



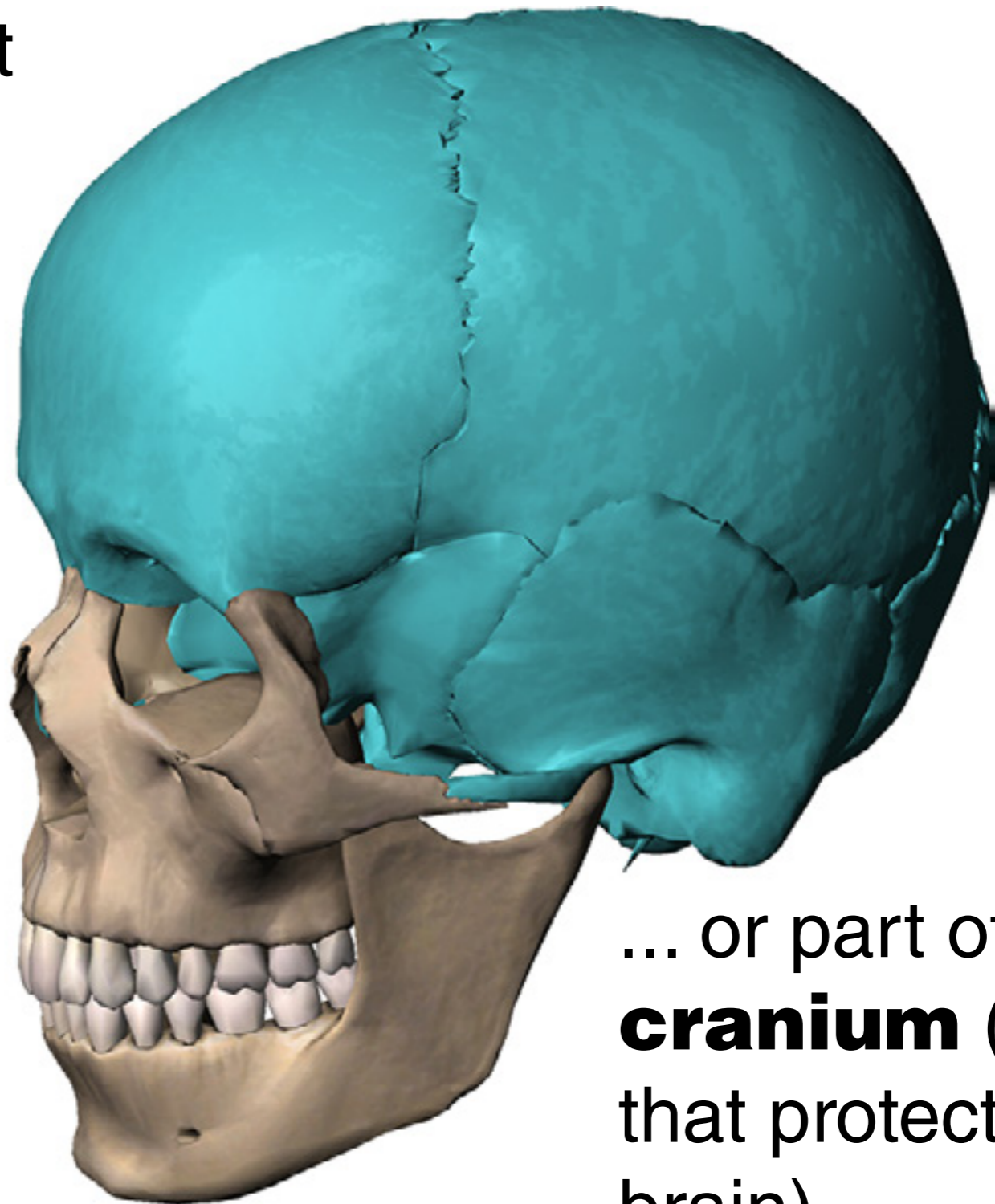
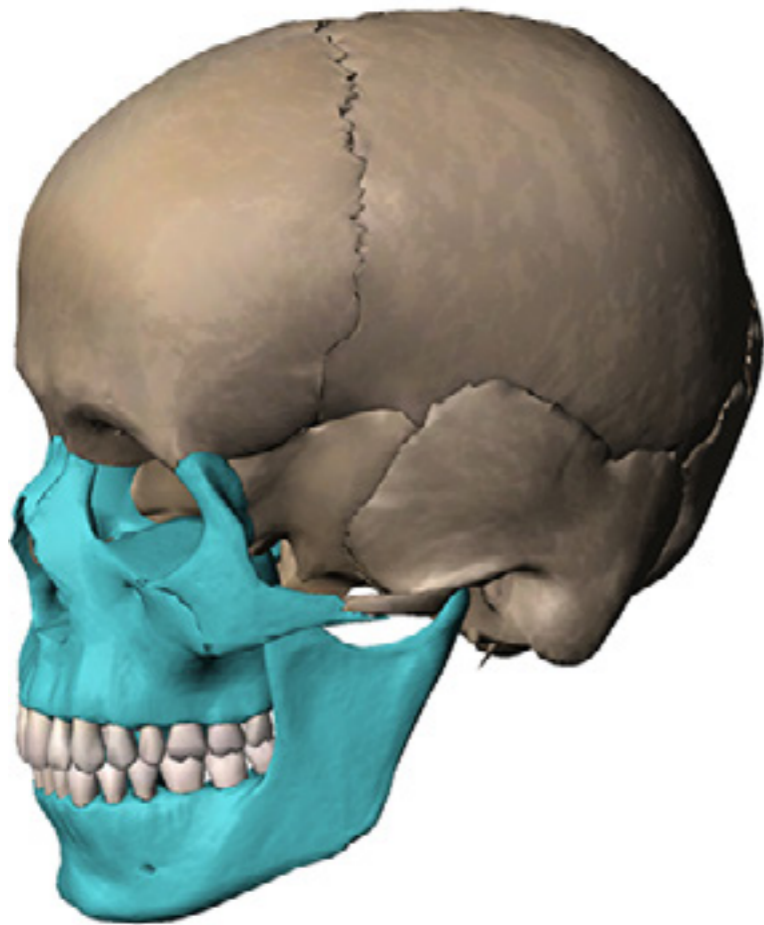
There are approximately 206 bones in your body and **22*** of them belong to your skull.

These bones, all irregular in shape, fit together like **puzzle pieces.**

*Teeth, bone-like structures located in the skull, are not counted.



Skull bones are either part of the **facial skeleton** (bones that make up the face)...

