

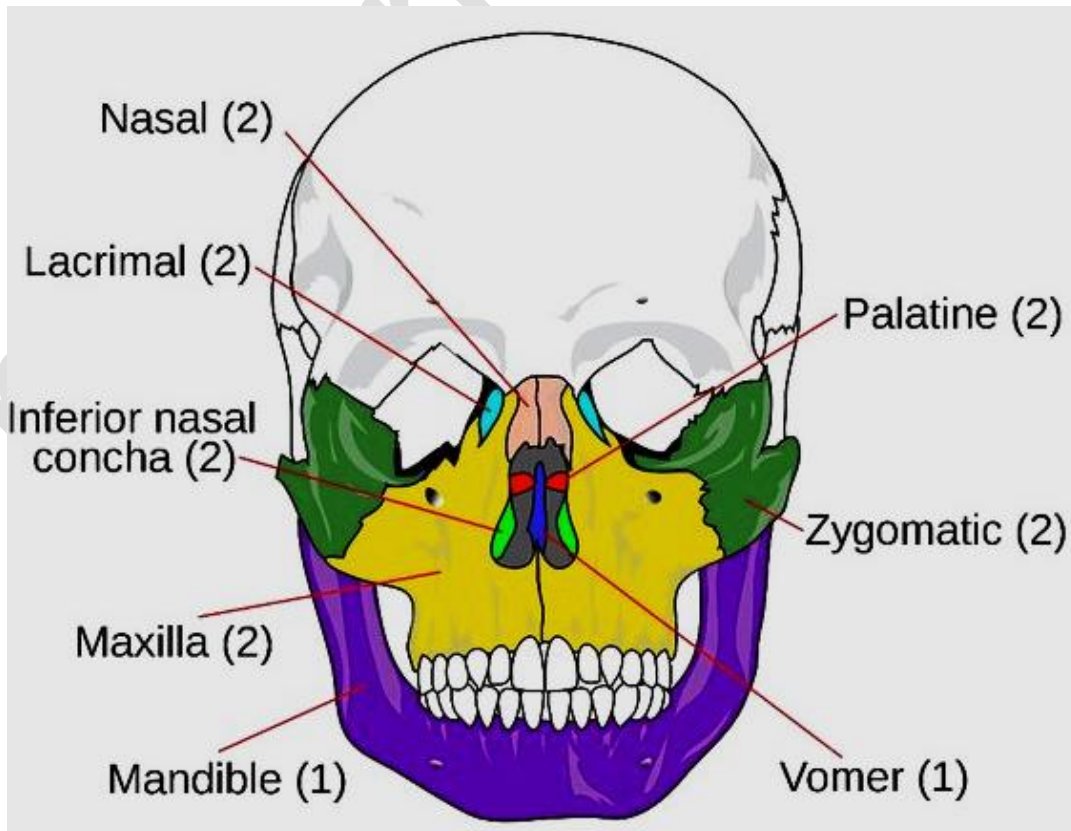
عظام الجمجمة Bones of the Skull

The skull is composed of 22 bones that composed of two main parts: facial and cranium bones.

عظام الوجه Bones of the Facial

The facial skeleton consists of 14 bones that provide structure and form to the face.

