

Anatomy Of The Skull And Neck

Lec. 2

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The head

is the superior part of the body that is attached to the trunk by the neck .

It is the control and communications center as well as the " loading dock " for the body.

It houses the brain ; therefore , it is the site of our consciousness : ideas , creativity , imagination , responses , decision making , and memory .

It includes

- * special sensory receivers (eyes , ears , mouth , and nose) .

- * broadcast devices for voice and expression , and portals for the intake of fuel (food) , water , and oxygen and the exhaust of carbon dioxide .

1- The skeleton of the head consist

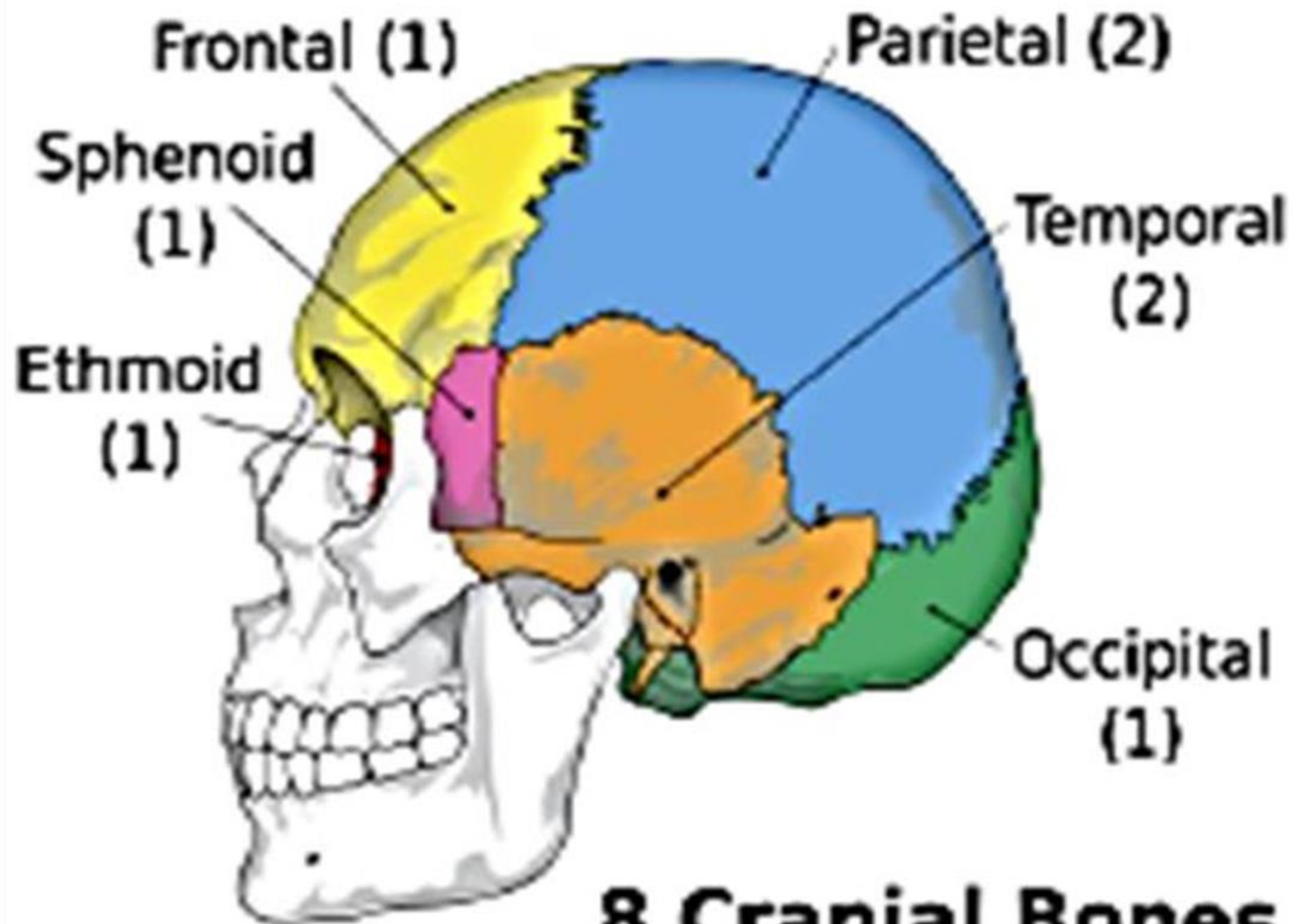
of the skull that consists of number of bones that attached to each other without movement except the lower jaw.

The area at which the bones joined with each other called sutures. The bones of the head can be divided **into two essential parts:**

1- Cranium.

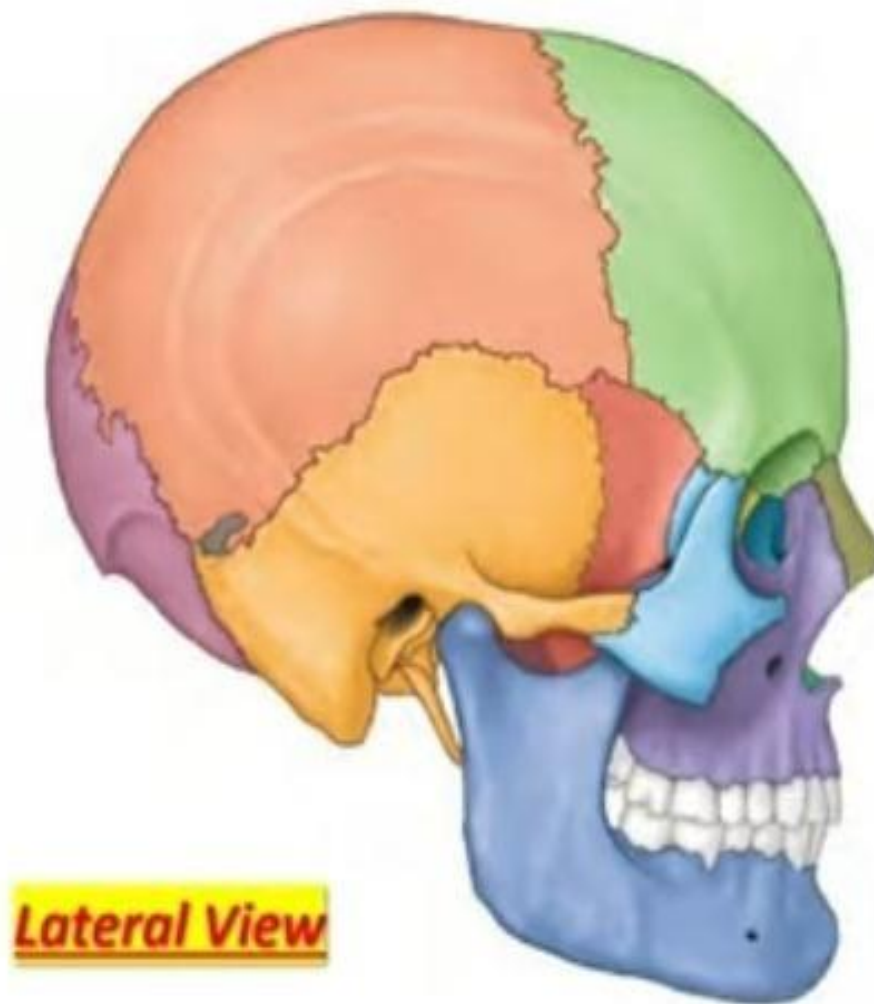
2- The skeleton of face.

Cranium: (Neurocranium) is the large bony box which encloses the brain inside, it has a base and vault قبة (it has arched shape forms the roof of the skull).



8 Cranial Bones

A) Neurocranium.



- Ethmoid
- Frontal
- Occipital
- Parietal
- Sphenoid
- Temporal

It composed of 8 bones (cranial bones):

Frontal bone: الجبهي is one bone in anterior part of the cranium.

Parietal bones: الجداري are two bones in upper sides of the cranium.

Temporal bones: الصدغي are two bones in lower sides of the cranium (ear region).

Occipital bone: القذالي is one bone in the posterior part of cranium.