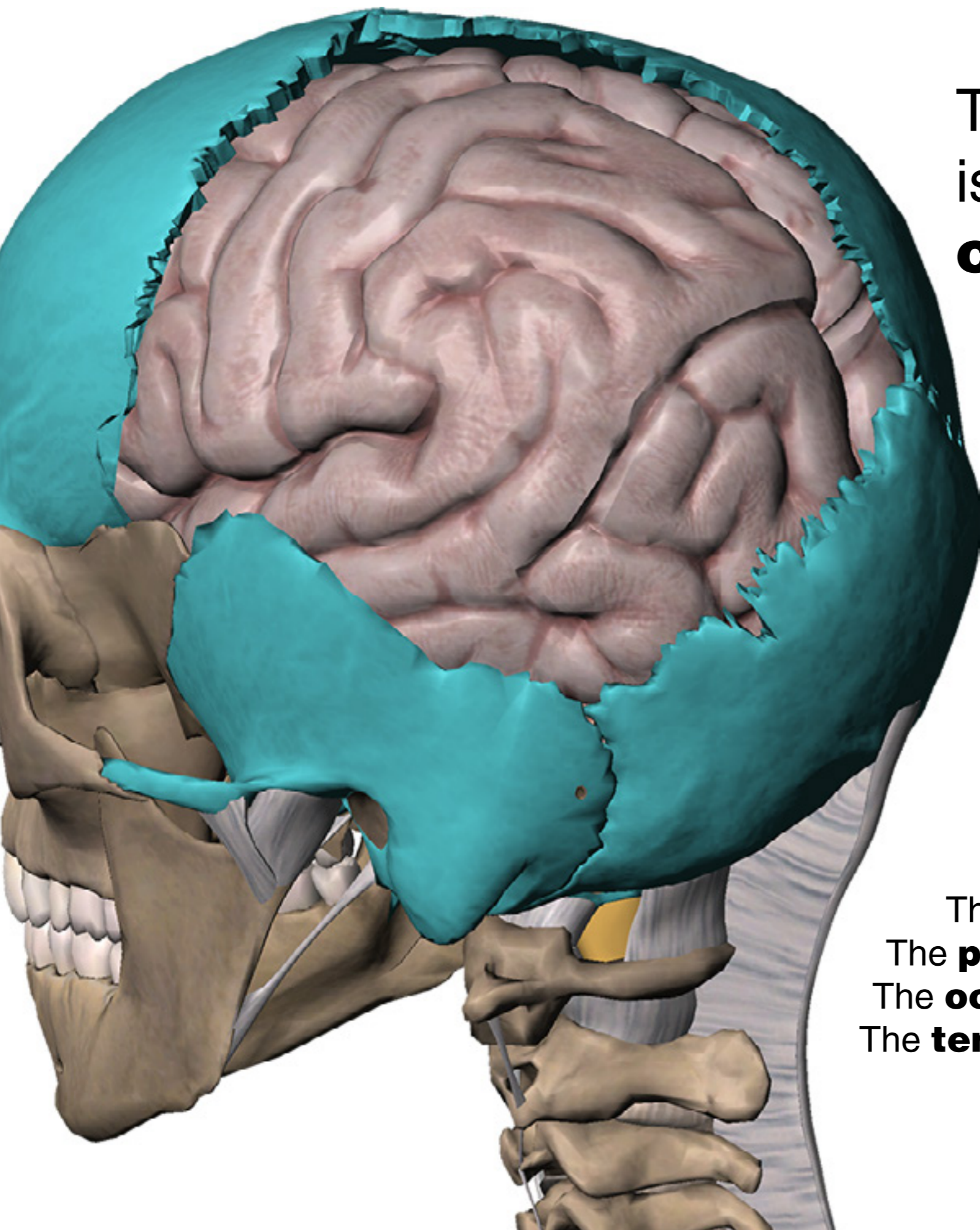


... or part of the **cranium** (bones that protect the brain).

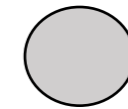
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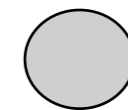
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The **calvaria** (skull cap) is the **upper** part of the **cranium**.



Each **bone** in the **calvaria** is named for the corresponding **lobe** of the **cerebrum** -- the largest part of the brain.

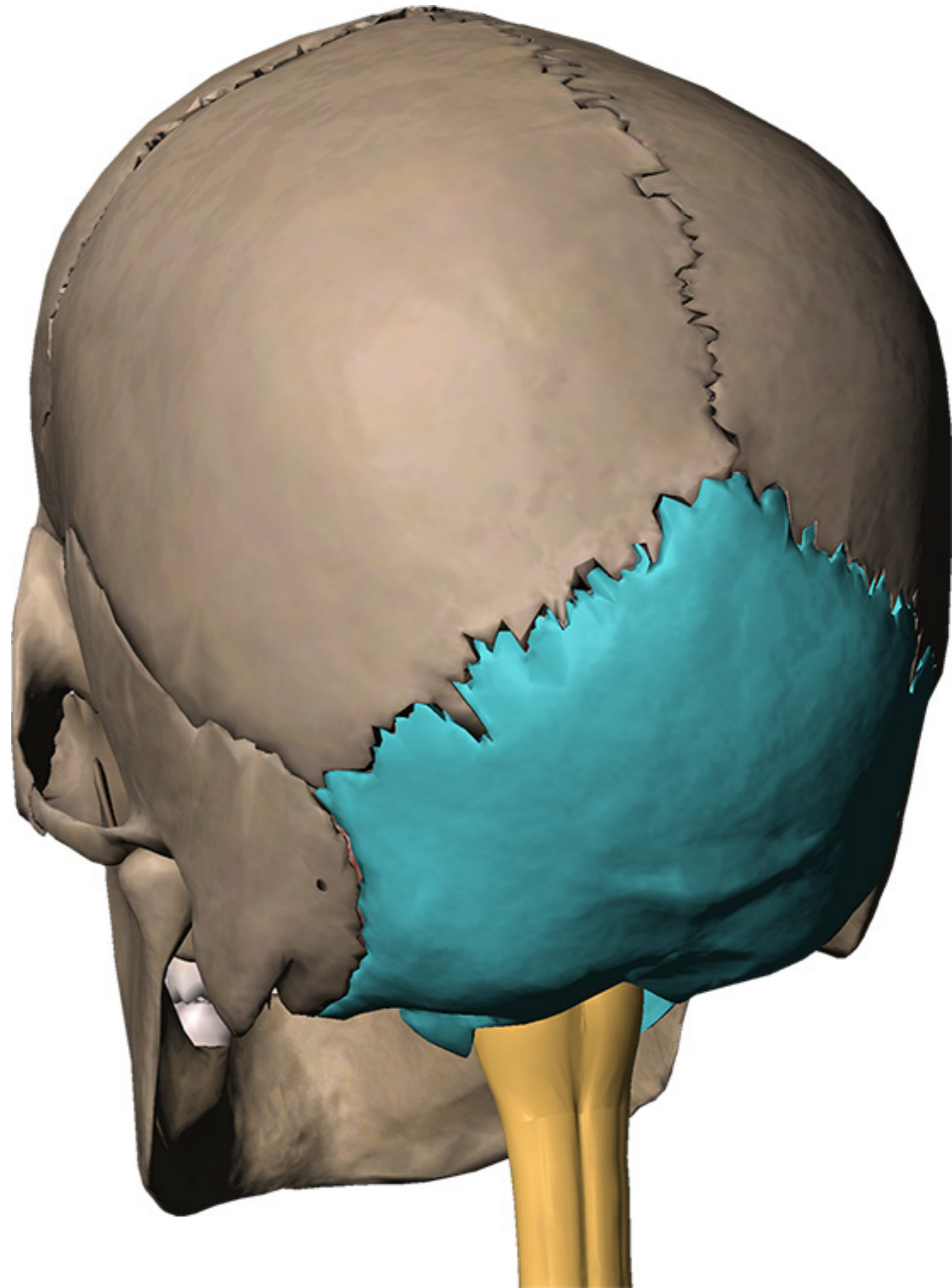


The **frontal** bone protects the frontal lobe. The **parietal** bones protect the parietal lobes. The **occipital** bone protects the occipital lobe. The **temporal** bone protects the temporal lobe.

