بسم الله الرحيم

وَقُلْ رَبِّ زِدْنِي عِلْمًا

صدق الله العظيم

سورة طه..الآية (114)

كل عام وانتم بخير

يه سعيده

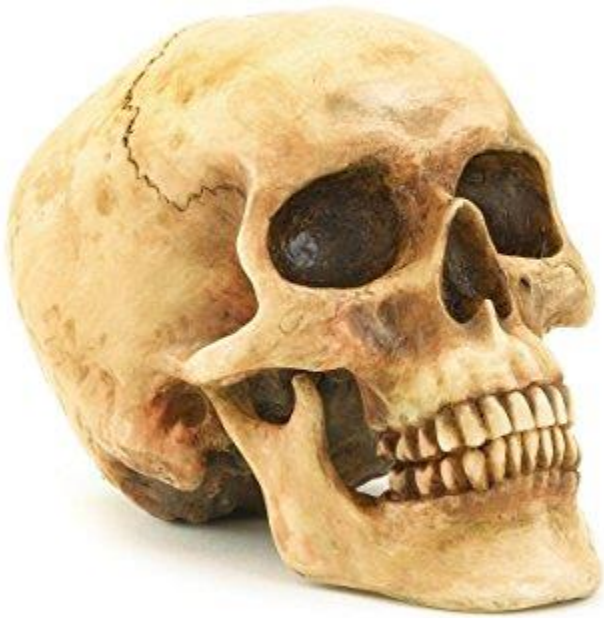
عبد الستار

Skull

General features

skull

General features



*

- The **skull** is a bony structure that forms the head . It supports the structures of the face and provides a protective cavity for the brain.

