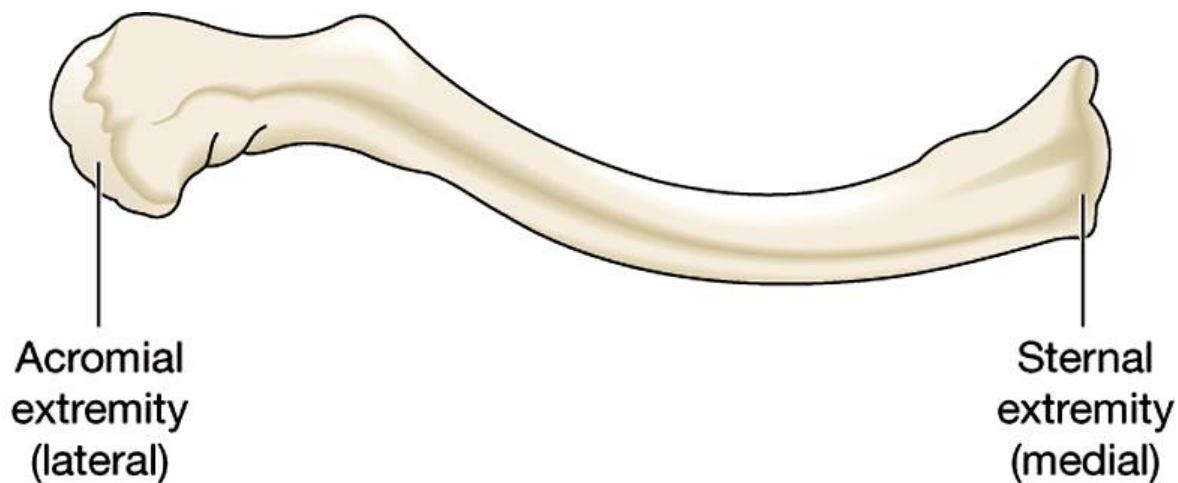


Figure 5.1 – The typical structure of a clavicle (Ross & Wilson 2006)

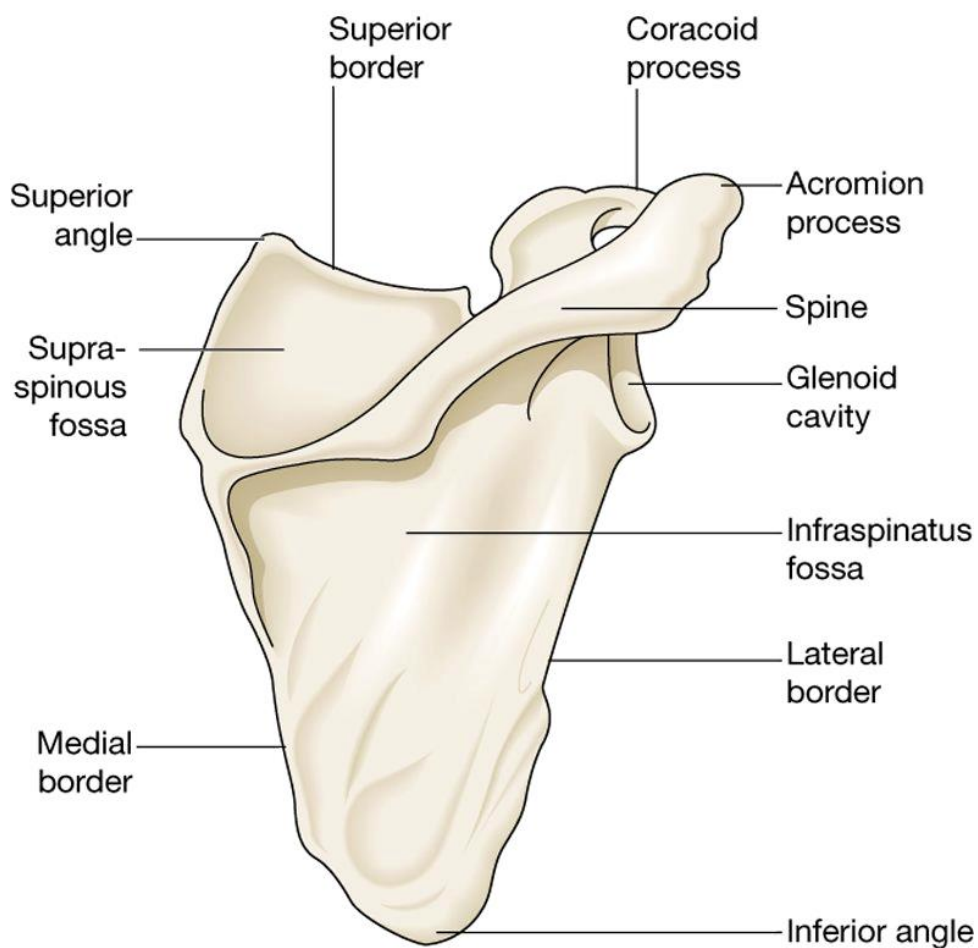


Figure 5.2 – The scapula bone (Ross & Wilson 2006)