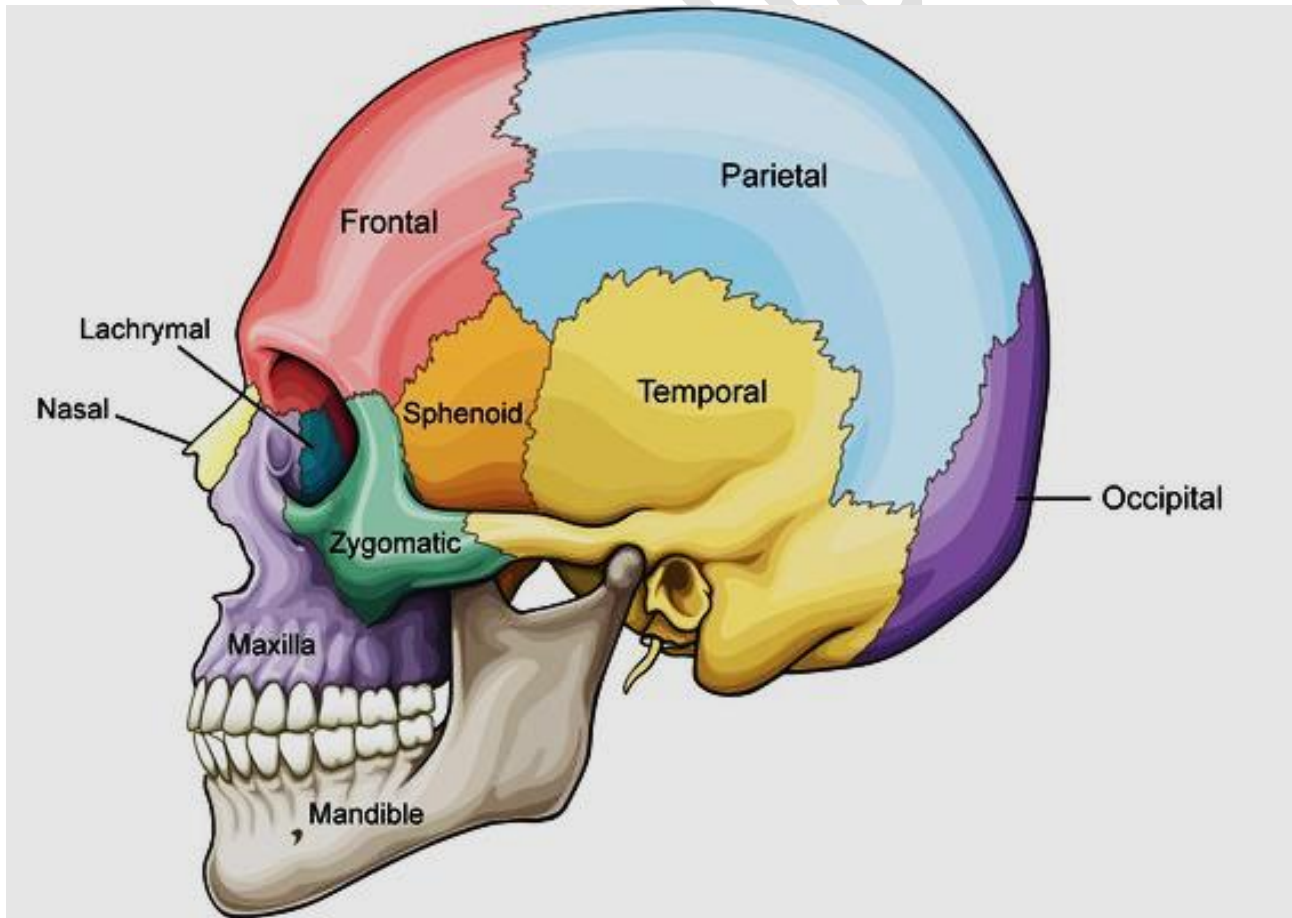
- Maxillary (2) - Form the upper jaw and anchor the upper teeth.
- Zygomatic (2) - Also called cheekbones. Prominent bones forming cheeks.
- Nasal (2) - Rectangular bones forming bridge of nose.
- Lacrimal (2) - Thin, small bones at inner corners of each eye.
- Inferior nasal conchae (2) - Curved bones lining lateral walls of nasal cavity.
- Palatine (2) - Form the back section of hard palate of mouth.
- Mandible (1) - Lower jaw bone, only moveable skull bone. Contains lower teeth.
- Vomer (1) - Triangular bone forming lower part of nasal septum.