- The skull is composed of two parts: the **cranium** and the mandible

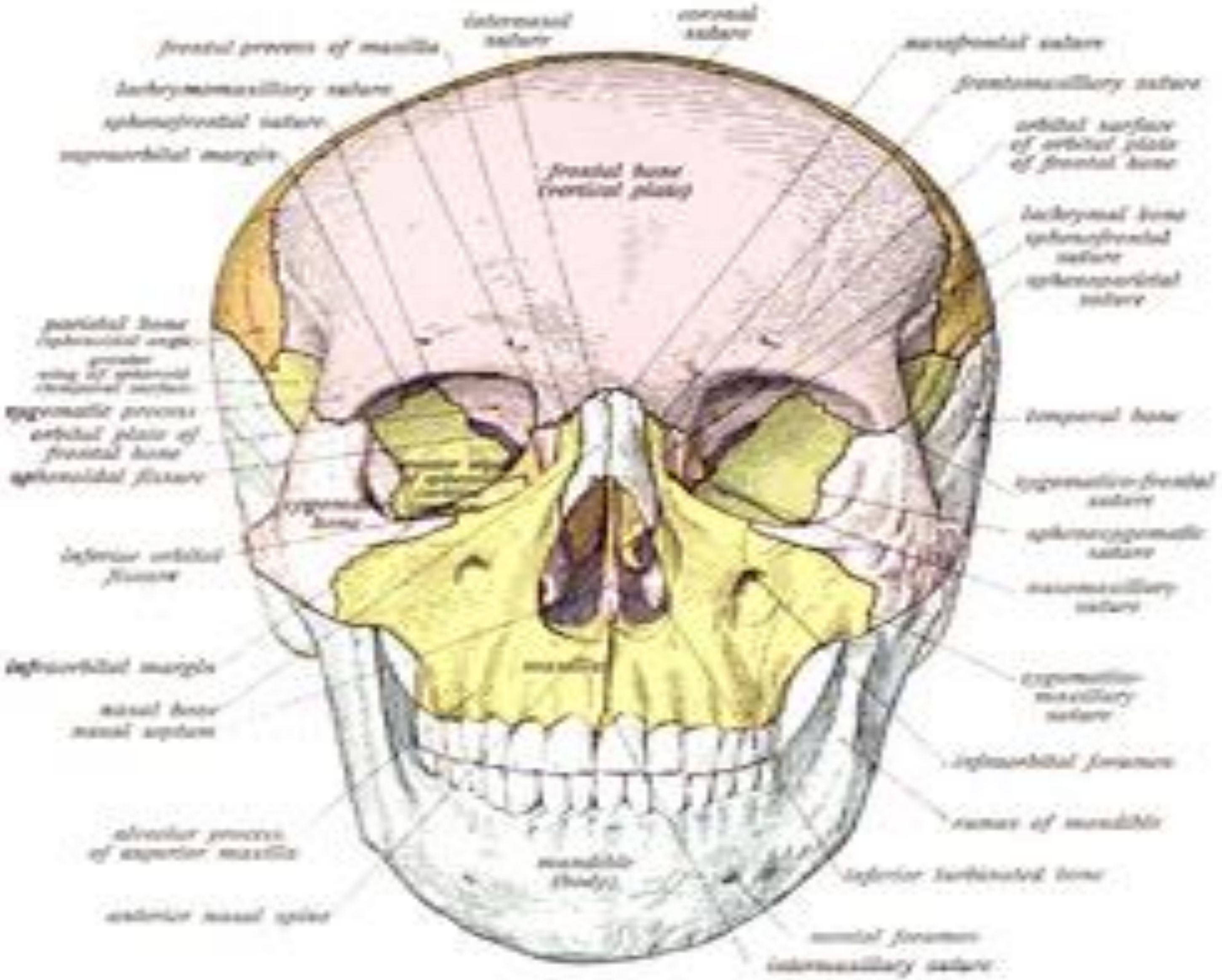
*

- These two parts are the neurocranium and the viscerocranium or facial skeleton that includes the mandible as its largest bone.
- .

- Functions of the skull include protection of the brain,
- fixing the distance between the eyes to allow stereoscopic vision,
- and fixing the position of the ears to enable sound localisation of the direction and distance of sounds..

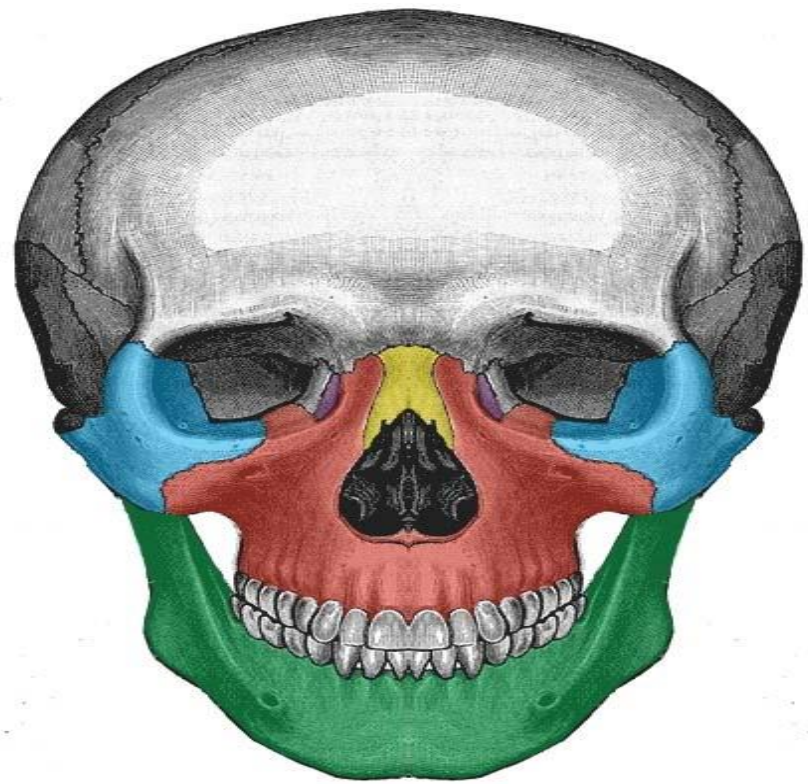
- . It supports the structures of the face

- and forms a cavity for the brain. it protects the brain from injury.