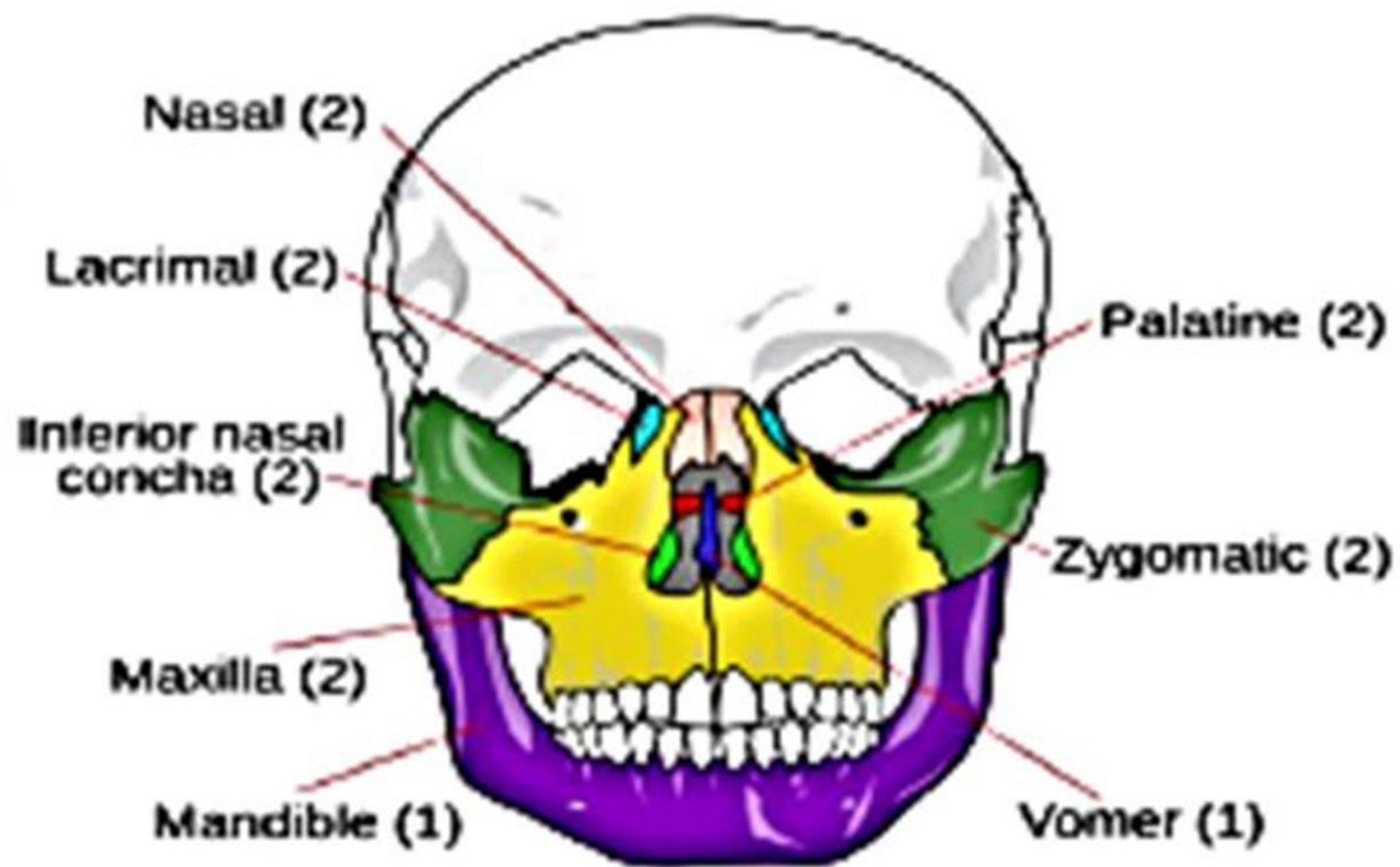
Ethmoid bone: العظمي is one bone lies in the middle anterior part of the cranium.

Sphenoid bone: الوتدي is one bone lies in middle.

2. The skeleton of face:

It composed of 14 bones (facial bones) as following:

- ▶ Two Maxillary bones (maxilla). الفك العلوي
- ▶ Two zygomatic bones. الوجنتان
- ▶ Two Lacrimal bones. الدمعي
- ▶ Two palatine bones. الحنطي
- ▶ Two inferior nasal conchae. المحارة
- ▶ One vomer bone. الحاجزي
- ▶ One mandibular bone (mandible). الفك السفلي



14 Facial Bones

Superior view of the skull:

If we see the skull from the above we have the vault which is form the upper part of cranium there is 4 bones from the anterior to the posterior :

- 1- Frontal bone (in front).
- 2- Two parietal bones (right and left each sides).
- 3- Occipital bones (behind).

These bones articulated by 3 sutures are:

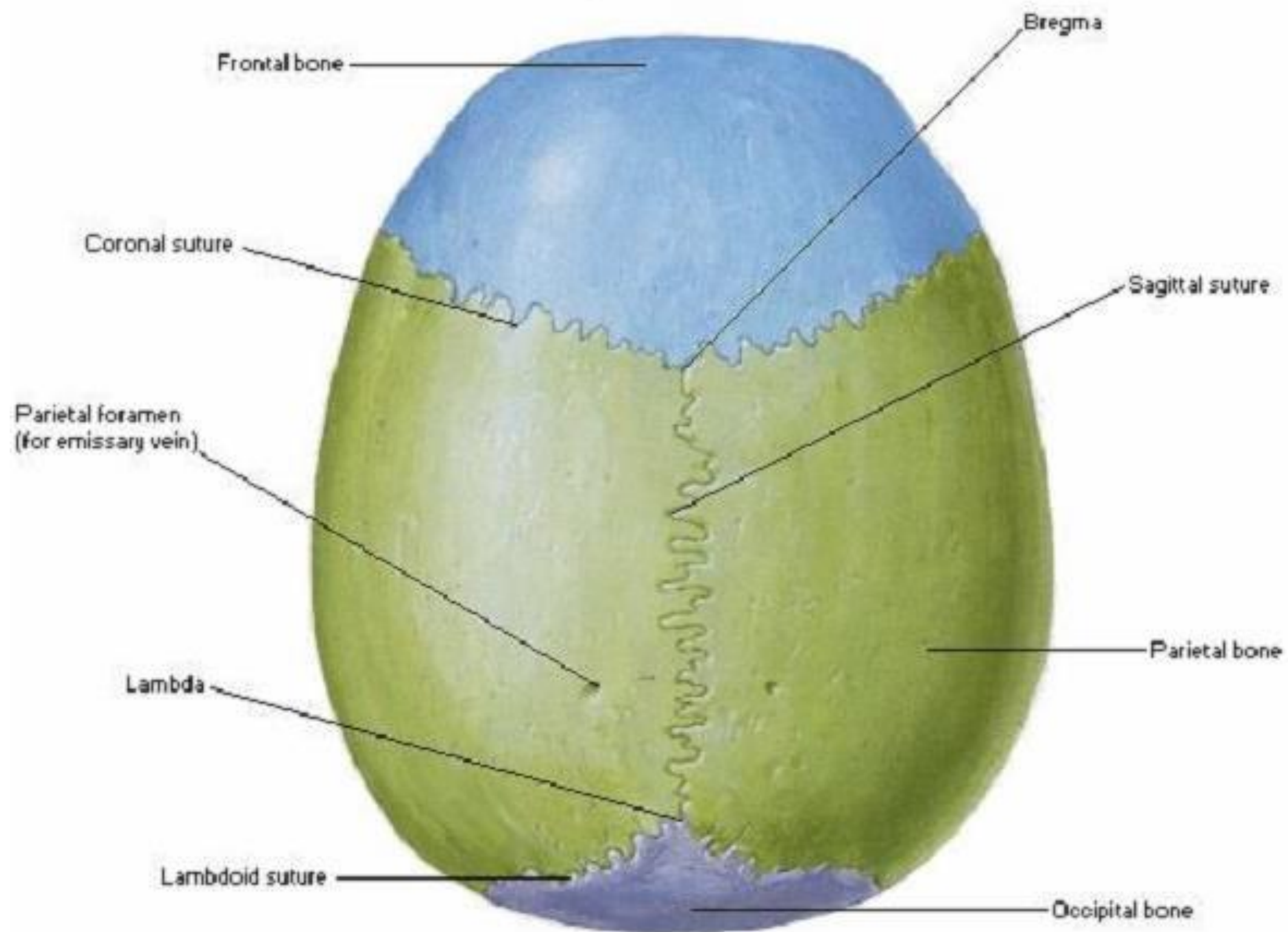
1- **Coronal suture:** الدرز التاجي this suture situated between the parietal bones and frontal bone.

2- **Sagittal suture:** السهمي this suture situated between the two parietal bones.

3- **Parieto-occipital suture (Lambdoid suture):** الجدرائي القذالي

this suture situated between the parietal bones and occipital bone.

