

SKULL

Two major functional regions:

- Cranial bones: surround the brain
- Facial bones: support the eyes, nose, mouth

Two major construction types*:

- endochondral ossification (skull base = basicranium)
- intra-membranous ossification (braincase & face)

Skull function:

- cranial vault protects brain
- protects n/a/v's associated with brain
- skeletal framework of the face

Articulations:

- Syndesmosis: sutures generally close by 20+ yr.
- Gomphoses: tooth sockets
- Synchondroses: epiphyseal growth plate (basicranium)

Types of sutures (*continuum of form & function*):

serrate/denticulate sutures > squamous/butt sutures

"Named" sutures: firm joints bound by dense CT

- Lambdoidal - btw occipital & parietal bones
- Coronal - btw frontal & parietal bones
- Sagittal - btw parietal bones
- Squamosal - btw temporal & parietal bones
- Metopic - btw frontal bones (juv.) (8% adult)

Pneumatization of bone (2 types)

1. Diploe - often spongy/trabecular bone (flat bones)
2. Sinuses - large cavity within bone (irregular bones)
 - a. frontal, ethmoid, sphenoid, maxillary
 - b. lined by ciliated respiratory epithelium
 - c. interconnected w/ each other
 - d. all drain to nasal cavity
 - e. resonance (sound)
 - f. decrease in skull weight/mass

Sexual dimorphism

- female skulls are thinner & lighter than male skulls
- males: greater muscle mass w/ prominent muscle scars
- female cranial volume 8% smaller* than males
- testosterone pneumatizes membranous bones
 - = large brow ridges, coarse features, and...

....all things being equal, males are "air-heads"

Skull - Cranial bones

Frontal: squama, frontal sinuses, supraorbital foramen

Parietal: squama (inner & outer "tables")

Occipital: squama, occipital condyles, foramen magnum

Temporal (squamosal bone): 3 parts

1. squama - zygomatic process, mandibular fossa
2. tympanic - external auditory meatus, styloid + mastoid processes
3. petrous - internal auditory meatus

Foramen: carotid canal, jugular foramen (lab)

Sphenoid:

- body, sphenoid sinus, sella turcica
- Greater and lesser wings, pterygoid processes
- foramen rotundum & foramen ovale
- optic foramen, superior & inferior orbital fissure

Ethmoid:

- cribriform plate - olfactory foramen
- perpendicular plate and crista galli
- superior & middle nasal conchae
- ethmoid sinuses (air cells)
- ostia of frontal & maxillary sinuses

Skull - Facial bones

Maxilla:

- alveoli, alveolar process, alveolar arch
- incisive fossa, palatine, zygomatic, frontal processes
- maxillary sinuses, nasolacrimal canal, infraorbital foramen

Palatine:

- greater & lesser palatine foramina
- vertical and horizontal parts

Zygomatic: frontal/maxillary/temporal processes

Lacrimal: lacrimal foramen

Nasal + Vomer + Inferior nasal conchae

Mandible:

- body, ramus, coronoid process
- mandibular condyle + condyloid process
- alveoli + alveolar process
- mental & mandibular foramina, mandibular canal

Teeth: Incisor, canine, premolar, molar

Hyoid: body, greater & lesser horns (cornua)

Auditory Ossicles: malleus + incus + stapes