The **occipital bone**:

- gives shape to the back of the skull.
- protects the occipital lobe.
- gives passage to the medulla oblongata.

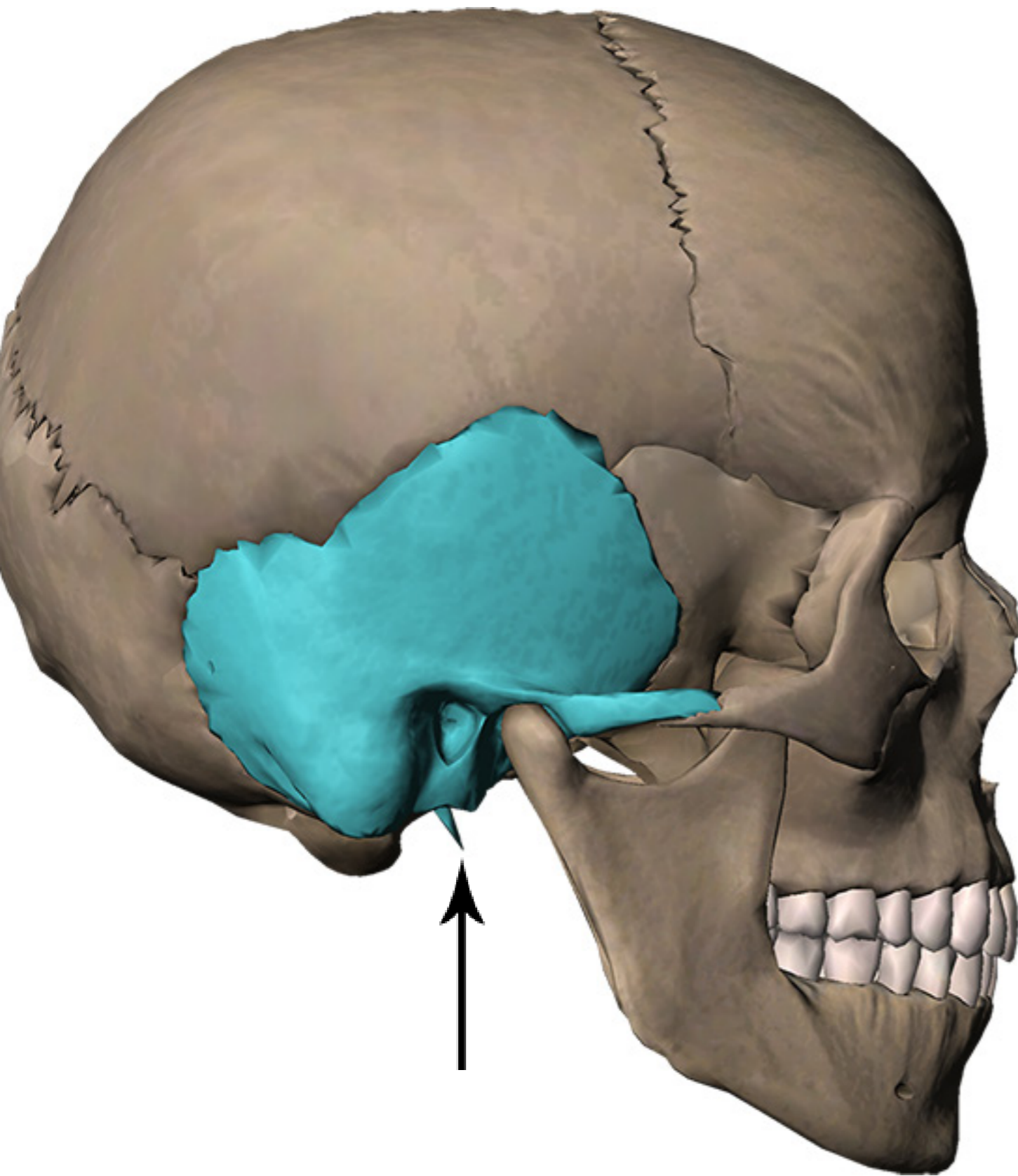
The **foramen magnum** is the name of the **opening** in the occipital bone through which the **brain** and **spinal cord** connect.



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In addition to protecting the corresponding lobes of the brain, the **temporal bones** have openings that connect the **structures** of the **inner and outer ears**.

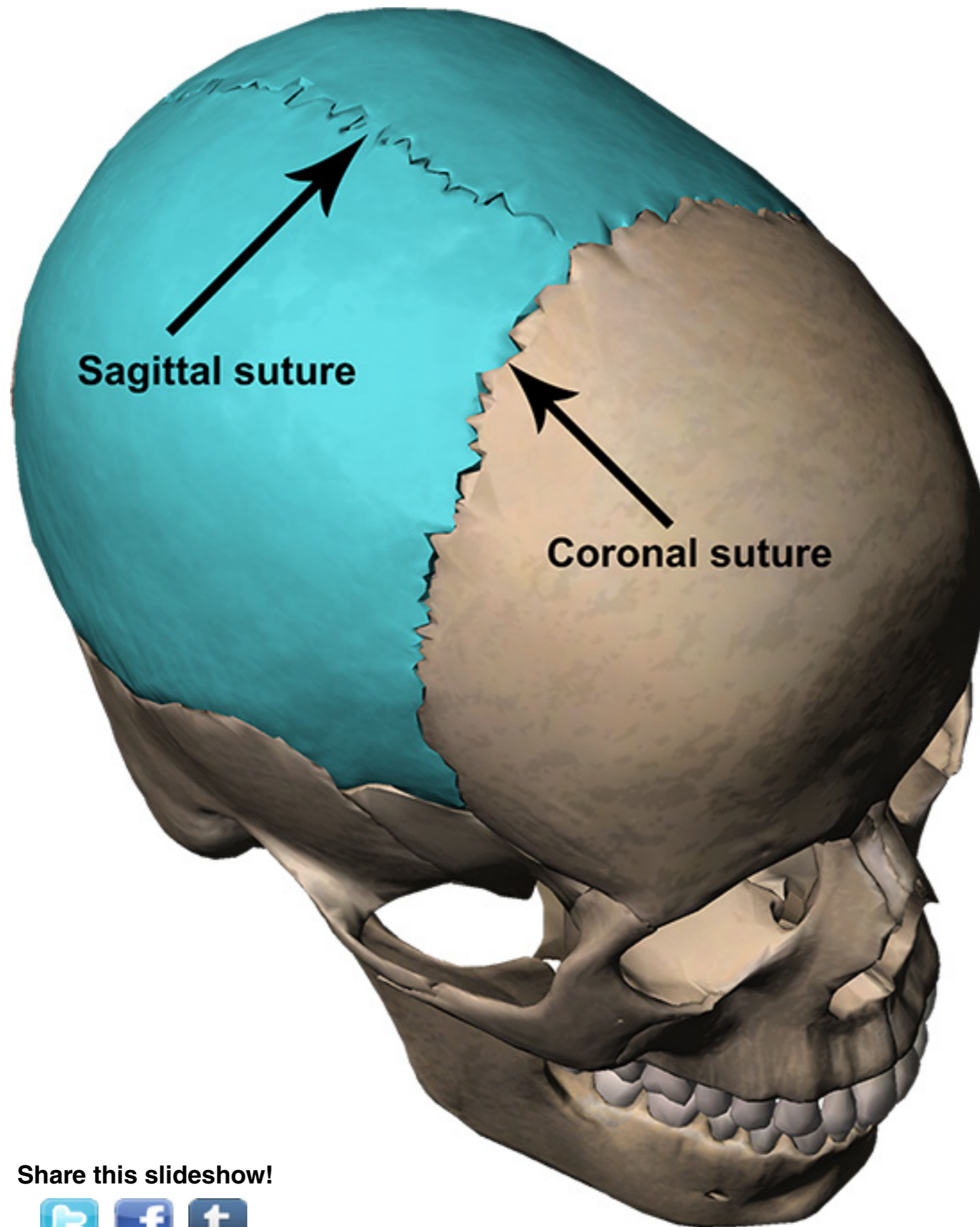
Factoid: The pointed **projections** you see at the bottom of the temporal bone is called the **styloid process**. Muscles of the **neck** and **extrinsic tongue** attach there.