internasal suture
coronal suture
frontal process of maxilla
nasofrontal suture
lachrymomaxillary suture
frontomaxillary suture
sphenofrontal suture
supraorbital margin
orbital surface of orbital plate of frontal bone
frontal bone (vertical plate)
lachrymal bone
sphenofrontal suture
sphenoparietal suture
parietal bone
zygomatic process
orbital plate of frontal bone
sphenoidal fissure
temporal bone
zygomatico-frontal suture
sphenozygomatic suture
inferior orbital fissure
nasomaxillary suture
infraorbital margin
maxilla
zygomatico-maxillary suture
nasal bone
nasal septum
infraorbital foramen
ramus of mandible
alveolar process of superior maxilla
mandible (body)
inferior turbinated bone
anterior nasal spine
mental foramen
intermaxillary suture

- The human skull is generally considered to consist of twenty-two bones—eight cranial bones and fourteen facial skeleton bones.
- In the neurocranium these are
- the occipital bone, two temporal bones, two parietal bones, the sphenoid, ethmoid and frontal bones.

- The bones of the facial skeleton are the vomer, two nasal conchae, two nasal bones, two maxilla, the mandible, two palatine bones, two zygomatic bones, and two lacrimal bones.
-



- Zygomatic
- Maxilla
- Nasal
- Lacrimal
- Mandible

- Some sources count a paired bone as one, or the maxilla as having two bones (as its parts);

- some sources include the hyoid bone or the three ossicles of the middle ear but the overall general consensus of the number of bones in the human skull is the stated twenty-two.

Cavities and foramina

- The skull also contains sinus cavities and numerous foramina.
- The sinuses are lined with respiratory epithelium.
- Their known functions are the lessening of the weight of the skull, the aiding of resonance to the voice and the warming and moistening of the air drawn through the nasal cavity.

- The foramina are openings in the skull. The largest of these is the foramen magnum that allows the passage of the spinal cord as well as nerves and blood vessels.

Sutures of skull

- Coronal suture: between the frontal and parietal bones
- Lambdoid suture: between the parietal, temporal, and occipital bones
- Occipitomastoid suture
- Parietomastoid suture
- Sphenofrontal suture
- Sphenoparietal suture