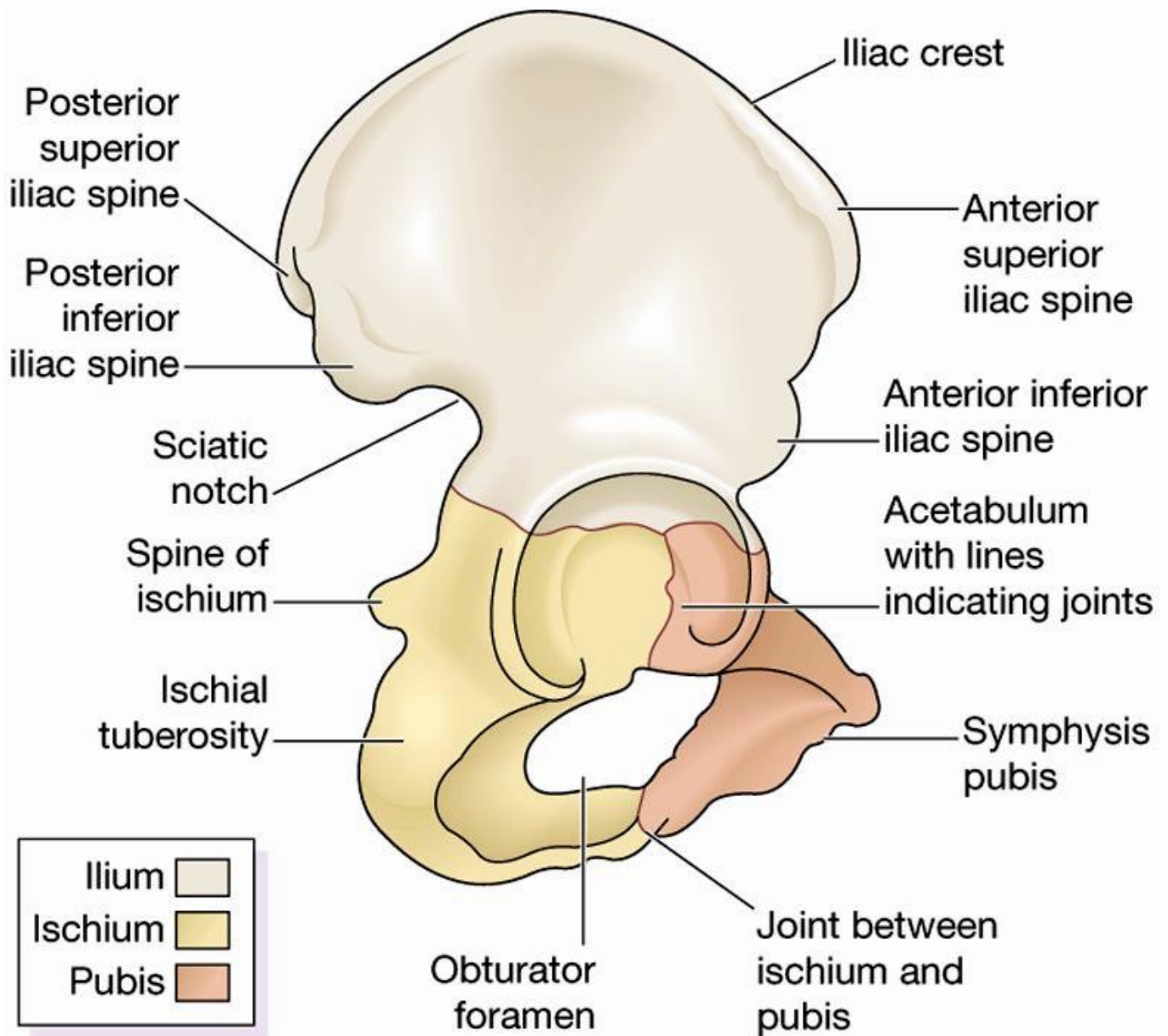


Figure 5.3 – The hip bone – consist of 3 areas (Ross & Wilson 2006)