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A **suture** is a **fibrous joint** found only in the **skull**. The parietal bones (in blue) come together to form the **sagittal suture** and also form the **coronal suture** with the frontal bone.

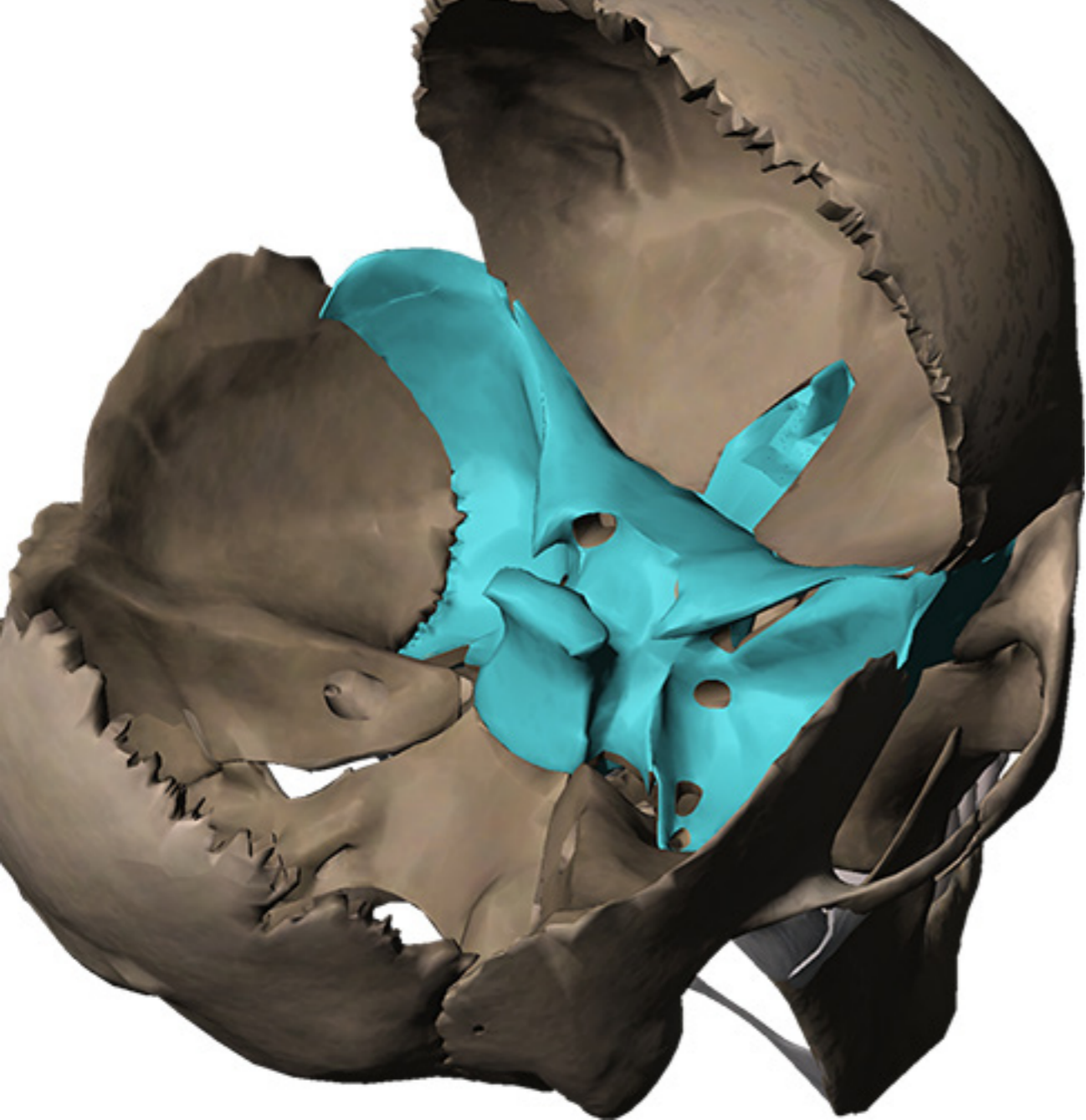
Factoid: there are **17 sutures** in the skull.

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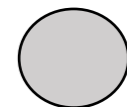
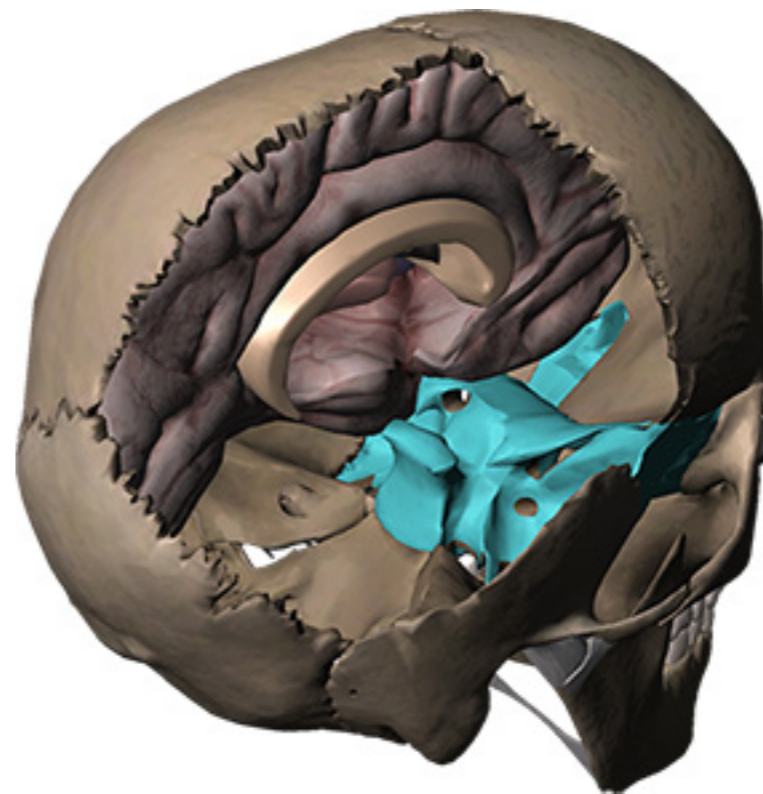
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The **sphenoid** and the **ethmoid** are not part of the calvaria but are part of the **cranium**. They protect the **underside** of the brain.

The **sphenoid** is a bat-shaped bone and is the **keystone** bone at the base of the cranium.



