

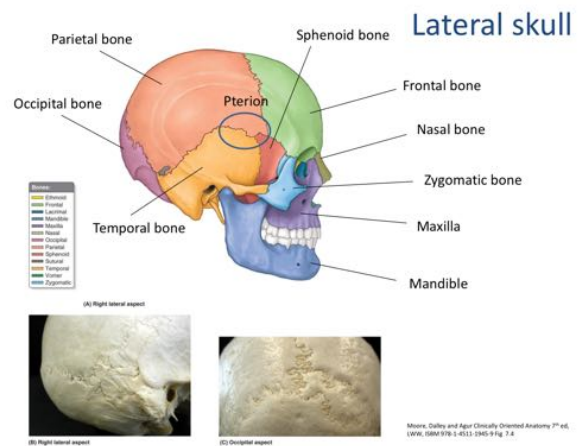
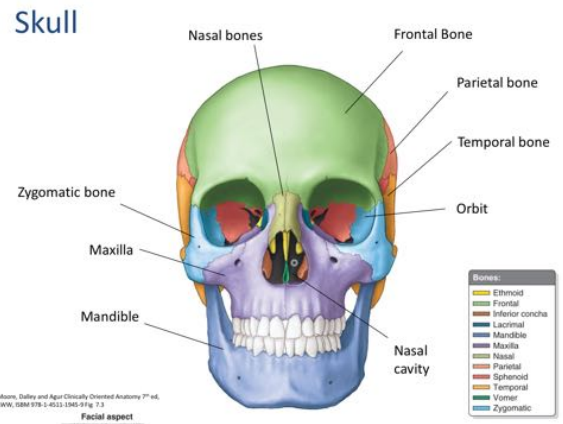
ANAT: Head and Skull

Lecture 1: Skull and cranial nerves

Skull

Bones

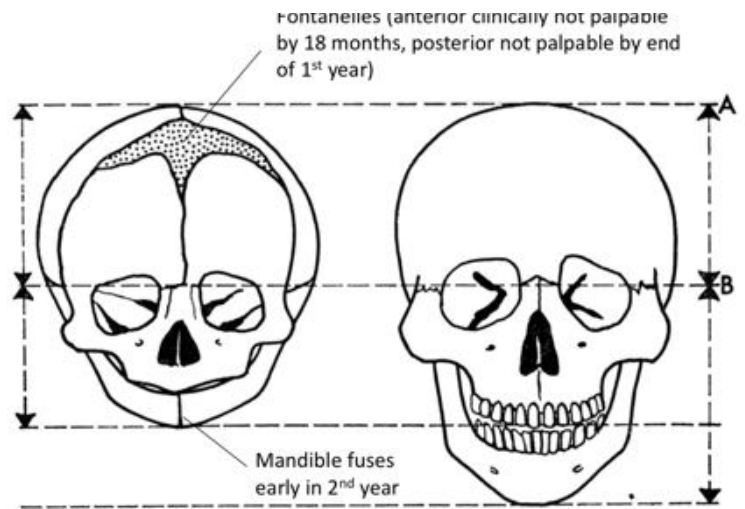
- Frontal bone – located at the front of the skull
 - o Forms the front of the cranial cavity, contributes to the orbit and the top of the nasal cavity
- Maxilla – check bone
 - o Can palpate at the front
 - o Involved in nasal cavity
 - o It has a dental arch which contains the upper teeth
 - o Contributes to the check bone and the lateral aspects of the nose
- Zygomatic bone - Articulating between the frontal bone and the maxilla
 - o Bone which is classically called the check bone
 - o You can palpate this
 - o Back end of the check bone
- Mandible
 - o It has a dental arch for the inferior teeth
 - o Has rami/arms that go up and articulate with the temporal bone allowing the mandible to go up and move
 - Very important for opening mouth and chewing
- There are also bones around the side and back
 - o Occipital bone – at the very back
 - Forms the posterior aspect of the cranial cavity
 - o Parietal bone - wedged between the occipital bone and frontal bone
 - Forms most of the lateral side of the skull
 - o Temporal bone – sits a bit posteriorly
 - Has an opening for the external auditory meatus which goes into towards the ear drum
 - Has a lump, posterior to the external auditory meatus = mastoid bone
 - The mastoid bone forms attachment for one of the attachments of the neck – the sternocleidomastoid
 - Styloid process hangs off temporal bone
 - Another process that runs forward to articulate with the zygomatic bone
 - o Sphenoid bone
 - Very odd shape
 - Greater wing of sphenoid can be seen on lateral skull
 - The bone runs all the way through the cranial cavity and forms a wing on the other side
 - Where they meet each other forms a lot of sutures



Moore, Dalley and Agur Clinically Oriented Anatomy 7th ed., LWW, ISBN 978-1-4511-2945-9 Fig. 7.4

Growth of mandible and facial skeleton

- In infants the ratio of face to cranium is large
 - o Many of the bones haven't fused yet
 - o As we develop, most of the growth is occurring relative to the face and not the cranium
 - More growth in the face as opposed to the cranium
 - Relative to facial surgery, surgeries are attempted to be held back so the facial skeleton has developed appropriately



- o Hydrocephalous; is abnormality when there is increased fluid in the ventricles of the brain pushing the skull outwards – extra big skulls
- Most of these bones grow either via endochondral or intramembranous
 - o Flat bones – develop from intramembranous
- The bones from primary centers of ossification grow towards each other
 - o Therefore, at some stages during development, they are not fused
 - Important as in late fetal birth, we don't want the skull to be fused so it can move slightly during childbirth
 - Allowing the head to be squashed in and pass through the birth canal
- Just after birth there will be areas called fontanelles;
 - o The spaces between the bone which have not fused yet
 - o Typically last a year or two then become progressively more ossified and form the sutures that you see later in development
 - Anterior fontanelle – sits between the frontal and parietal bones
 - Usually fused by about 18 months
 - Posterior fontanelle - between two parietal bones and occipital bone
 - Usually fused by end of 1st year
 - o They have not completely physically fused but they are not soft anymore
 - o Mandible also fuses in midline
 - Happens in about the end of 2nd year of life

Sutures

In the adult the fusion is represented by suture lines

- Coronal
 - o Between frontal bone and parietal bone
- Lambdoid
 - o Between occipital bone and parietal bone
- Sagittal
 - o Running in between them in the midline
- On the lateral side – temple area = Pterion
 - o Have a whole pile of sutures
 - o A lot of bones meeting in rough H shape
 - Frontal, parietal, greater wing of sphenoid
 - o This is an area of weakness because of all these sutures coming together
 - Very easily fractured