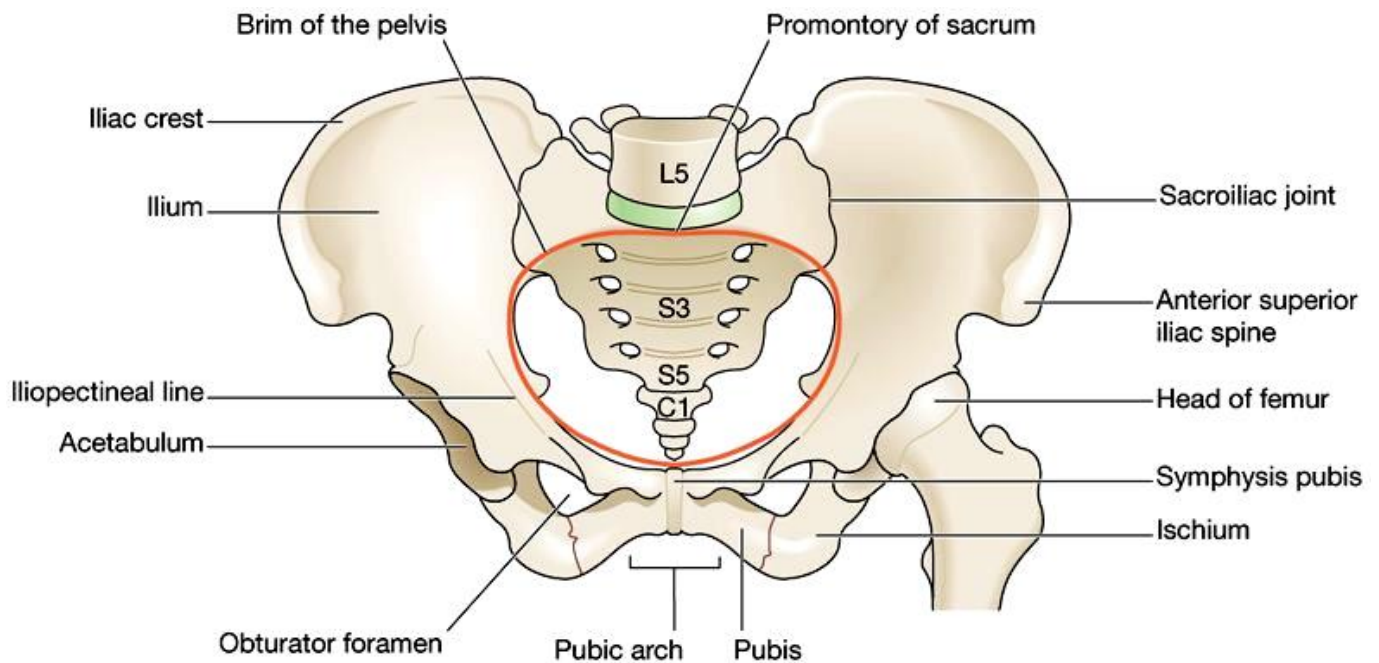


Figure 5.4 – The pelvic girdle (Ross & Wilson 2006)

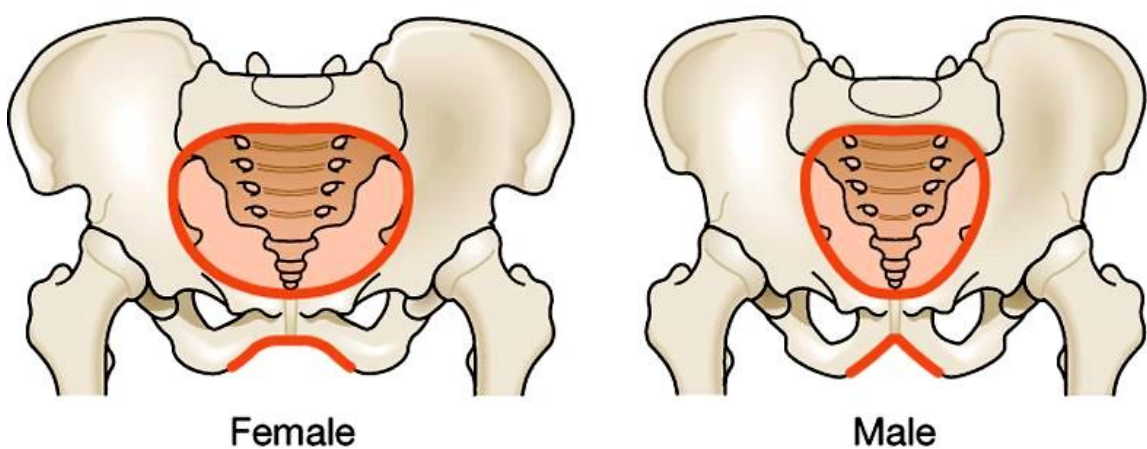


Figure 5.5 – The comparison of the male & female pelvic (Ross & Wilson 2006)