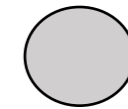
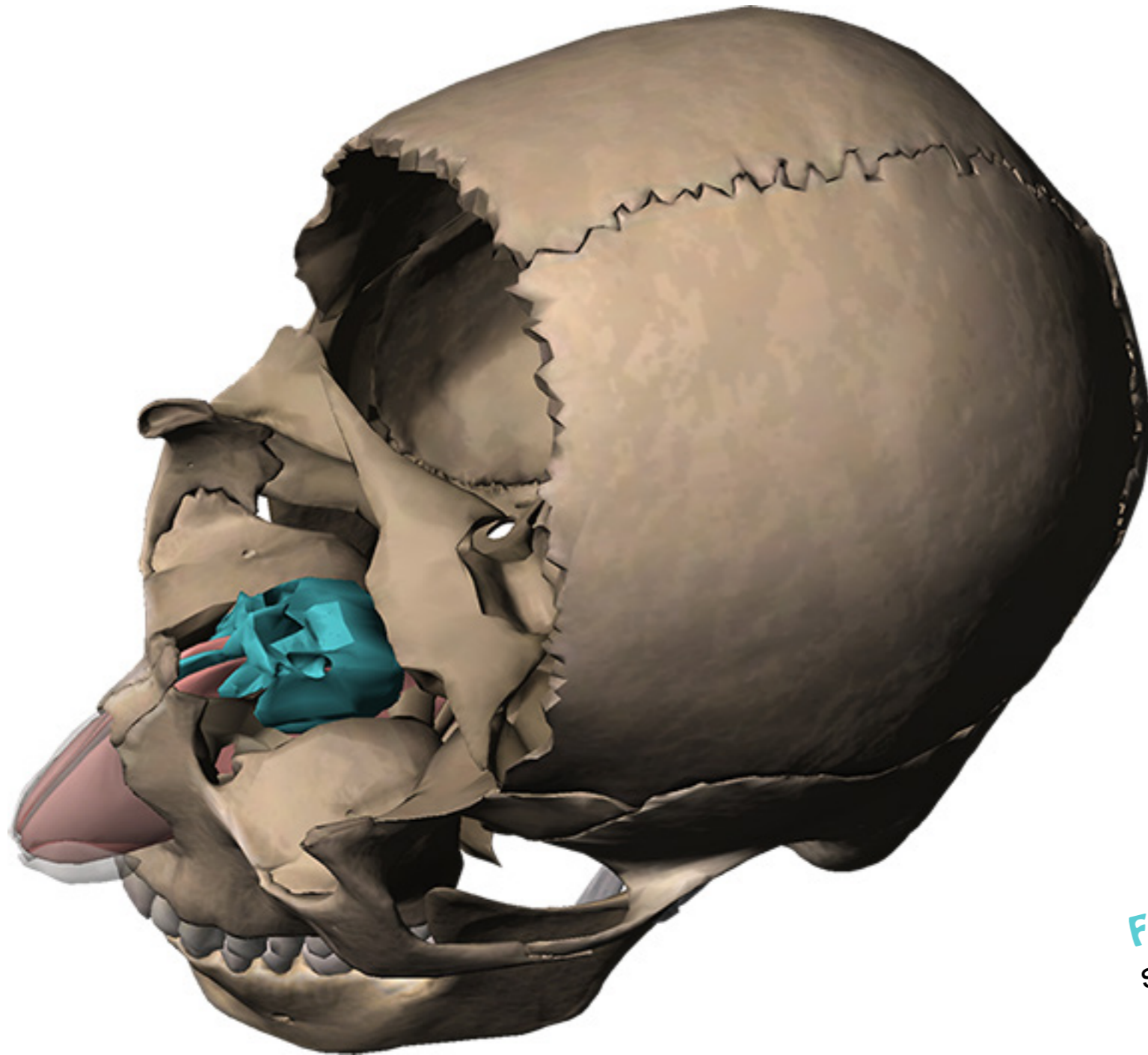
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The **ethmoid** is a spongy, cubed bone that gives shape to part of the **roof of the nose** and **the orbits**.



The ethmoid is also home to numerous **foramina** through which the branches of the **olfactory nerves** pass.

Factoid: The **cribiform plate** of the ethmoid supports the **olfactory bulb** (the terminus of the olfactory nerve).

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While the **frontal bone** gives shape to the forehead, orbits, and nasal cavity, it is **not** part of the facial skeleton. It is part of the **calvaria**.