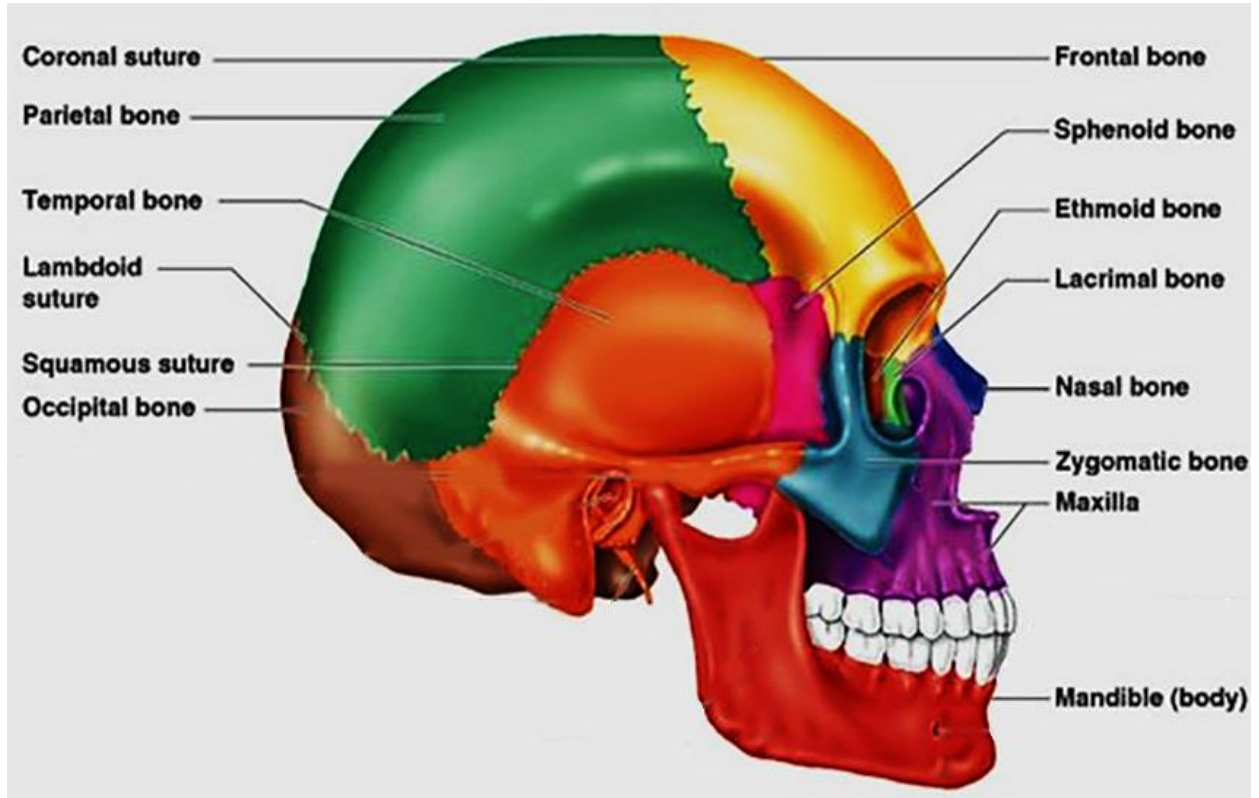


عظام القحف **Bones of the cranium**

The cranium refers to the bones of the skull that enclose and protect the brain. Here are the 8 bones of the cranium:

- Frontal (1) - Forms the forehead and the front part of the skull.
- Parietal (2) - Form the upper sides and roof of the cranium.
- Temporal (2) - Located on the lower sides of cranium. Contain ear structures.
- Occipital (1) - Forms the back and base of the cranium. Has large opening for spinal cord.
- Sphenoid (1) - Complex bone at central base of cranium. Has openings for optic nerves and blood vessels.
- Ethmoid (1) - Spongy bone between nasal cavity and the eye sockets.