CHAPTER 6:
APPENDICULAR
SKELETON
- THE UPPER LIMBS -

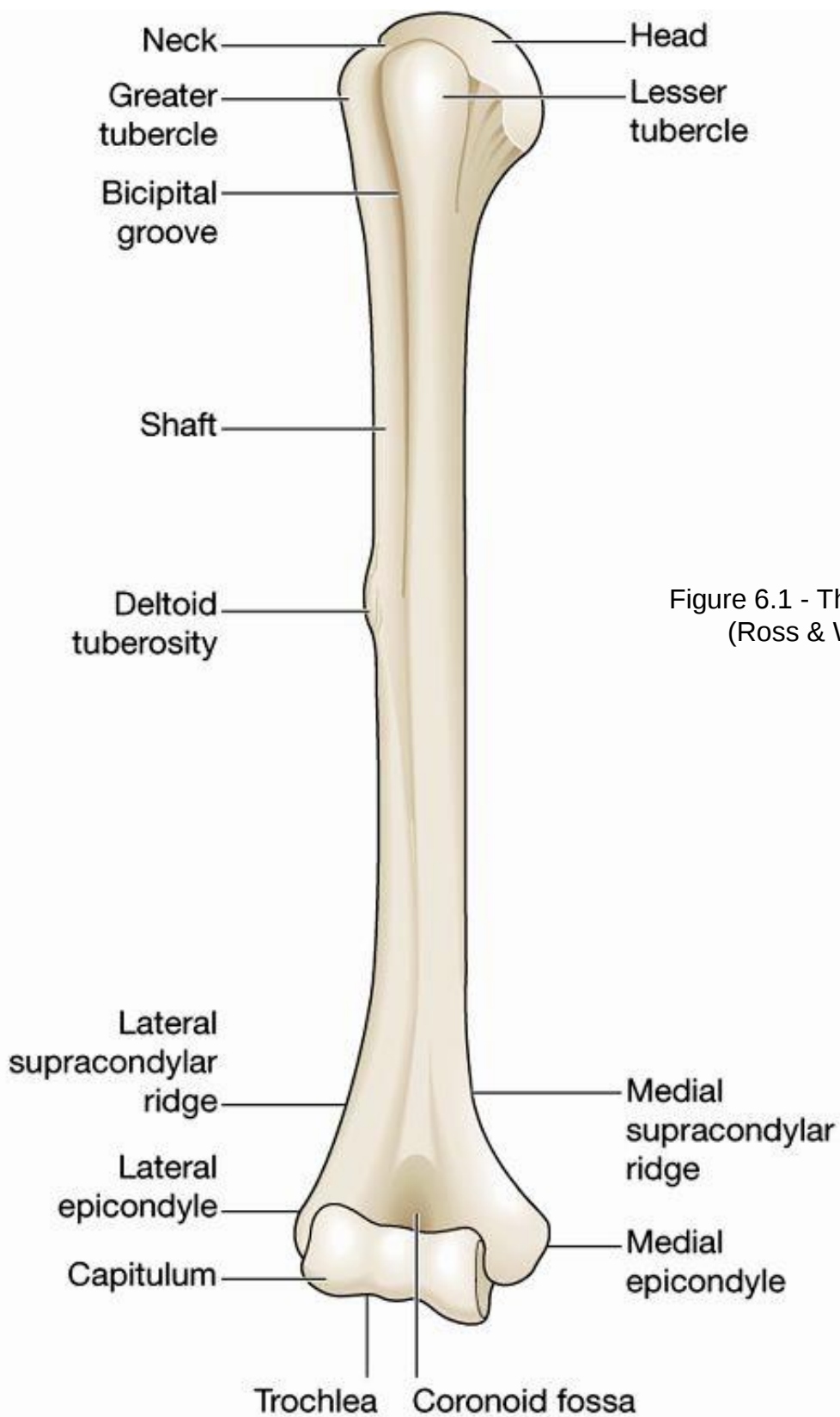


Figure 6.1 - The Humerus bone
(Ross & Wilson 2006)