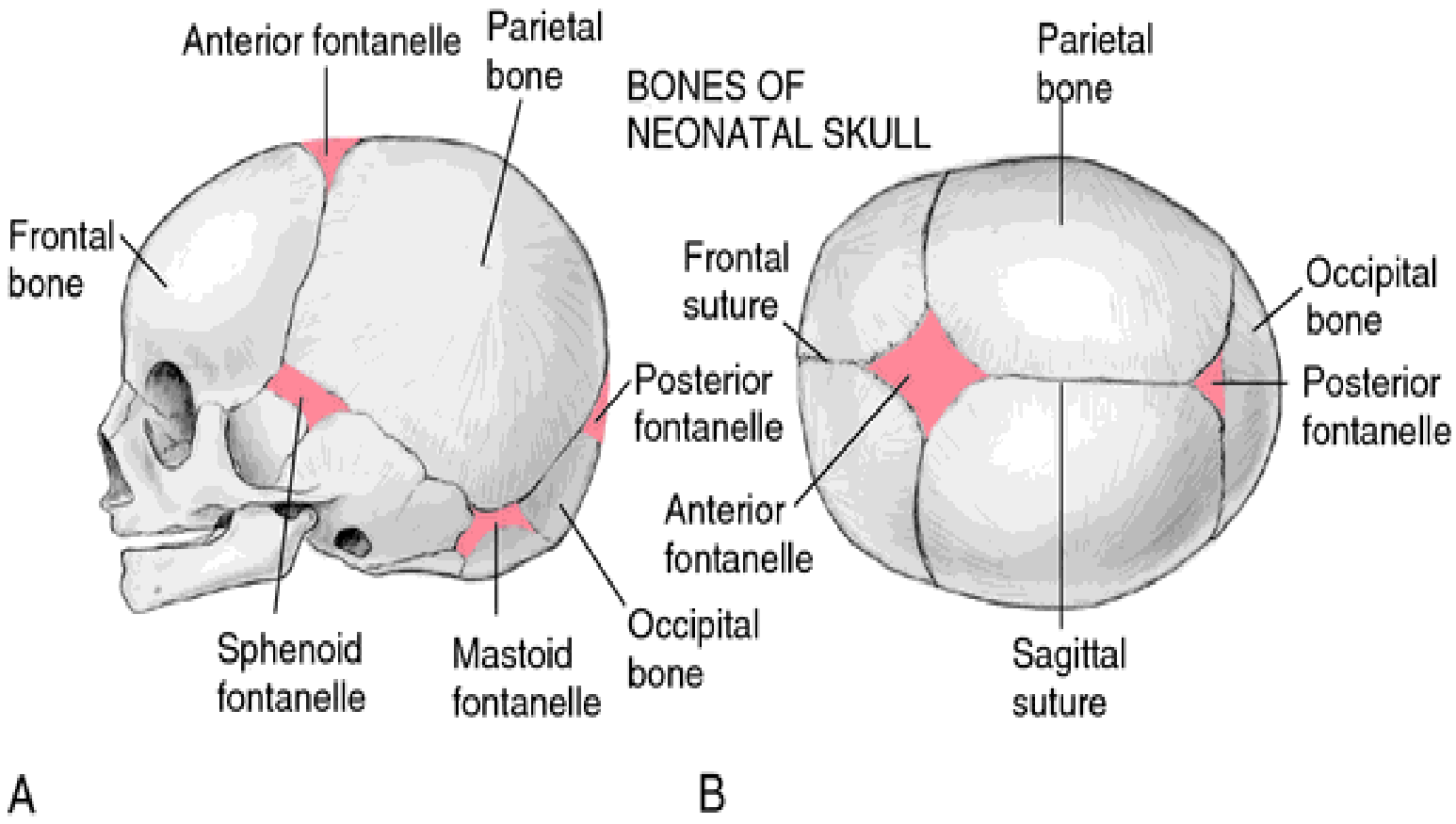
- Sphenosquamosal suture
- Sphenozygomatic suture
- Squamosal suture: between the parietal and the temporal bone
- Zygomaticotemporal suture
- Zygomaticofrontal suture

- Sutures primarily visible from front of the skull (norma frontalis) or above the skull (norma verticalis) include:
- Frontal suture / Metopic suture: between the two frontal bones, prior to the fusion of the two into a single bone
- Sagittal suture: along the midline, between parietal bones.

- Sutures primarily visible from below the skull (norma basalis) or inside the skull include:
- Frontoethmoidal suture
- Petrosquamous suture
- Sphenoethmoidal suture
- Sphenopetrosal suture

- The fibrous connective tissue found at a suture strongly unites the adjacent skull bones and thus helps to protect the brain and form the face. In adults, the skull bones are closely opposed and fibrous connective tissue fills the narrow gap between the bones.

- **Fontanelles**
- It is normal for many of the bones of the skull to remain unfused at birth.


Anterior fontanelle
Parietal bone
Frontal bone
Posterior fontanelle
Sphenoid fontanelle
Mastoid fontanelle
Occipital bone
A
BONES OF NEONATAL SKULL
Parietal bone
Frontal suture
Occipital bone
Posterior fontanelle
Anterior fontanelle
Sagittal suture
B

- These broad areas of connective tissue are called fontanelles.
- During birth, the fontanelles provide flexibility to the skull, allowing the bones to overlap slightly, thus aiding movement of the infant's head through the birth canal.

- After birth, these expanded regions of connective tissue allow for rapid growth of the skull and enlargement of the brain.
-
- The fontanelles greatly decrease in width during the first year after birth as the skull bones enlarge.
- When the connective tissue between the adjacent bones is reduced to a narrow layer, these fibrous joints are now called sutures.

The skull is studied from different aspects

Norma verticalis
Norma frontalis
Norma lateralis
Norma occiptalis

- Norma basalis externa
- Norma basalis interna