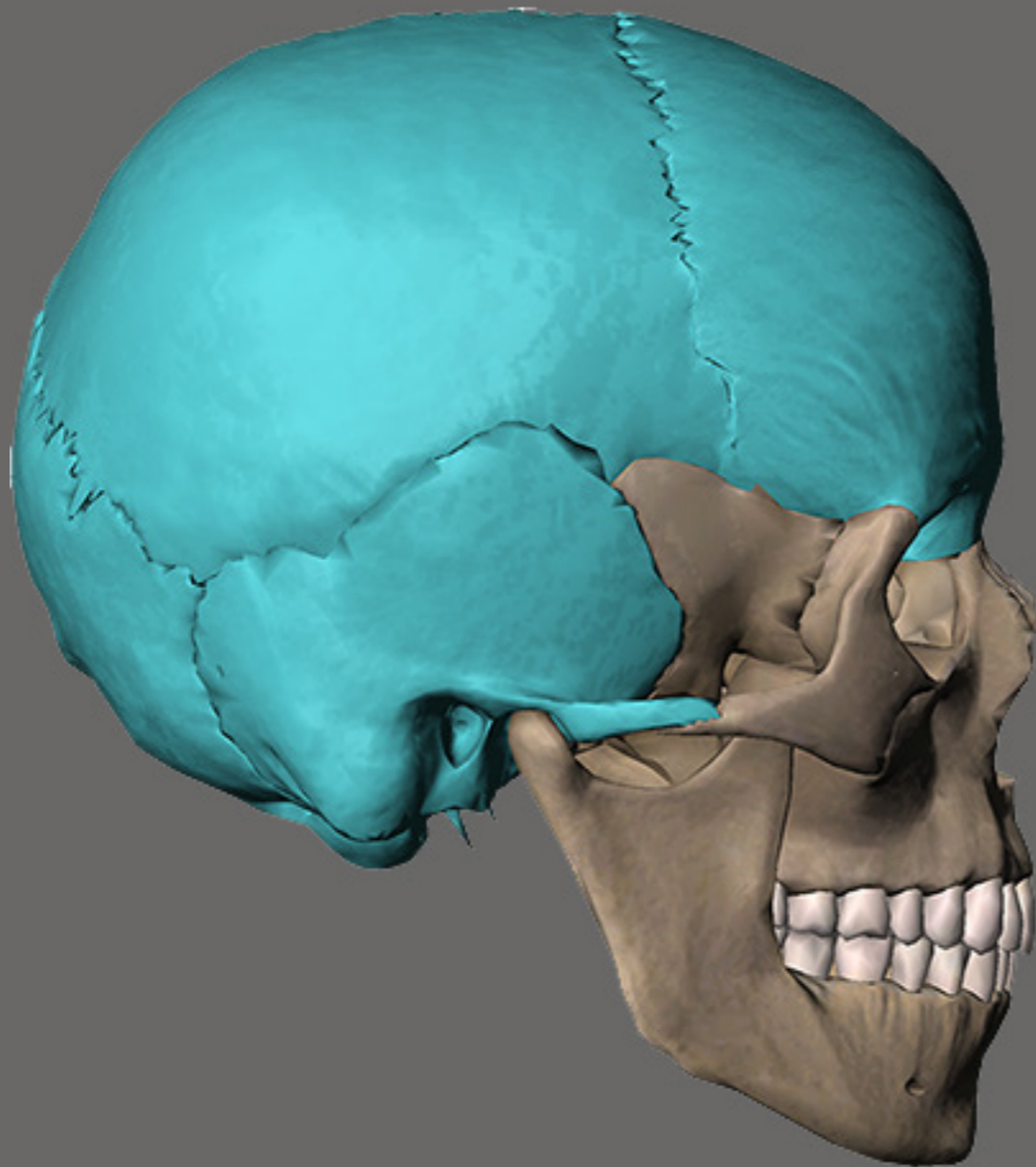


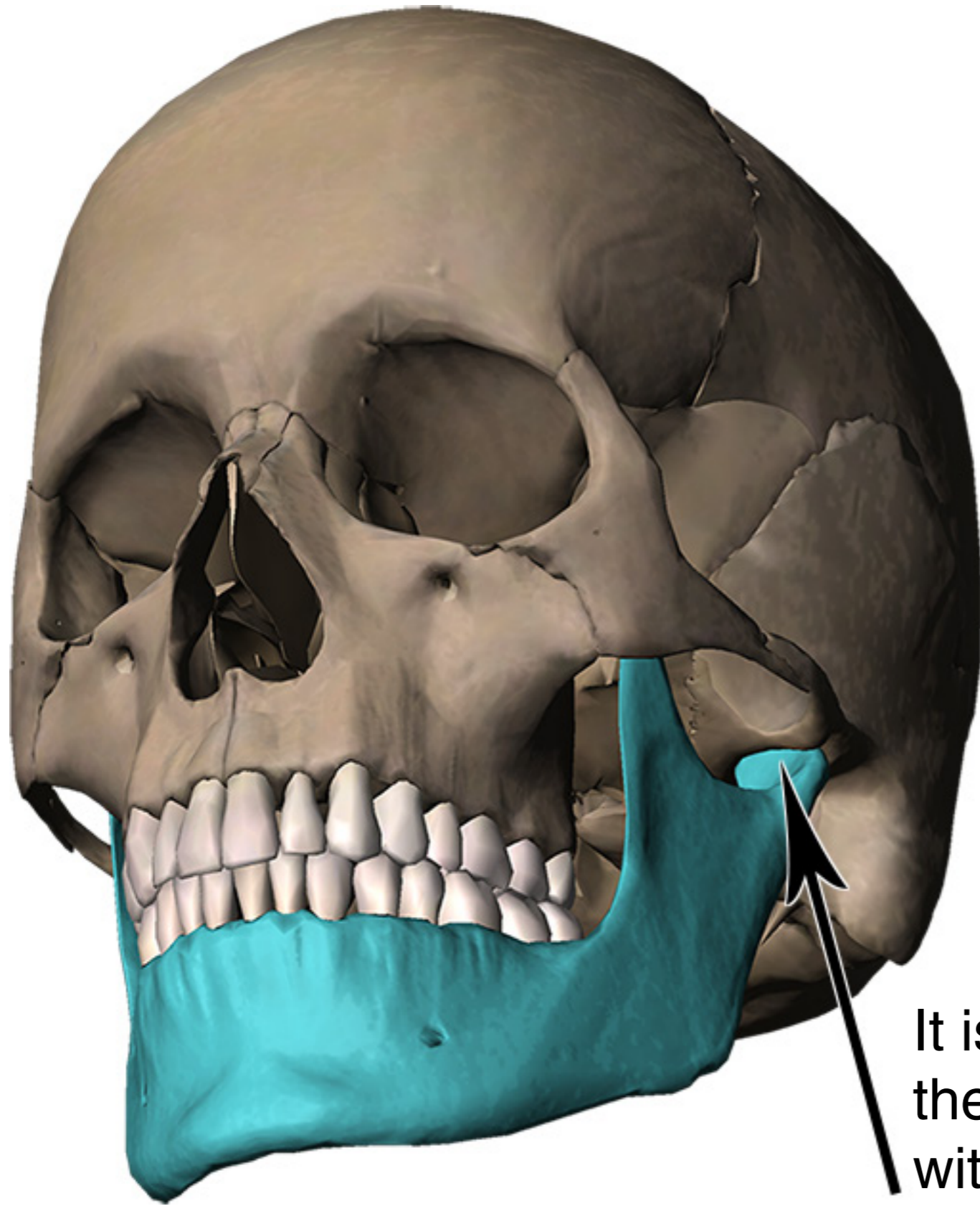
The frontal bone **articulates** with 12 other bones (**10** of the 12 belong to the facial skeleton).

Before moving on, keep this in mind:

● 8 bones form the cranium

14 bones form the facial skeleton ●





The horseshoe-shaped **mandible** is the largest and strongest of the **facial bones**.

It is also the only **moveable** bone of the skull. The mandible **articulates** with the **temporal** bones at the **temporomandibular joint**.

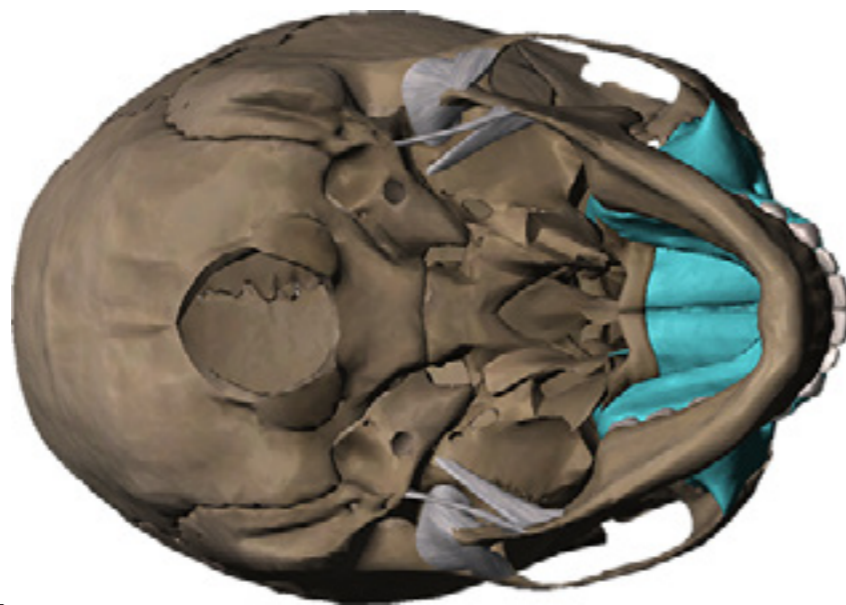
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The **maxillae** form the **upper jaw** and the boundary of **three cavities**:

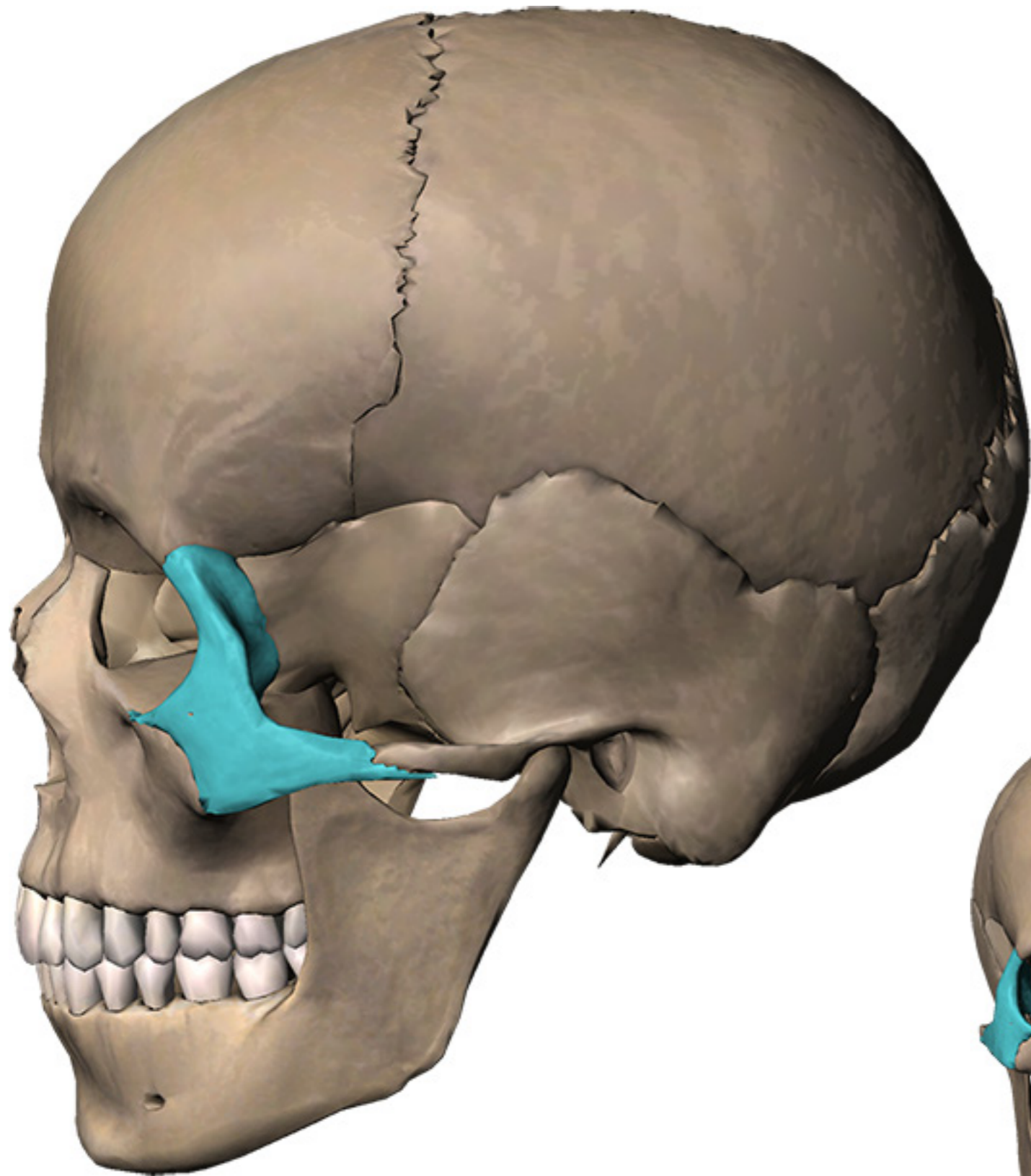
- the roof of the mouth.
- the floor and lateral wall of the nasal cavity.
- the floors of the orbits.



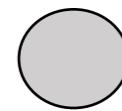
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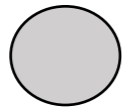


Each **zygomatic** bone forms the prominence of a **cheek** (the “cheekbones”).

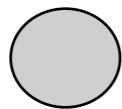


Factoid: People with **high** cheekbones simply have zygomatic bones that are closer to the orbits.

The **nasal bones** make up the **bridge of the nose** and attach to the **nasal cartilage**.



The **lacrimal bones** (inside the orbits) contain the **lacrimal sacs** that continue as the **nasolacrimal ducts**, or tear ducts.



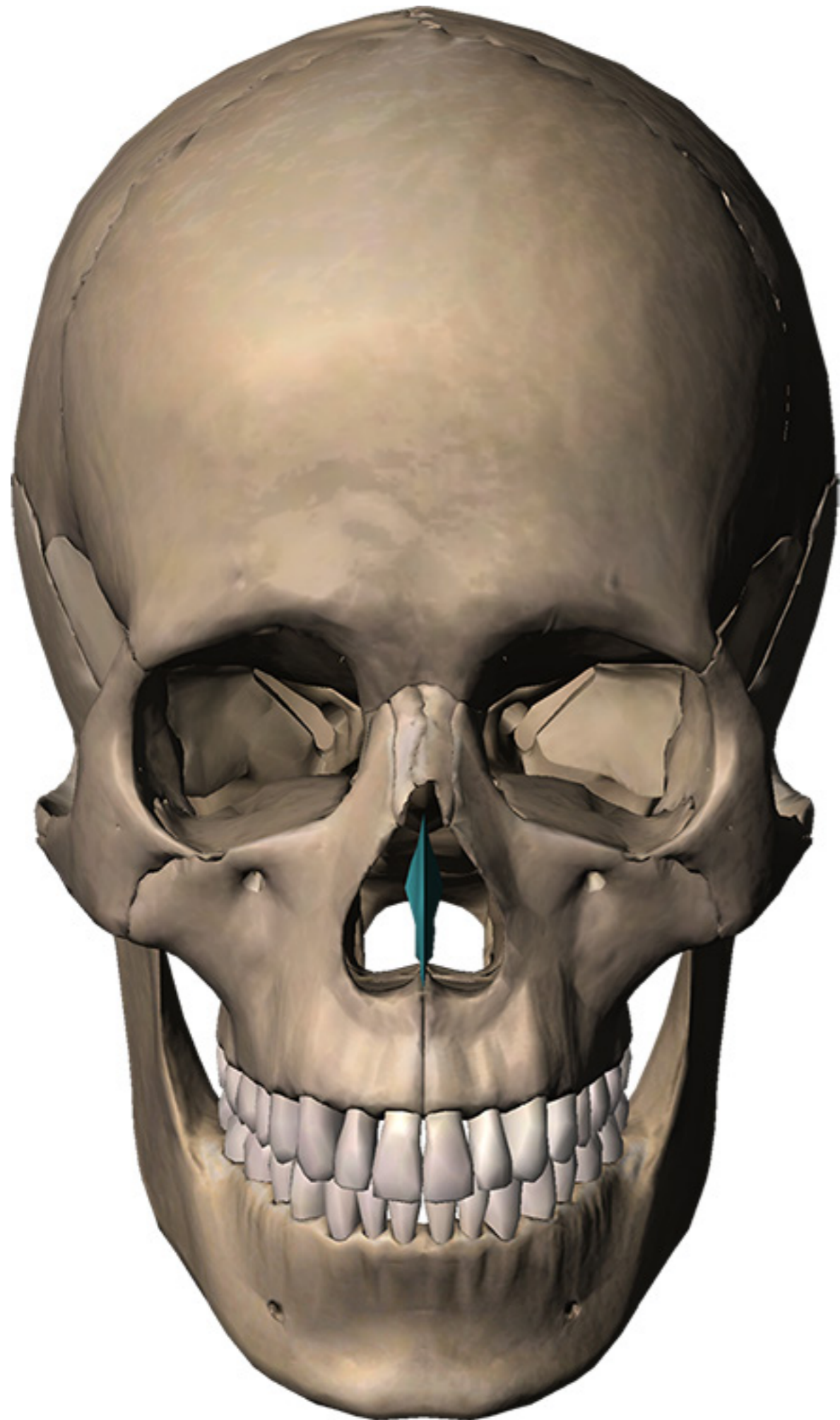
The nasal and lacrimal bones are some of the **smallest** bones to make up the facial bones.