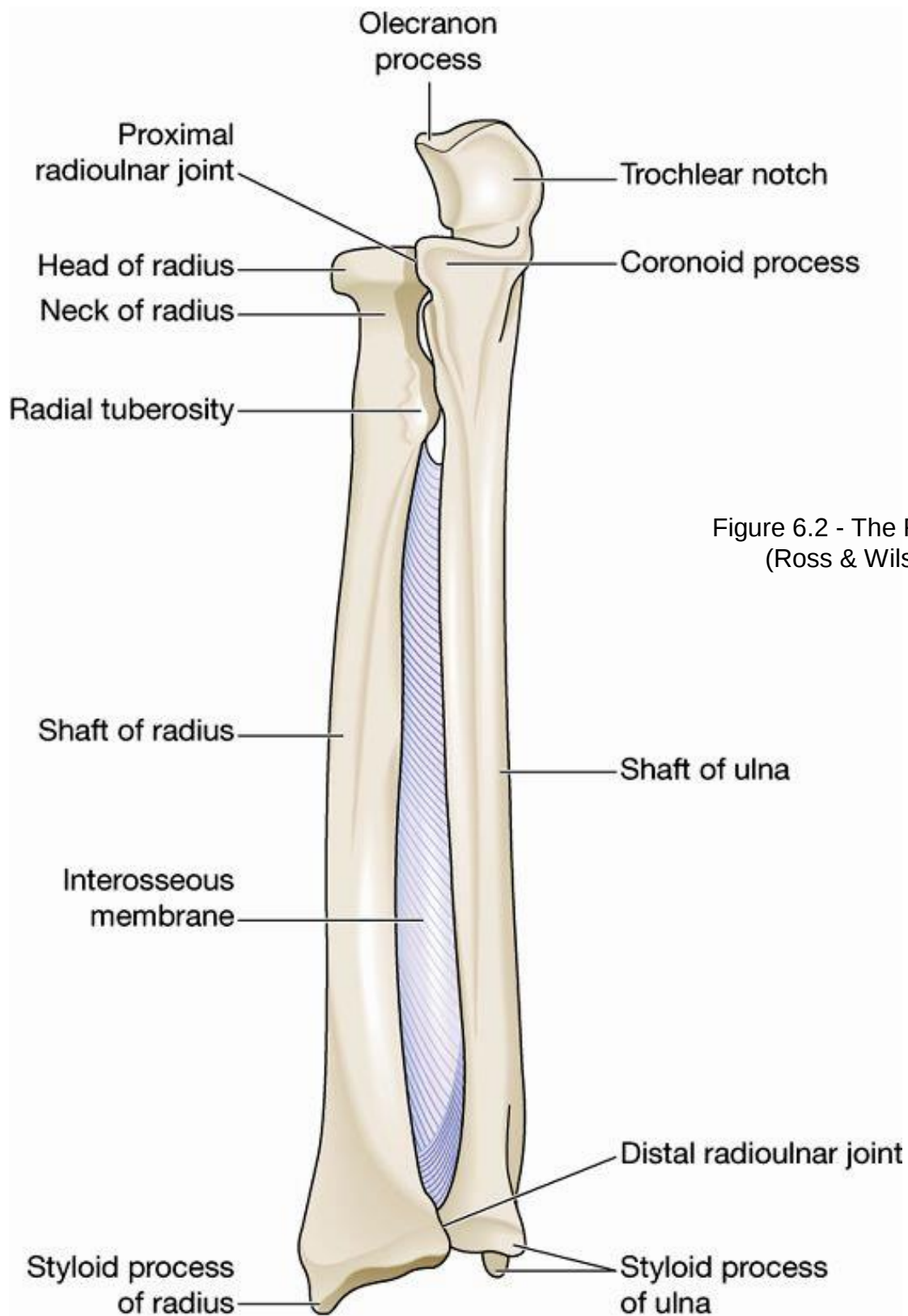


Figure 6.2 - The Radius & Ulna
(Ross & Wilson 2006)

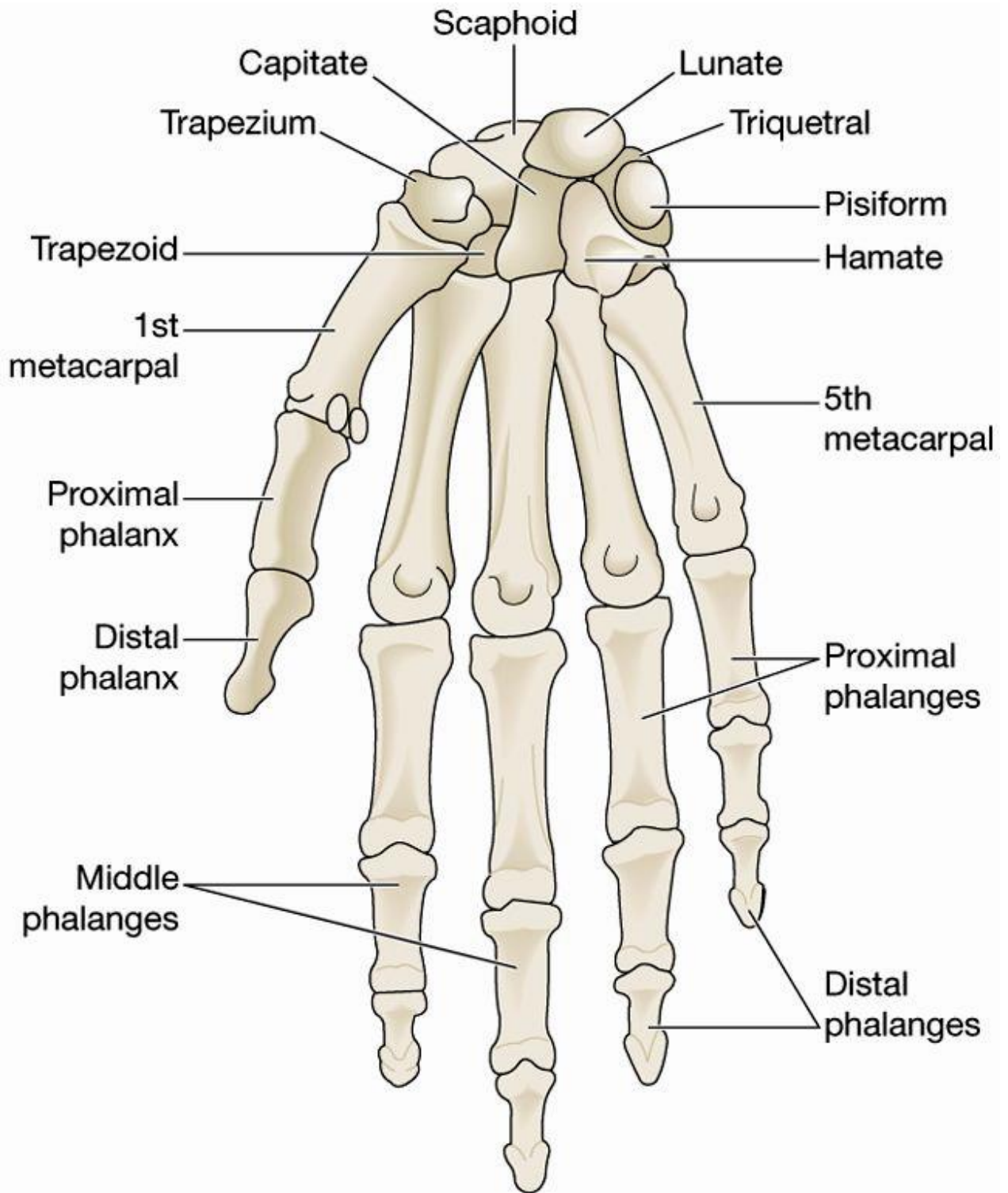


Figure 6.3 - The bones of wrist, hand & phalanges
(Ross & Wilson 2006)