Superior View



Frontal view of the skull (anterior view):

If we see the skull from the anterior we see facial bones from the upper to the lower:

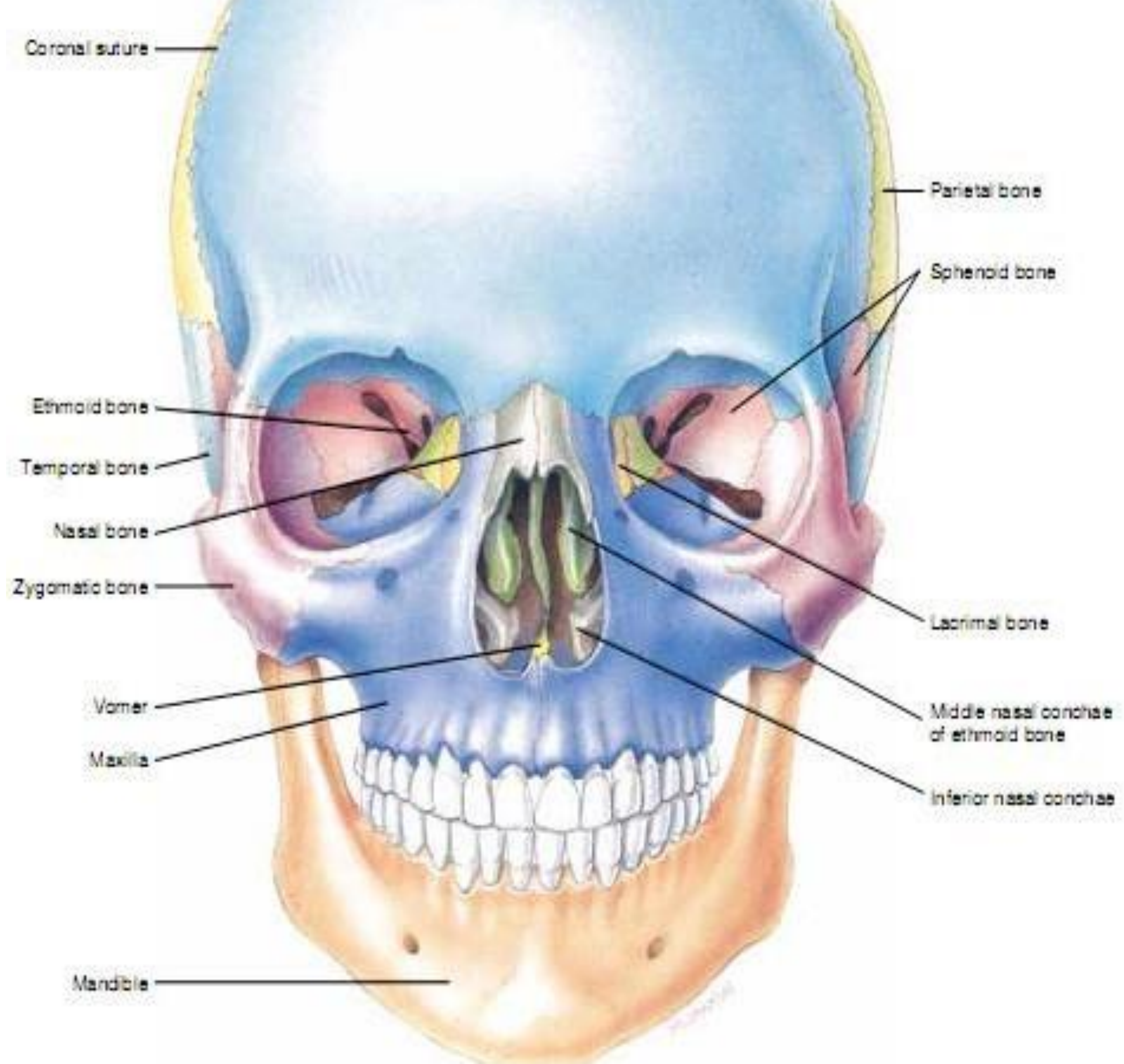
- 1- Frontal bone: form the forehead.
- 2- Two nasal bones with nasal cavity in the middle.
- 3- Lacrimal bones.
- 4- Zygomatic bones.
- 5- Maxillary bones: formed the upper jaw that carries the upper teeth.
- 6- Mandibular bone: formed the lower jaw that carries the lower teeth.
- 7- Part of the parietal bone. الجداري
- 8- Part of temporal bone. الصدغي

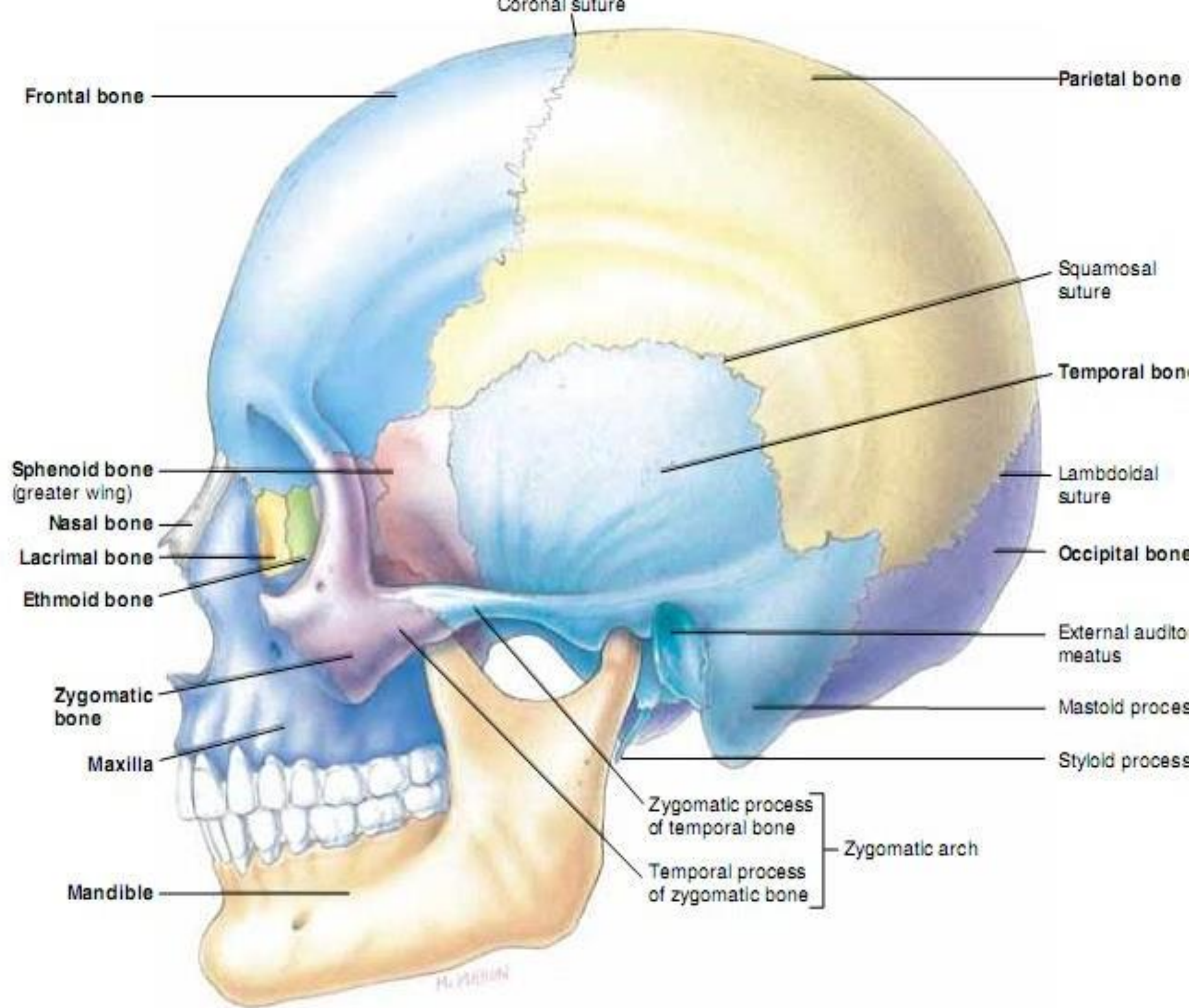
► Lateral view of the skull:

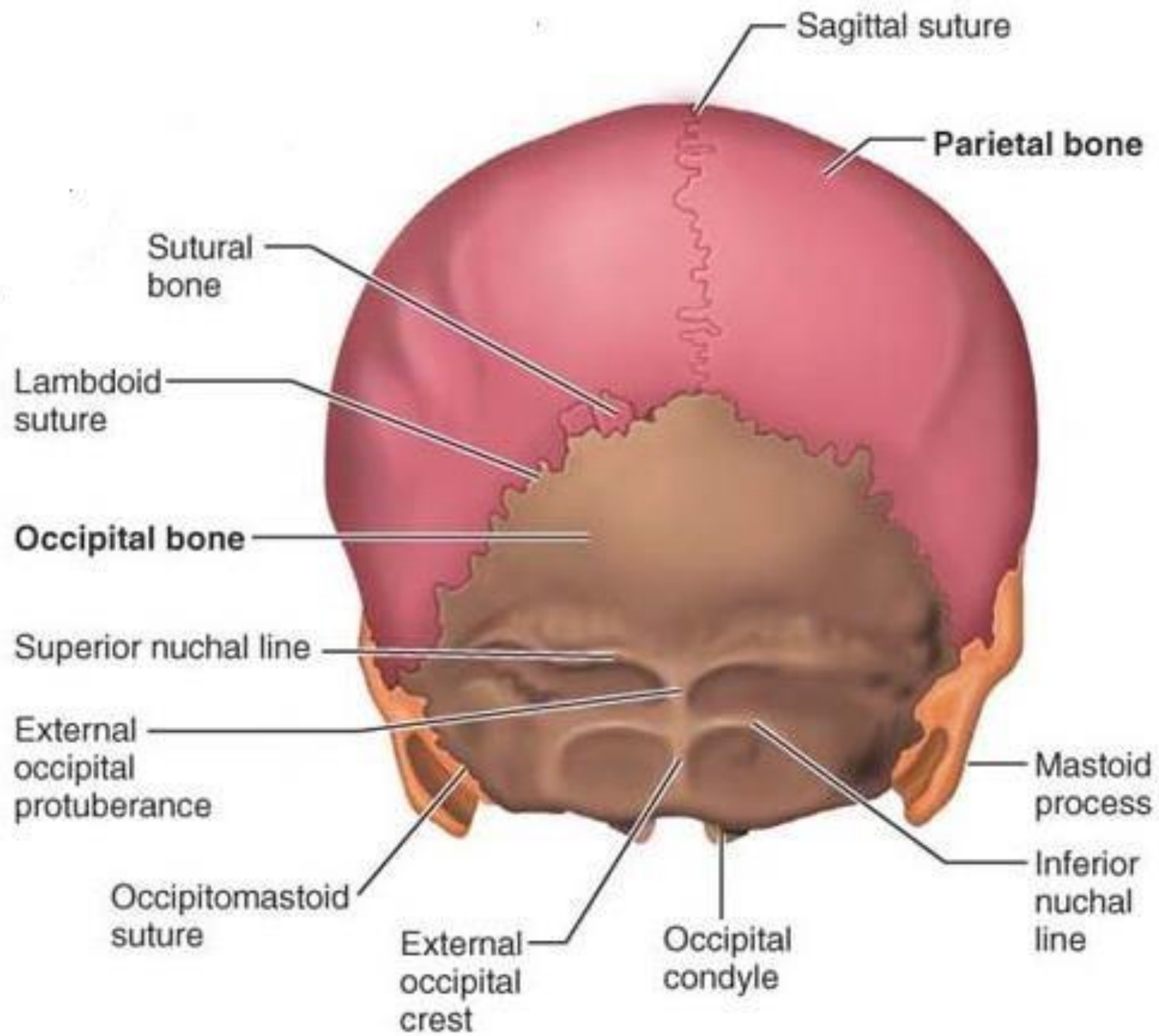
1. Squamous حشفي part of the temporal bone: in the middle.
2. Facial bones: anteriorly.
3. Parietal bone: superiorly.
4. Occipital bone: posteriorly.
5. Zygomatic arch: in the middle.
6. External auditory meatus.
7. Mastoid process. النتوء الخشائي.
8. Styloid process. الابري.

► Posterior view of the skull:

1. Large part of the occipital bone. القذالي.
2. Parietal bones in the upper lateral part.
3. External occipital protuberance. نتوء.
4. lambdoid suture.



