

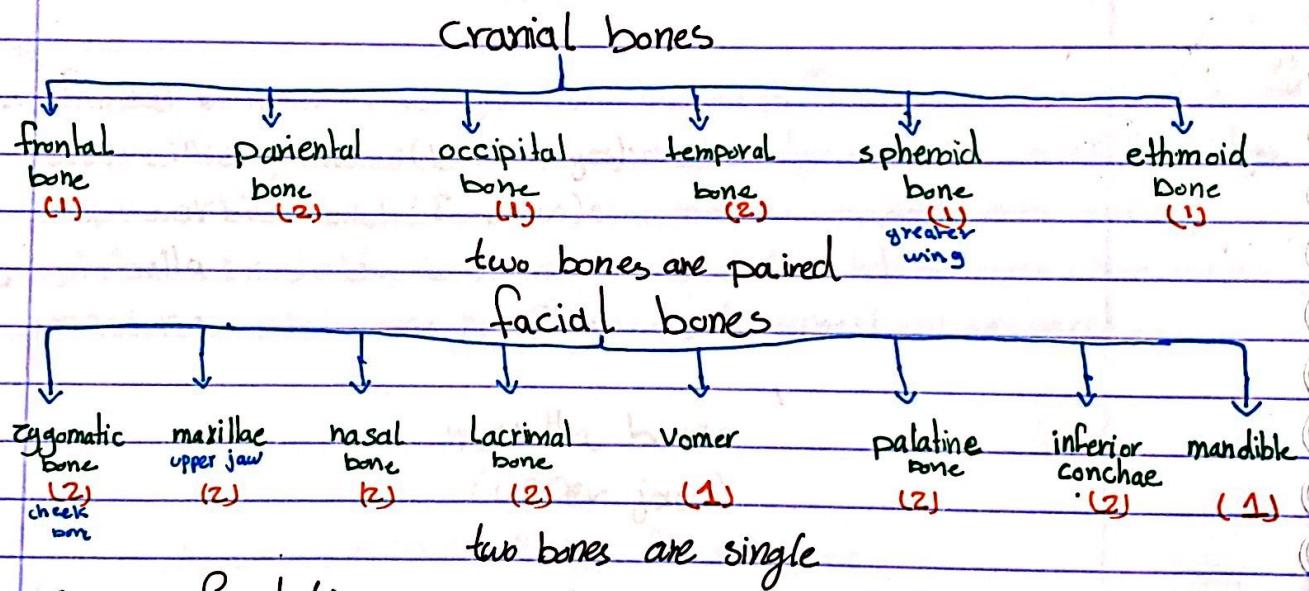
anterior 前  
Lateral 侧  
Posterior 后  
Superior 上  
Inferior 下

## the skull 1

- \* the skull have 22 bone united at immobile joints called sutures
- \* the connective tissue between bone called sutural Ligament
- \* only one movable bone, the mandible which is united to the skull by the mobile Temporo mandibular joint (TM joint)

the bone of the skull can be divided into

1. Cranial bones (neuro cranium)
2. Facial bones (viscerocranium)



norma frontalis :

upper part : forehead made of the frontal bone

middle Part : contains 3 cavities, 2 orbital & 1 nasal

lower part : formed by the upper & lower jaws

Coronal suture : the frontal bone articulates with two parietal bone.

Lambdoid suture : the parietal bone articulate with the occipital bone.

Sagittal suture : the two parietal bones articulate in the midline.

Bregma : the junction of the sagittal & coronal sutures.

bregma & lambda form anterior and posterior fontanelles in a skull of a new born baby through ossification process (formation of cartilage in fibrous membrane  $\rightarrow$  intramembranous ossification)

\* fontanelles should be flat & firm \*

$\hookrightarrow$  if they become bulged or sucked, it indicates a medical problem

$\hookrightarrow$  if it is bulging  $\rightarrow$  increase in intracranial pressure

$\hookrightarrow$  if it is sucking  $\rightarrow$  the baby was dehydrated & need more fluid or baby had malnutrition

\* Fontanelles are indicators of the internal health of the baby

Anterior fontanel  $\rightarrow$  complete closure at 1 to 1 & half year

Posterior fontanel  $\rightarrow$  complete closure from 6 months to 1 year

external occipital protuberance: in the midline of the occipital bone is a roughened elevation below the external occipital crest

superior nuchal lines: on either side of protuberance extend laterally & below it the inferior nuchal line, above it the highest nuchal line

Ligamentum nuchae: extends from the external occipital protuberance to the spinous process of the seventh (C7) cervical vertebra.

the external occipital protuberance gives attachment to muscles

& the ligamentum nuchae.

## frontal bone

frontal eminence: above eyebrow 3cm, the most prominent area on either side of forehead

superciliary arches (brow ridges): elevated ridges above the suporbital margins.

supraorbital notch (Foramen): transmits the supraorbital nerve & vessels.

glabella: a slightly elevated area above the root of nose between 2 superciliary arches.

nasion: a point where the frontonasal & internasal sutures meet.

## maxilla bone

(upper jaw)

frontal process: articulated with the frontal bone

zygomatic process: articulated with zygomatic bone

alveolar process: the bony ridge that contains the tooth sockets for holding upper teeth

orbital plate: forms the floor of the orbital -

platine process: forms the anterior part of hard palate

infraorbital foramen: transmits the infraorbital nerve & vessels.

## Zygomatic bone

frontal process, orbital plate

temporal process: articulates with zygomatic process of temporal bone & form "zygomatic arch"

maxillary process: articulates with maxillary bone.

Zygomatic bone perforated by two foramina: 1. zygomatico-temporal foramen

2. zygomatico-facial foramen

## temporal bone

squamous part: parieto-temporal suture (squamous suture)

tympanic part: external acoustic meatus

mastoid process: located behind the ear exactly

styloid process: sharp & pointed

zygomatic process

Petrosus part:

the head of mandible articulates with temporal bone in synovial joint (movable) into the mandibular fossa & articular tubercle

the zygomatic process of temporal bone articulates with the temporal process of the zygomatic bone to form "zygomatic arch"

superior temporal lines: gives attachment for temporal fascia

inferior temporal lines: attachment of temporalis muscle

temporalis muscle: moves the lower jaw during mastication, b. it originates from the inferior temporal line to be inserted into the mandible

temporal fossa: lies below the inferior temporal line

infra-temporal fossa: lies deep to the ramus of mandible below zygomatic arch  
the zygomatic arch divides the lateral side of the skull into:

1. the temporal fossa
2. the infra-temporal fossa

pterion: is an area located on the floor of the temporal fossa where

4 bones meet at an H-shaped structure 1. frontal 2. parietal

3. squamous Part of temporal 4. greater wing of sphenoid

the pterion is the thinnest part of the lateral wall of the skull, it overlies the anterior division of the middle meningeal artery & vein  
it can cause with any injury a epidural bleeding.

superior orbital fissure: is a fissure between the greater & lesser wings of the sphenoid bone, it leads forward into the orbit.

inferior orbital fissure: is a fissure between the greater wing of sphenoid bone & maxilla, it leads forward into the orbit.