CHAPTER 7:
APPENDICULAR
SKELETON
- THE LOWER LIMBS -

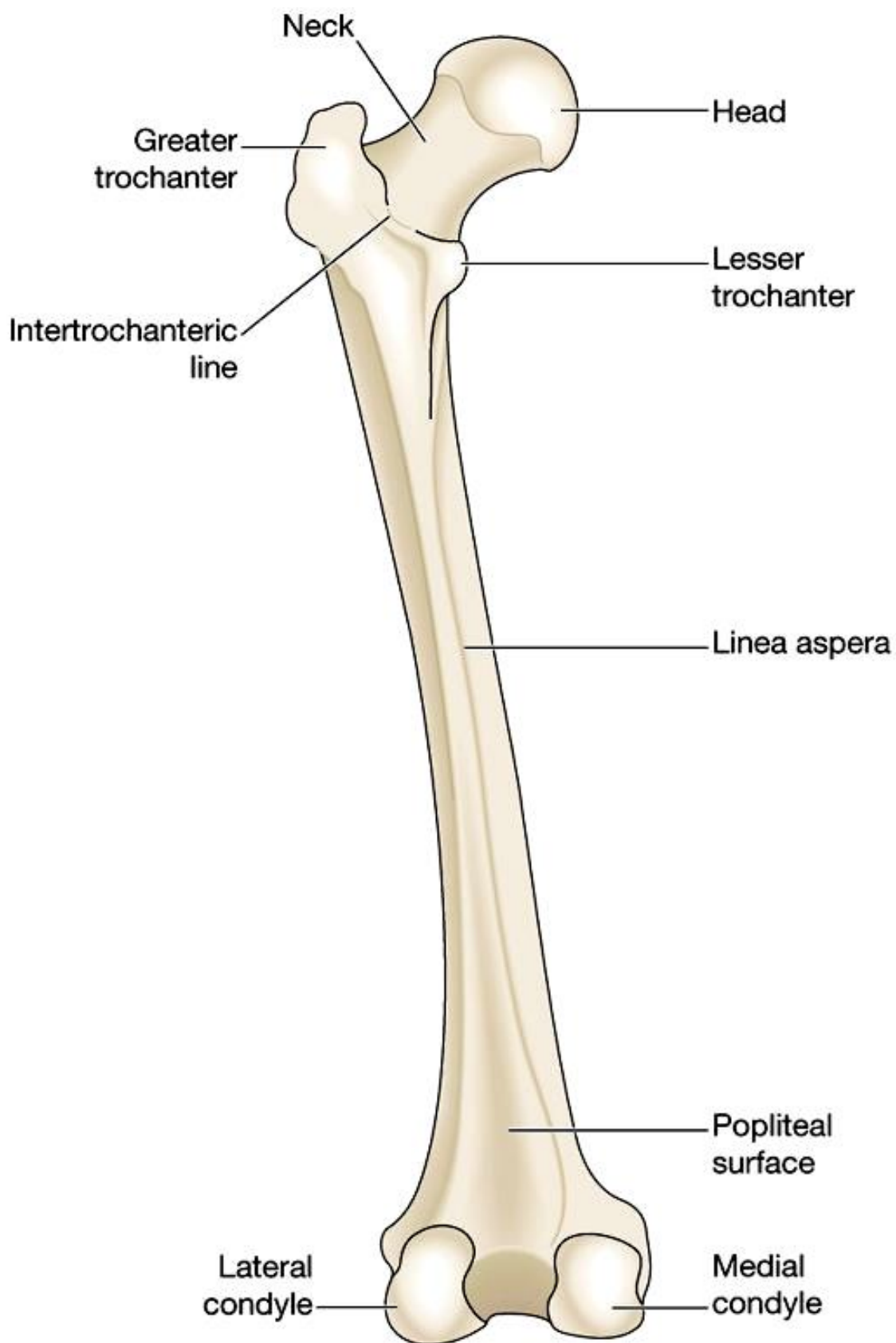


Figure 7.1 - The femur bone (Ross & Wilson 2006)