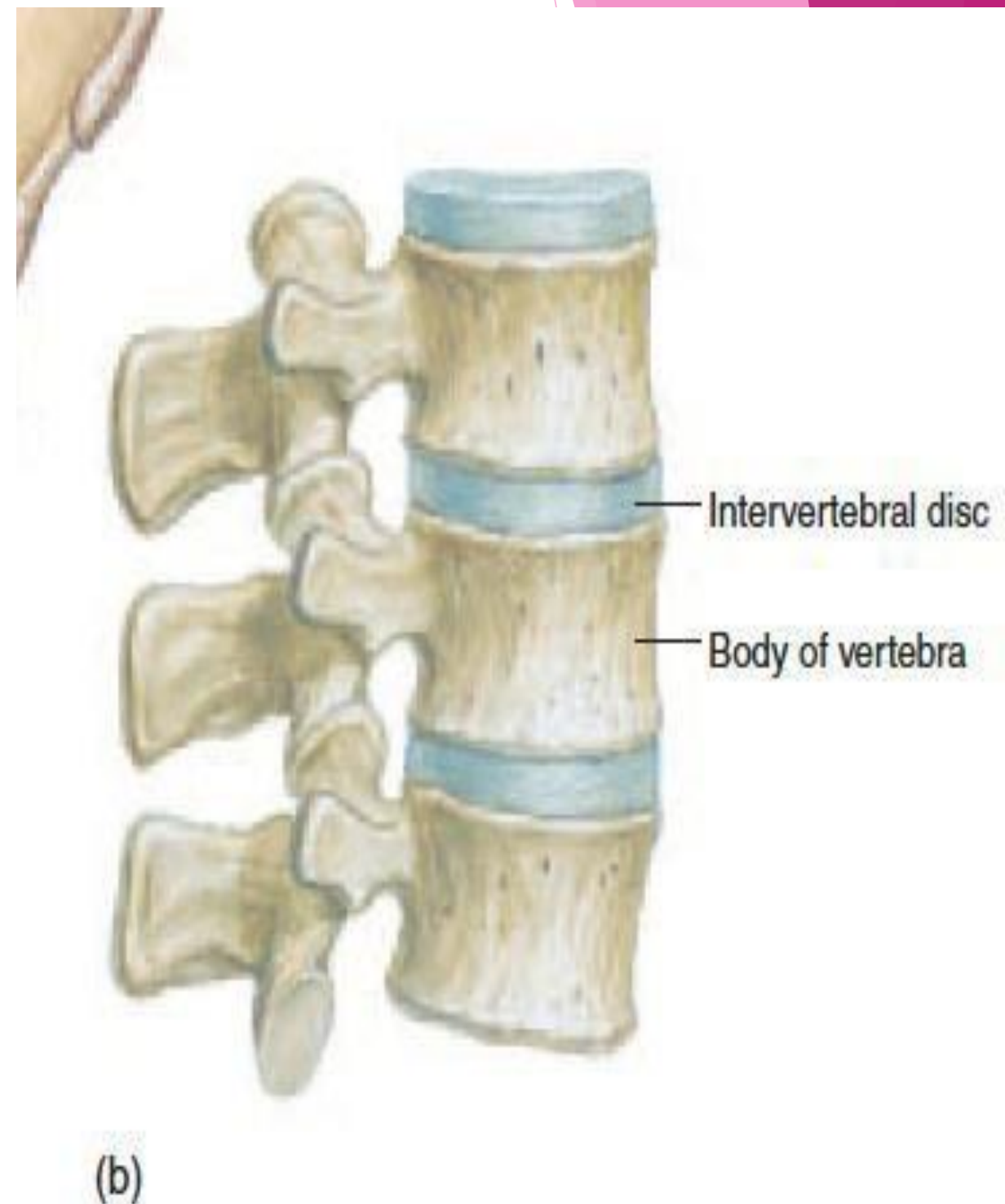




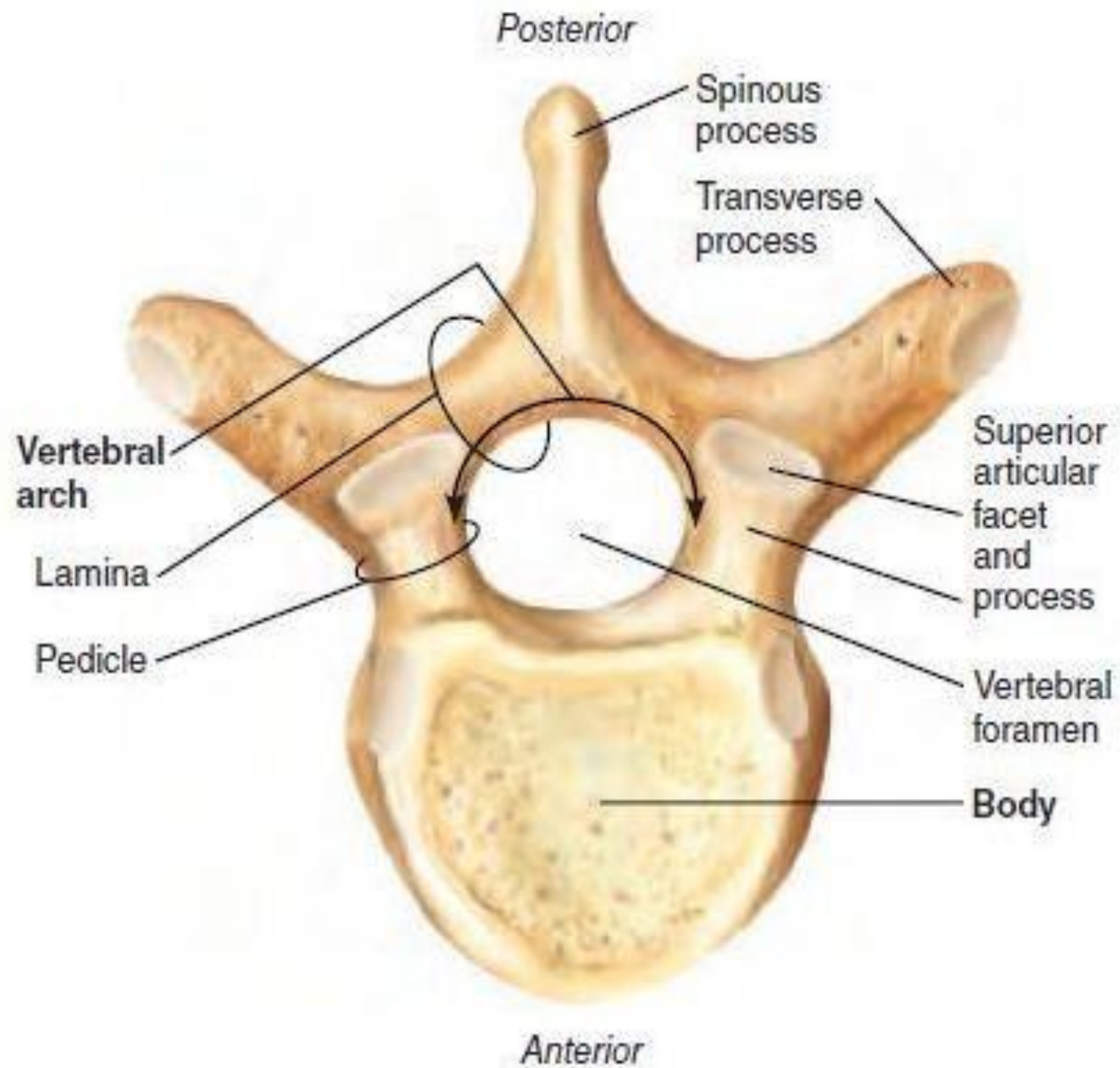
Vertebral column

The vertebral column consists of a series of irregular bones called vertebrae, separated from each other by fibrocartilaginous intervertebral discs . Vertebrae enclose and protect the spinal cord.

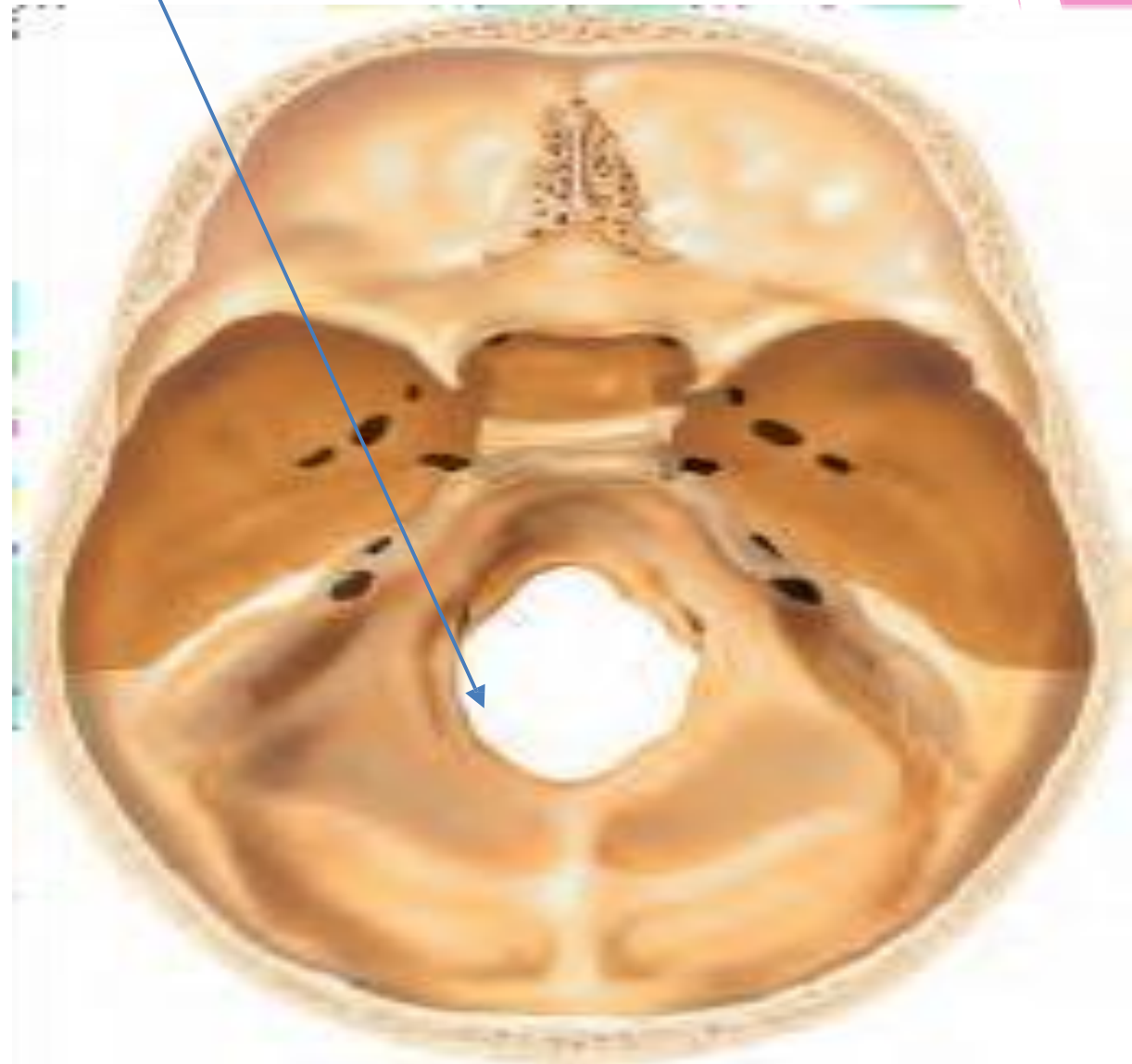
The vertebral column (backbone ””) and the spinal cord of the nervous system constitute the spinal column.