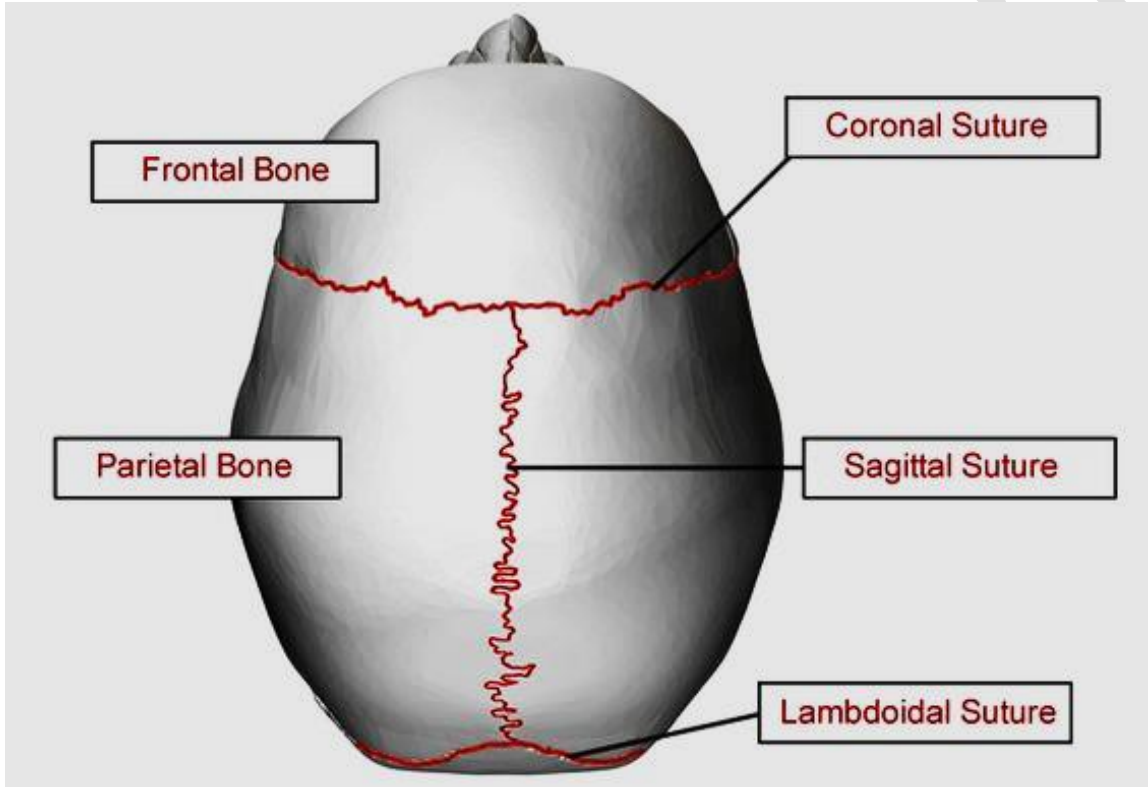
دروز الجمجمة Sutures of the Skull

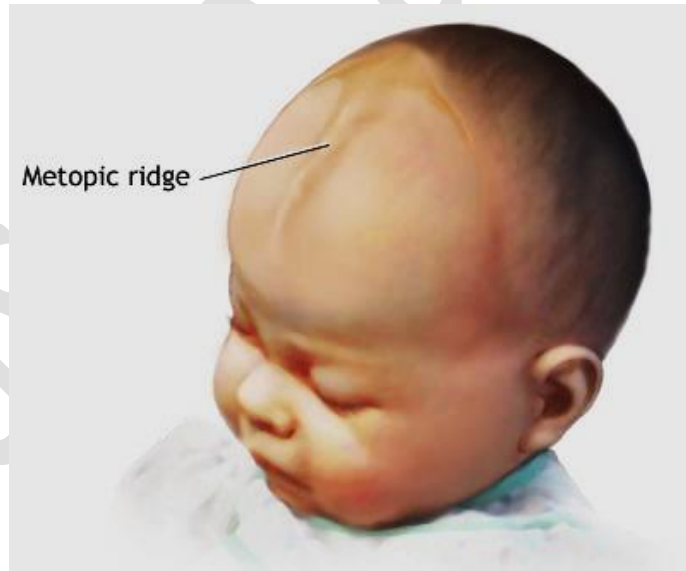
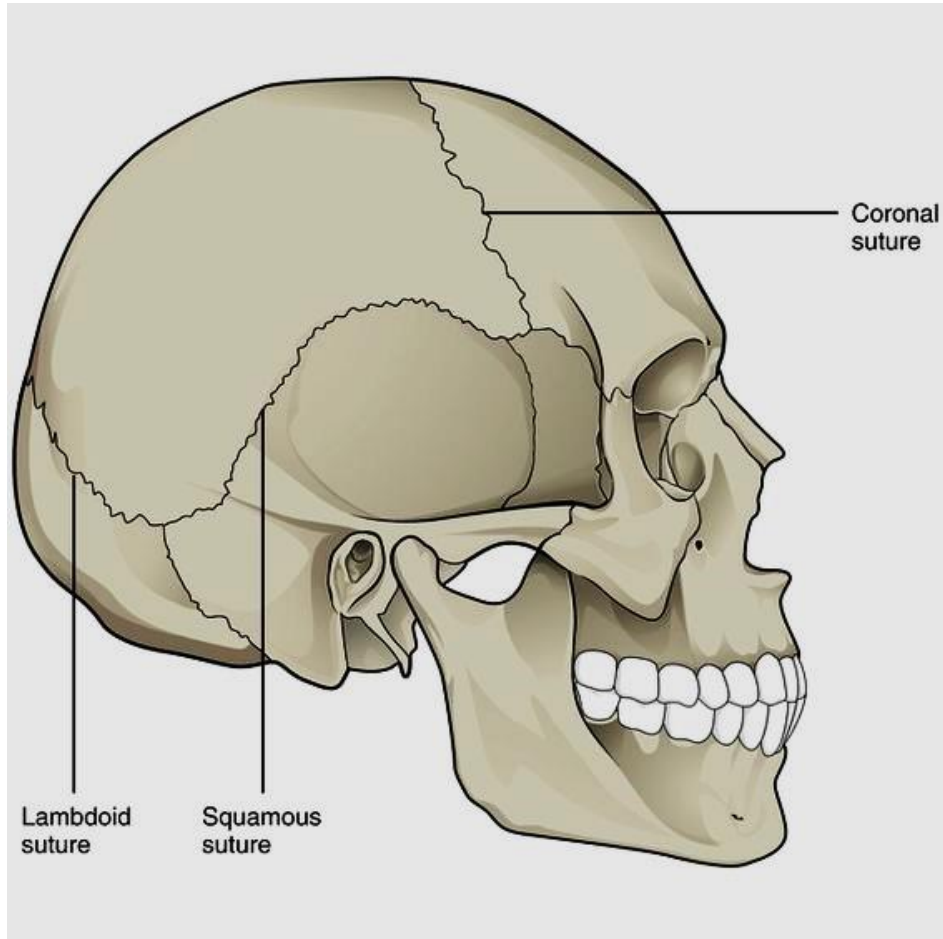
Sutures are fibrous joints between the bones in the skull that allow for growth of the skull and some flexibility. Here are some major sutures:

- Coronal suture - Joins the frontal bone to the right and left parietal bones.
- Sagittal suture - Joins the right and left parietal bones at the midline along the top of the skull.
- Squamous suture - Joins the parietal and temporal bones on each side.
- Lambdoid suture - Joins the occipital bone to the right and left parietal and temporal bones at the back of the skull.
- Metopic suture - Separates the right and left halves of the frontal bone. It allows lateral expansion of the forehead region during infancy and childhood development.

The sutures have a zig-zag appearance that resembles stitches, with projections from the bones interlocking with each other. This design allows the skull to expand during brain growth. The suture regions have connective tissue and small blood vessels between the bone edges.

تتميز الدروز بمظهر متعرج يشبه الغرز، مع تشابك نتوءات من العظام مع بعضها البعض. يسمح هذا التصميم للجمجمة بالتوسع أثناء نمو الدماغ. تحتوي مناطق الخياطة (الدروز) على نسيج ضام وأوعية دموية صغيرة بين حواف العظام.





Cranial Nerves الأعصاب القحفية

There are 12 cranial nerves that emerge from the brain and brainstem to control important structures of the head, neck and torso. Here are the cranial nerves and their major functions:

1. Olfactory nerve (I)- Transmits smell sensation from nose to brain.
2. Optic nerve (II) - Carries visual information from retina to brain for vision.
3. Oculomotor nerve (III) - Controls most eye movements and lift of eyelid.
4. Trochlear nerve (IV) - Controls certain eye movements like looking downwards.
5. Trigeminal nerve (V) - Supplies sensation to face and controls muscles for chewing.
6. Abducens nerve (VI) - Controls lateral movement of the eye for horizontal gaze.
7. Facial nerve (VII) -Controls facial expression muscles and tears/saliva secretion.
8. Vestibulocochlear nerve (VIII) - Carries sound and balance signals to the brain.
9. Glossopharyngeal nerve (IX) - Supplies taste sensation and controls salivary glands & swallowing.
10. Vagus nerve (X) - Key nerve for voice, swallowing, digestion and internal organ regulation via the autonomic system.
11. Accessory nerve (XI) - Activates neck and shoulder muscles.
12. Hypoglossal nerve (XII) - Controls tongue muscles for speech and swallowing.

In summary, the 12 cranial nerves emerge from the base of brain and brainstem to regulate vision, eye movement, sensations, facial expressions, hearing, balance, swallowing, speech and many involuntary functions.

باختصار، تنبثق الأعصاب القحفية الـ 12 من قاعدة الدماغ وجذع الدماغ لتنظيم الرؤية وحركة العين والأحاسيس وتعبيرات الوجه والسمع والتوازن والبلع والكلام والعديد من الوظائف اللاإرادية.