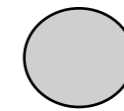
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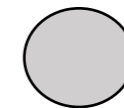
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The thin **vomer** bone forms the lower part of the **nasal septum**.



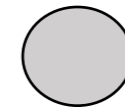
The **superior half** of the vomer is fused with the **perpendicular plate** of the **ethmoid**, and its **lower half** attaches to the **septal cartilage**.



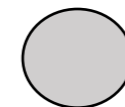
The **posterior border** is free and separates the **choanae**, also known as the **internal nares**.



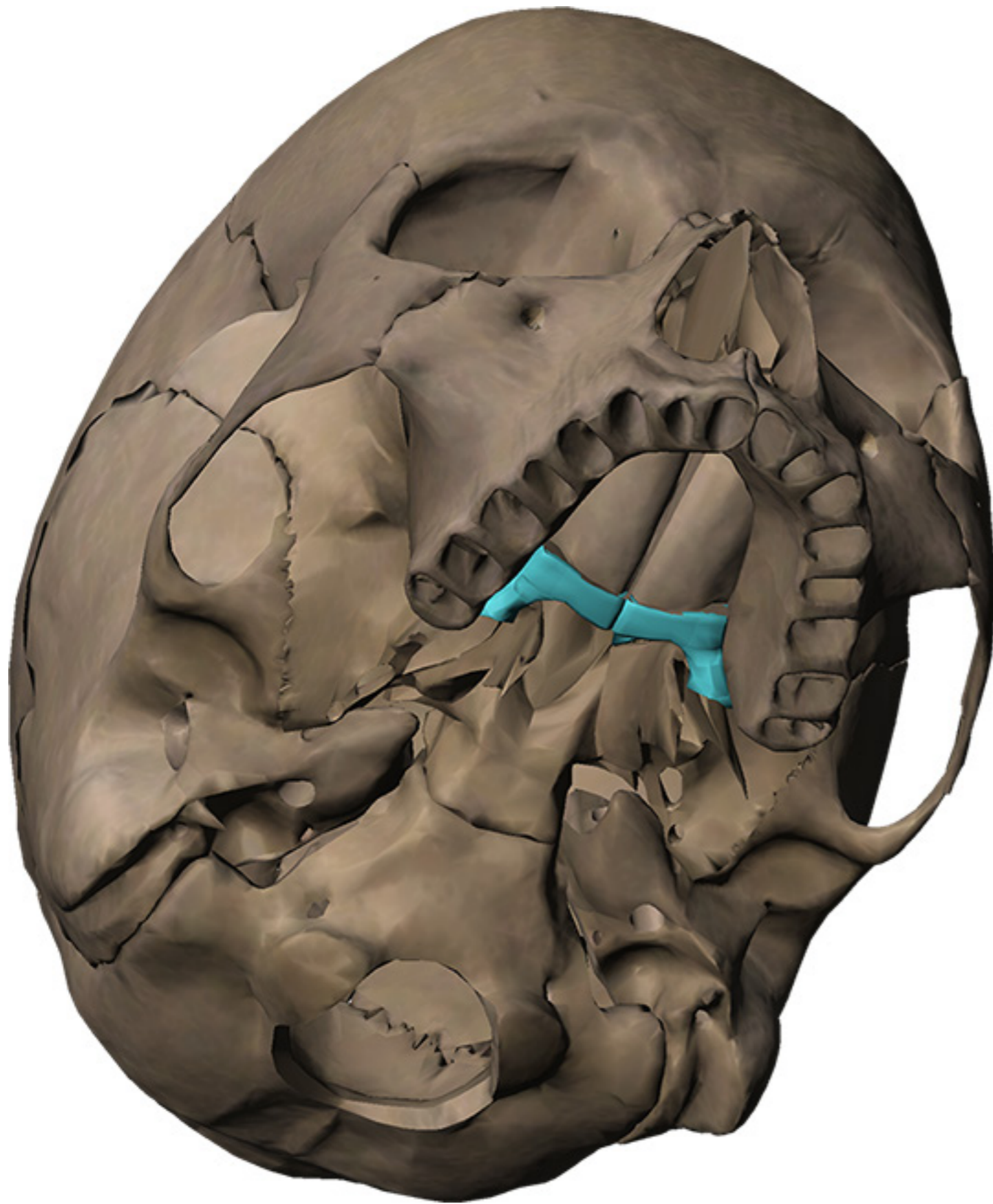
The **nasal conchae** consist of a layer of **spongy bone** curled up on itself like a **scroll**.



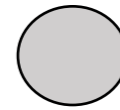
The **medial surface** of the conchae are **perforated** for the passage of numerous **vessels**.



The folds of the conchae increase the **surface area** of the nasal cavities. This **enhances** the warming and humidifying air passing over them.



The **palatine bones** are located in the back of the **nasal cavity**.



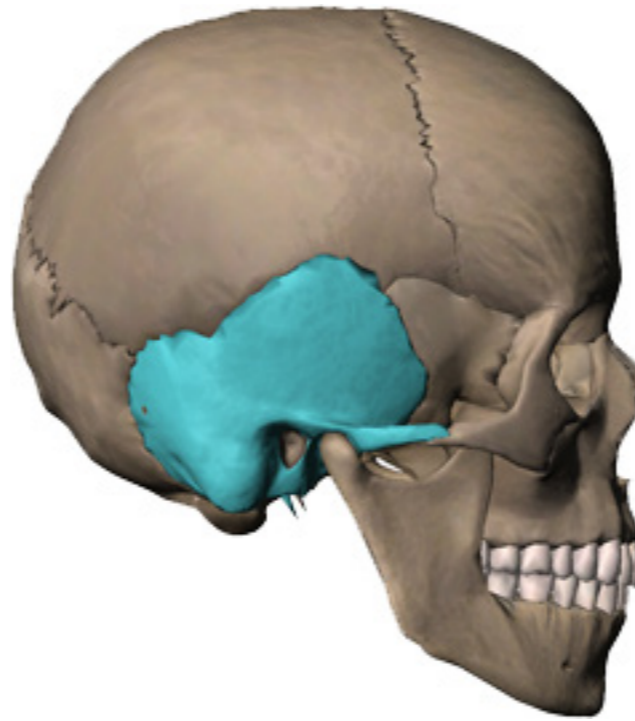
The **posterior borders** of the palatines serves as the **attachment** site of the **soft palate**, and the sharp **medial borders** form the **posterior nasal spine** for the attachment of the **uvula**.

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Can you name these bones?





Use **3D Human Anatomy Atlas 2** for your [iPad](#), [iPhone](#), [Android](#), [PC](#) or [Mac](#).

[Watch](#) the calvaria and the frontal bone with a clip from Atlas 2.