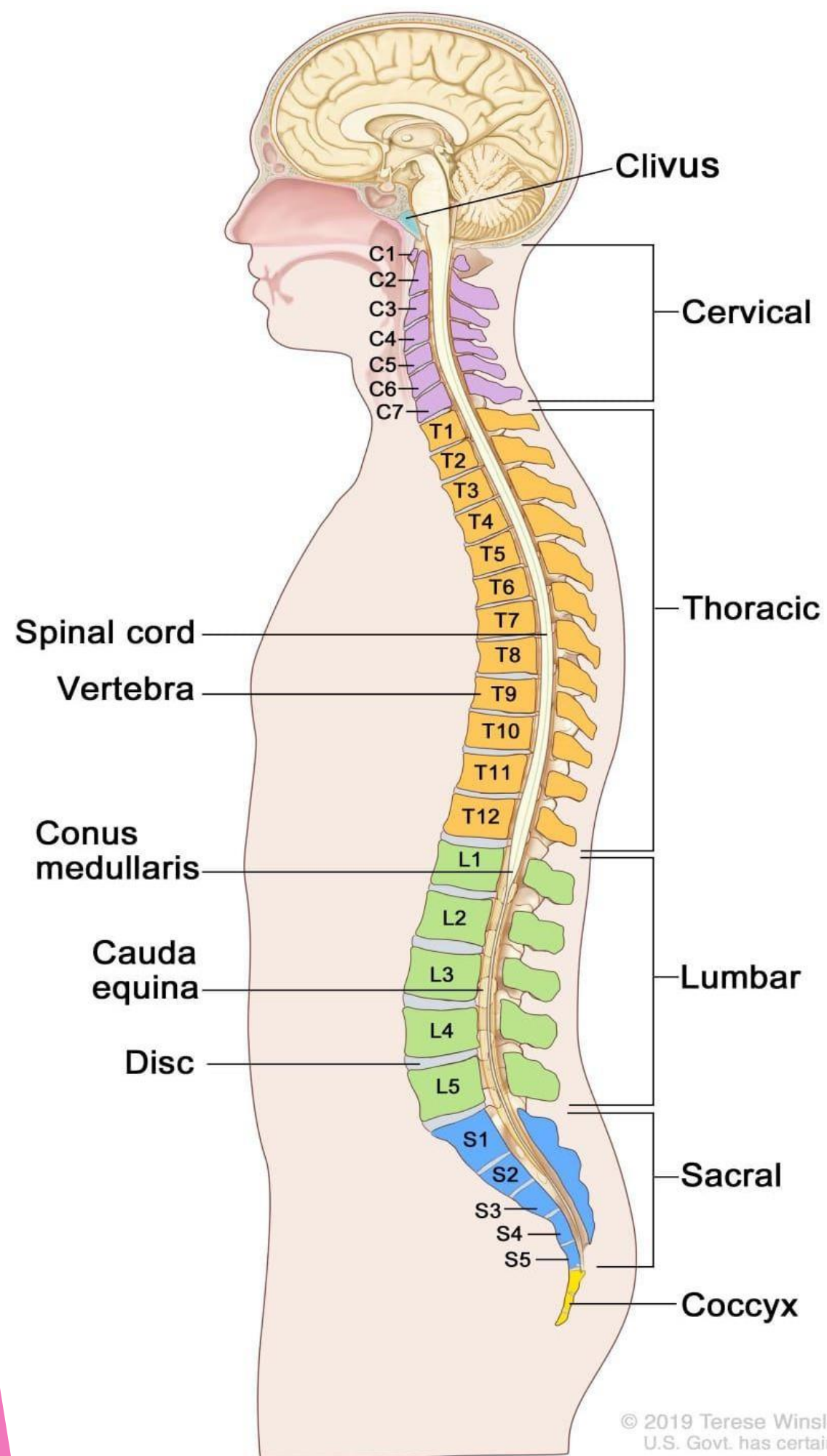


(b) the intervertebral joints between vertebral bodies.

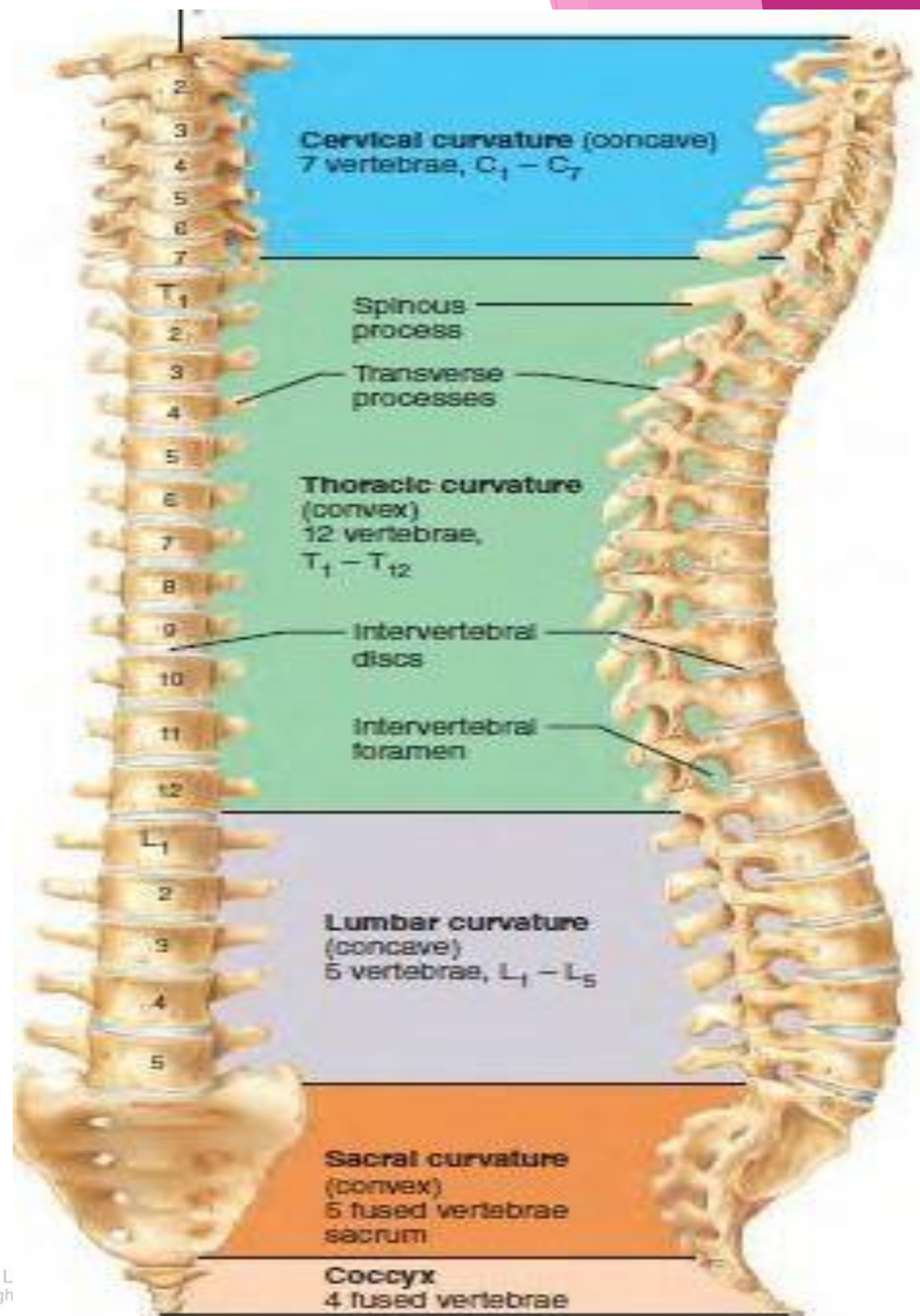


Foramen magnum: allows passage of the spinal cord from the brain stem to the vertebral canal