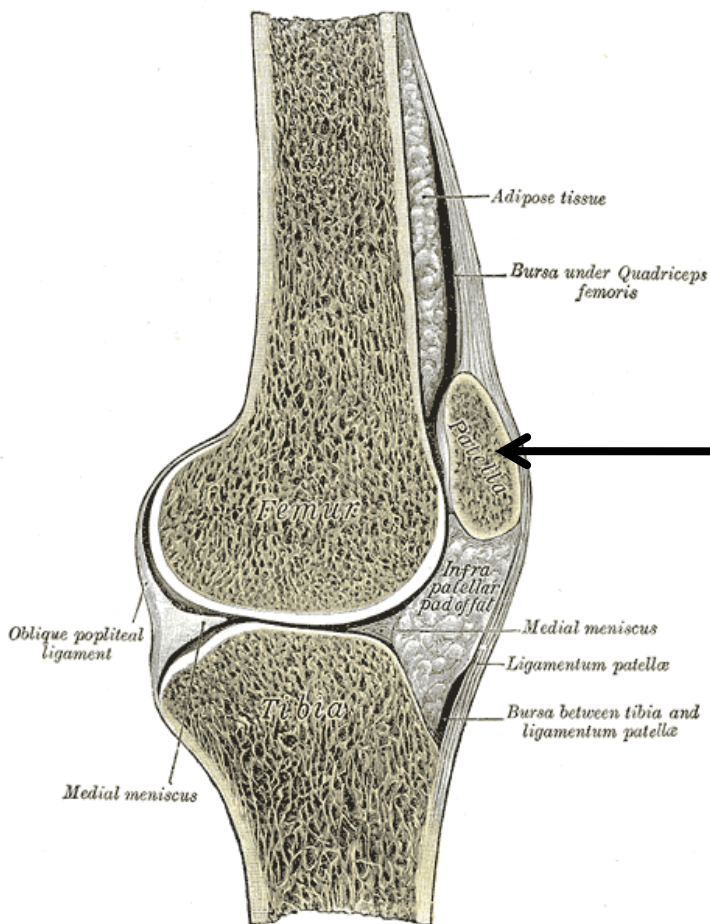
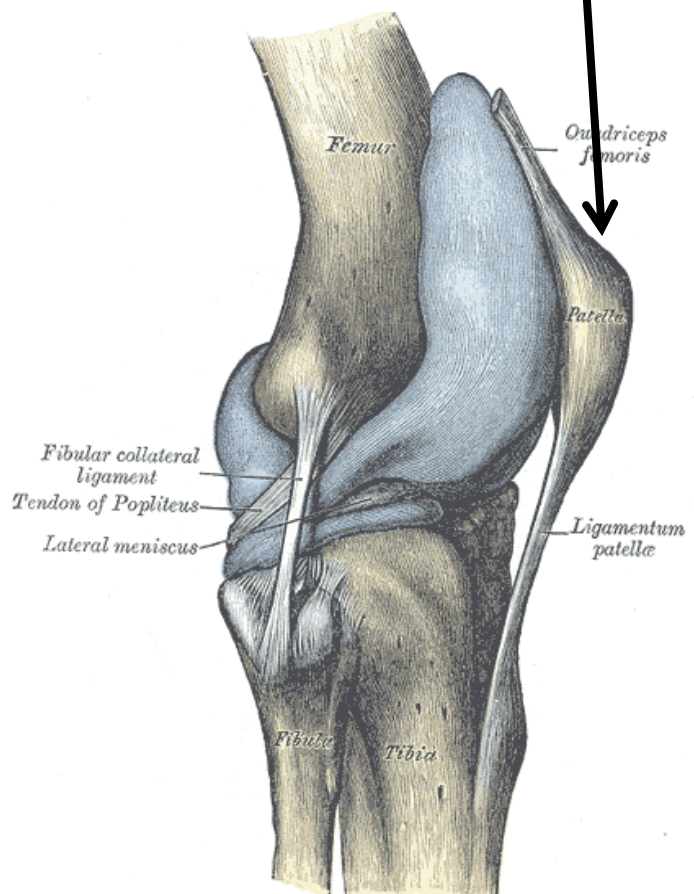
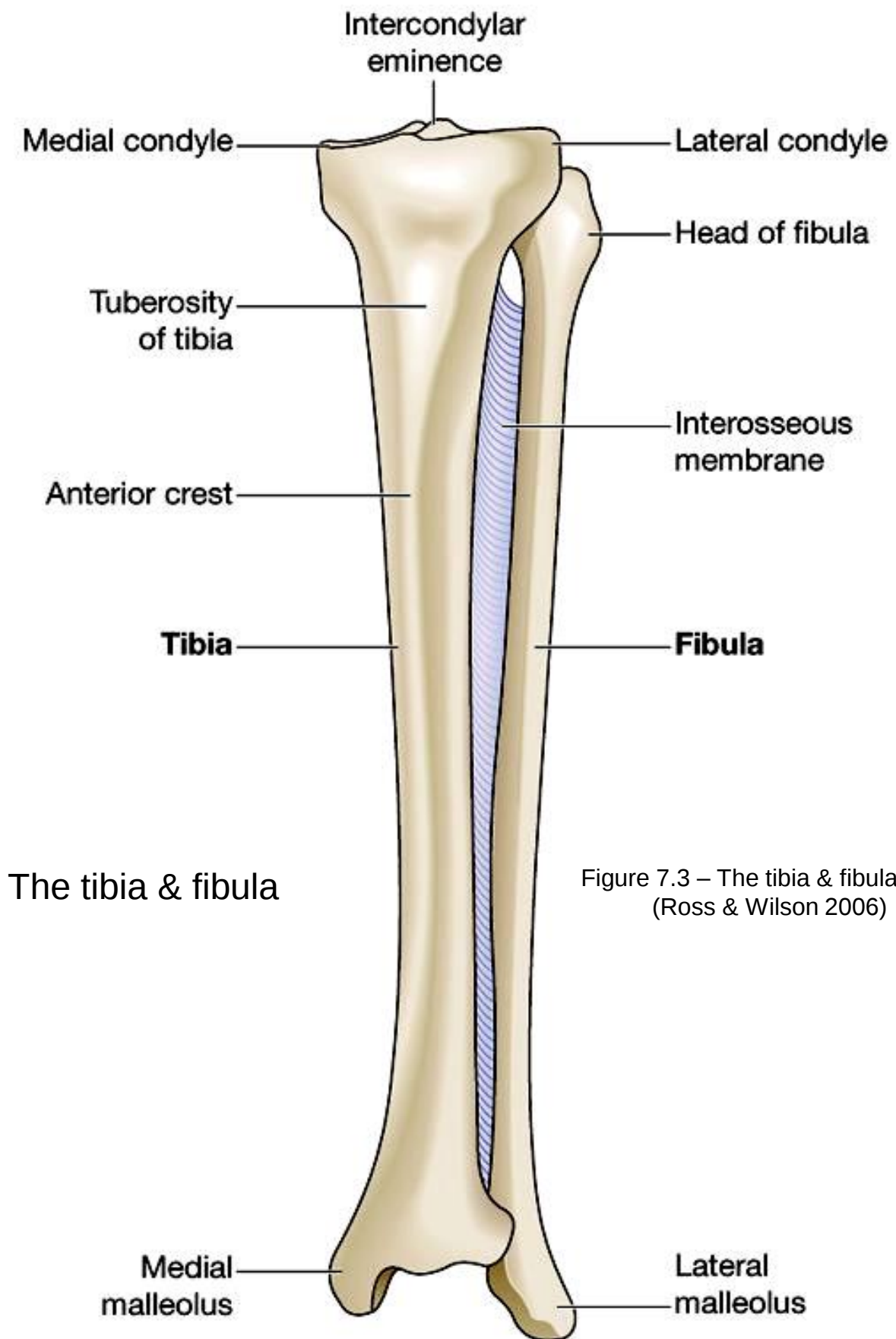