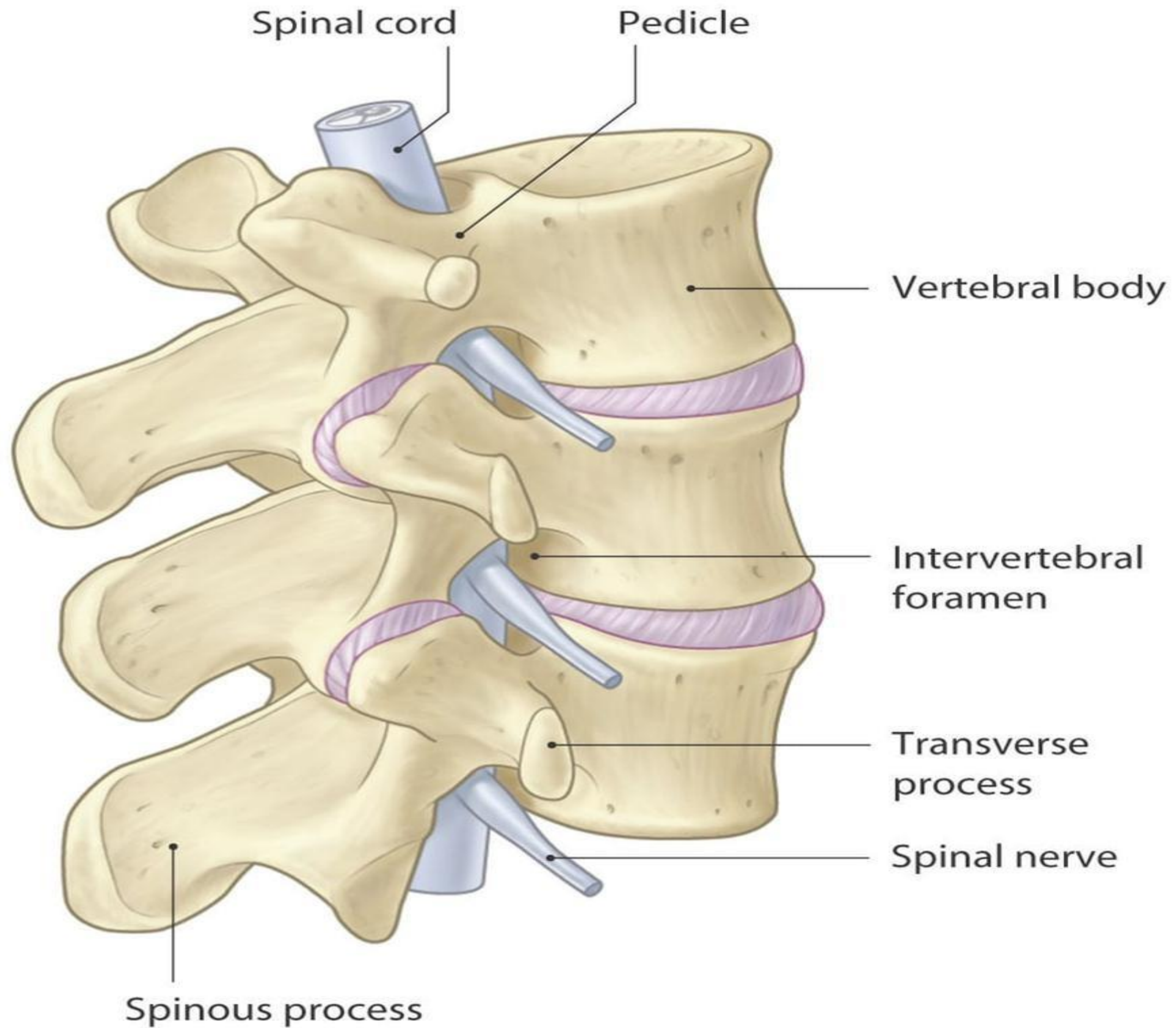


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vertebral column

- ▶ The vertebral column is typically composed of 33 individual vertebrae,
- ▶ some of which are fused. There are 7 cervical, 12 thoracic, 5 lumbar
3 to 5 fused sacral, and 4 or 5 fused coccygeal vertebrae.
- ▶ the adult vertebral column is composed of a total of 26 movable parts.
- ▶ Vertebrae are separated by fibrocartilaginous intervertebral discs and are secured to each other by interlocking processes and binding ligaments.



**FLEXION
(BEND FORWARD)**



**EXTENSION
(BEND BACK)**

SPINE

(BACKBONE / VERTEBRAL COLUMN)

33 BONES (VERTEBRAE)

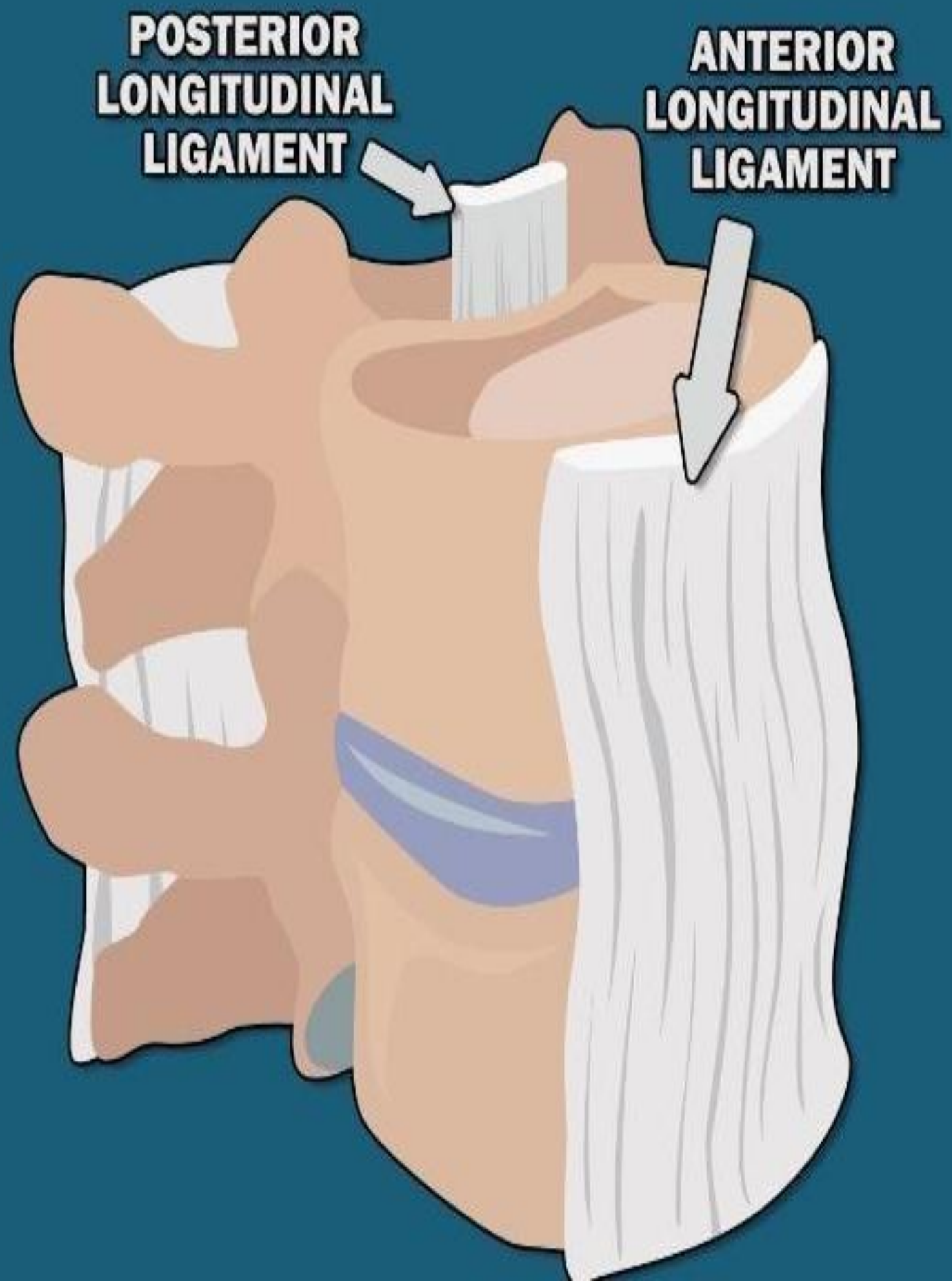
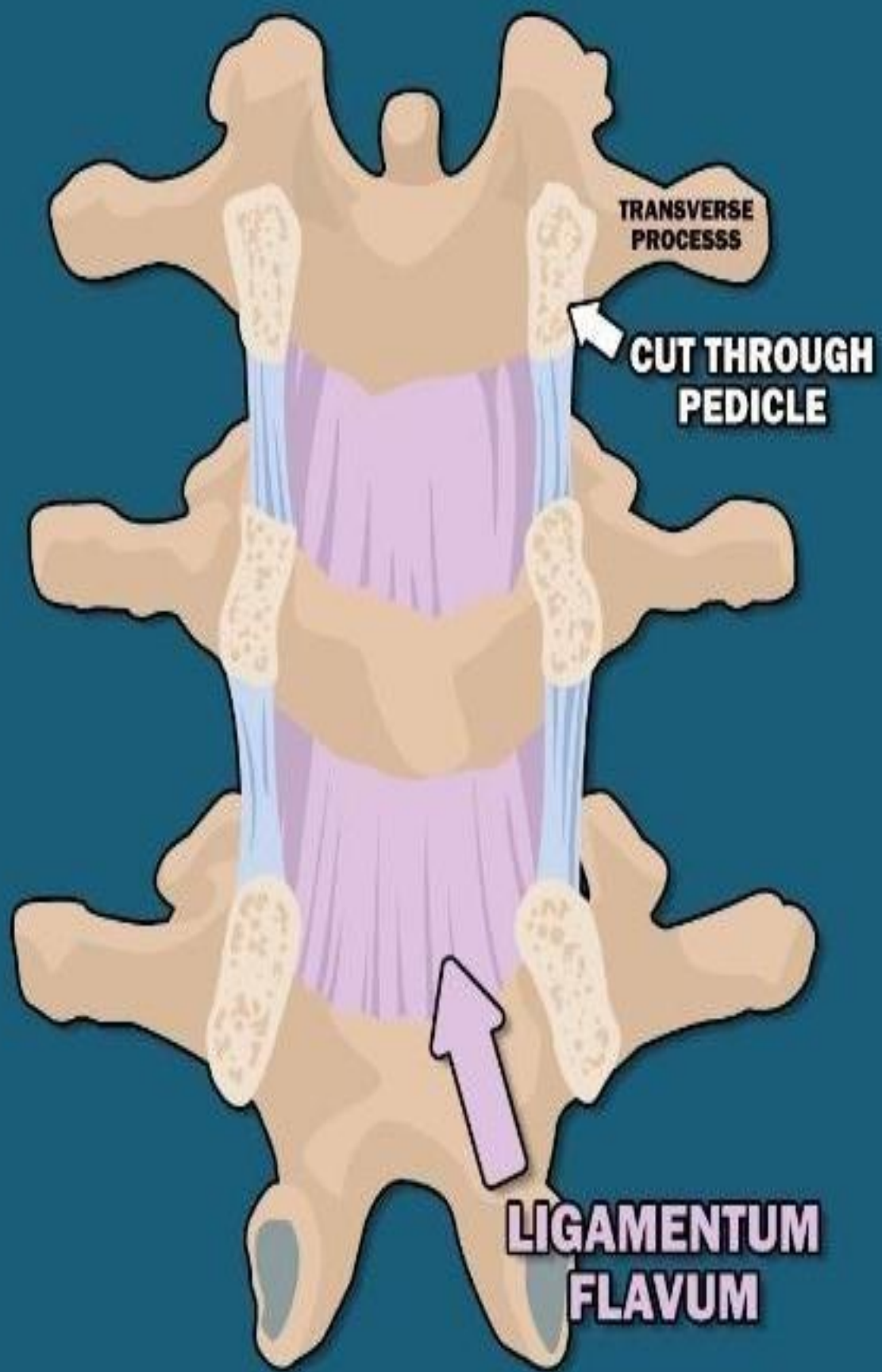
PROVIDE BODY WITH SUPPORT