Figure 7.2 – The patella bone

The Patella bone
(knee bone)





The tibia & fibula

Figure 7.3 – The tibia & fibula bone
(Ross & Wilson 2006)

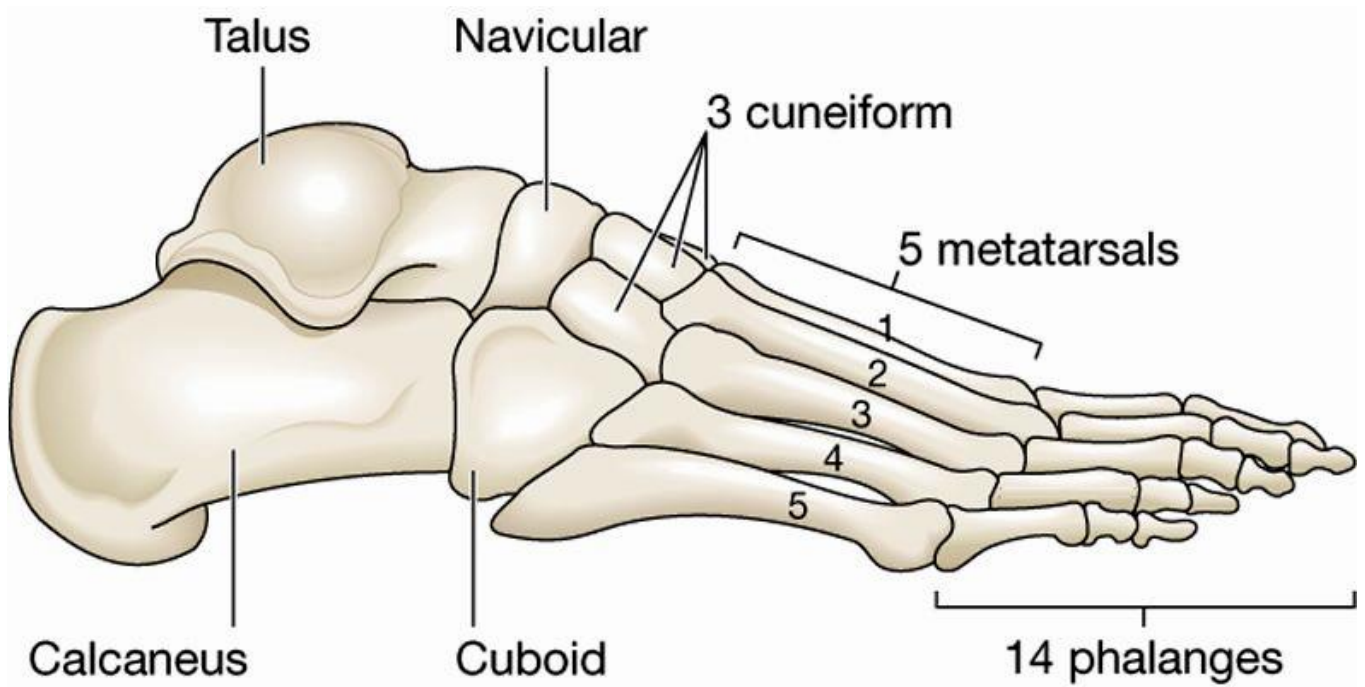


Figure 7.4 - The bones of the foot (Ross & Wilson 2006)

Main References

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