PROTECT SPINAL CORD FROM INJURY



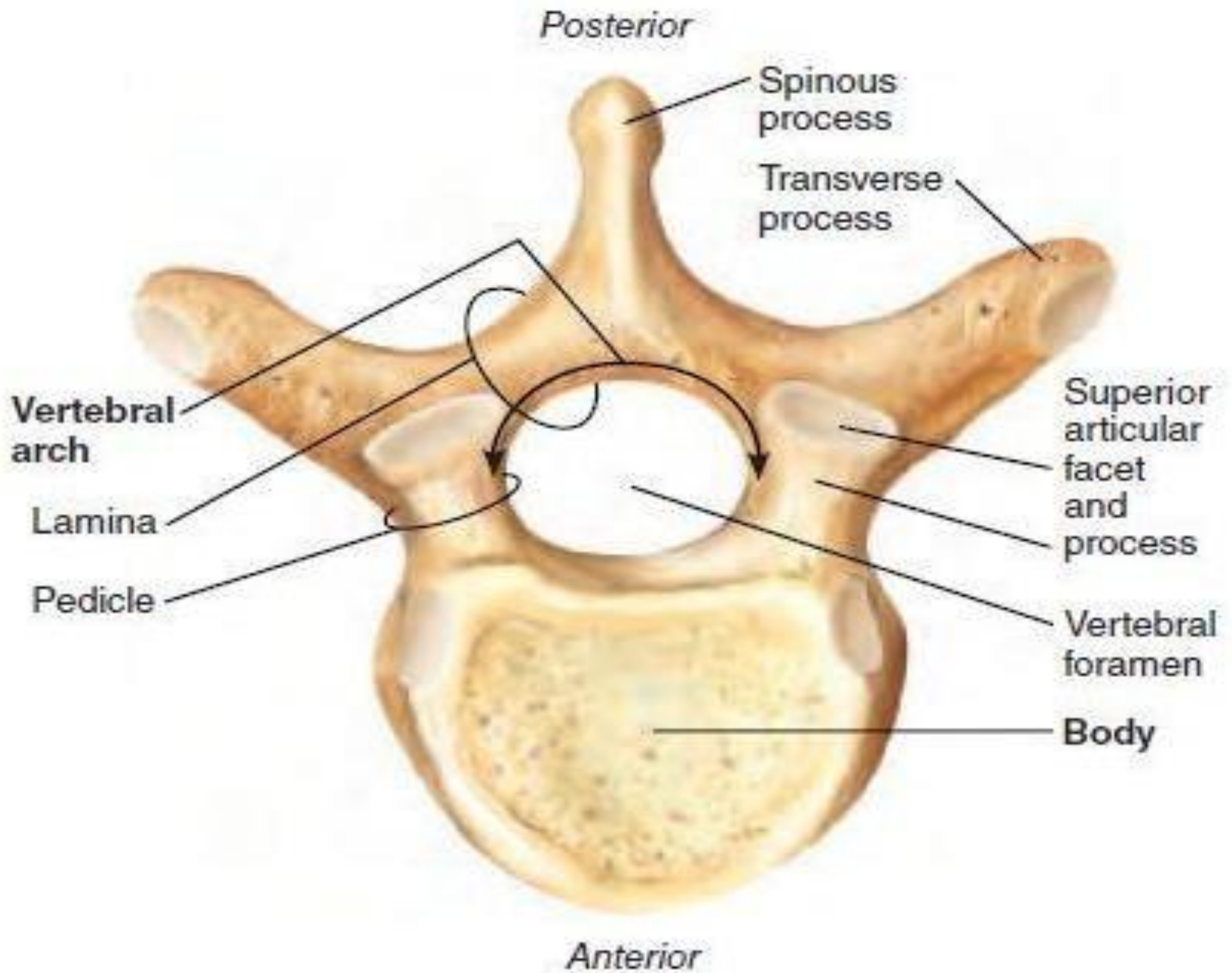
VERTEBRA FROM TOP VIEW



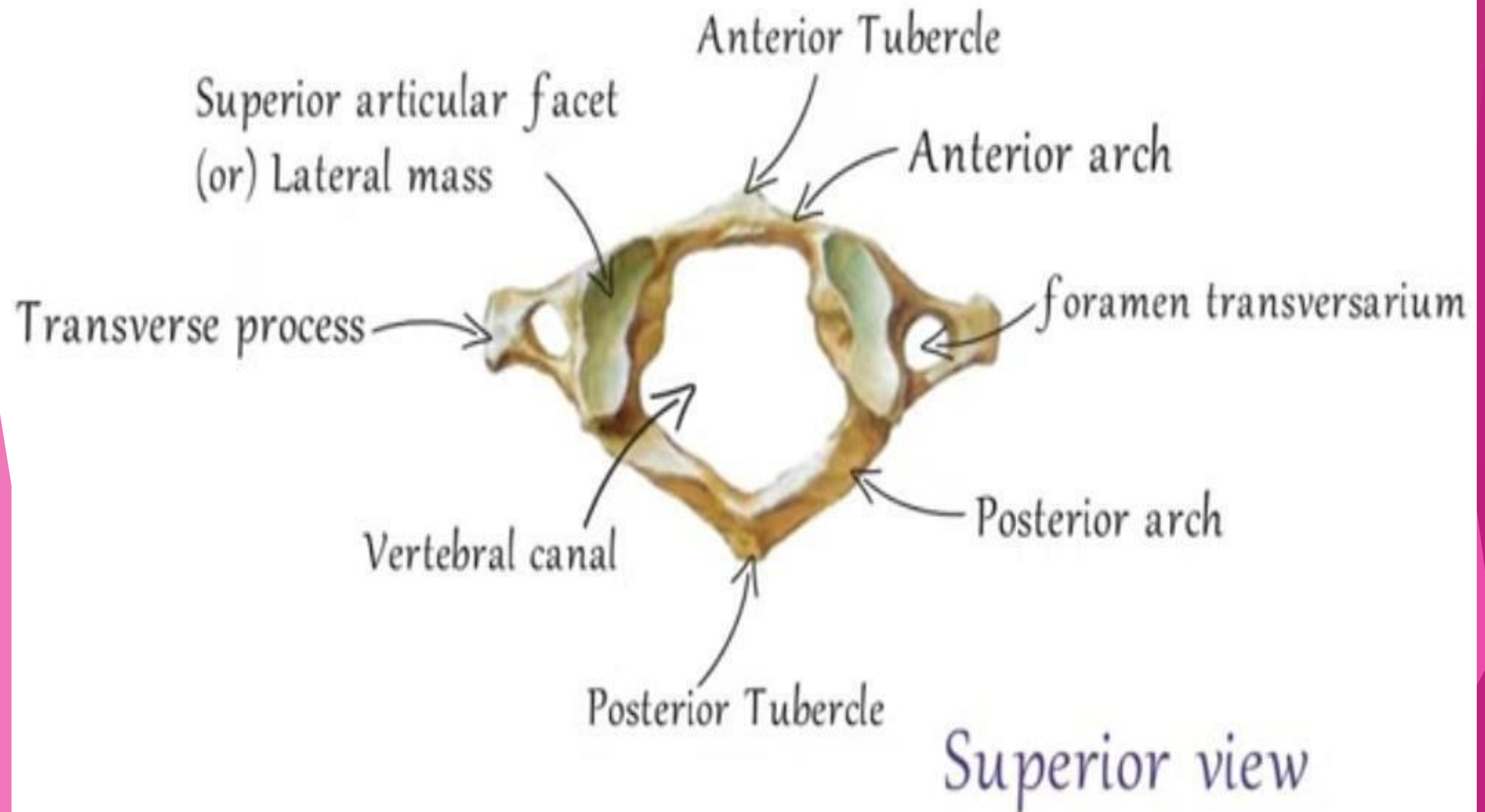


Vertebral Column functions

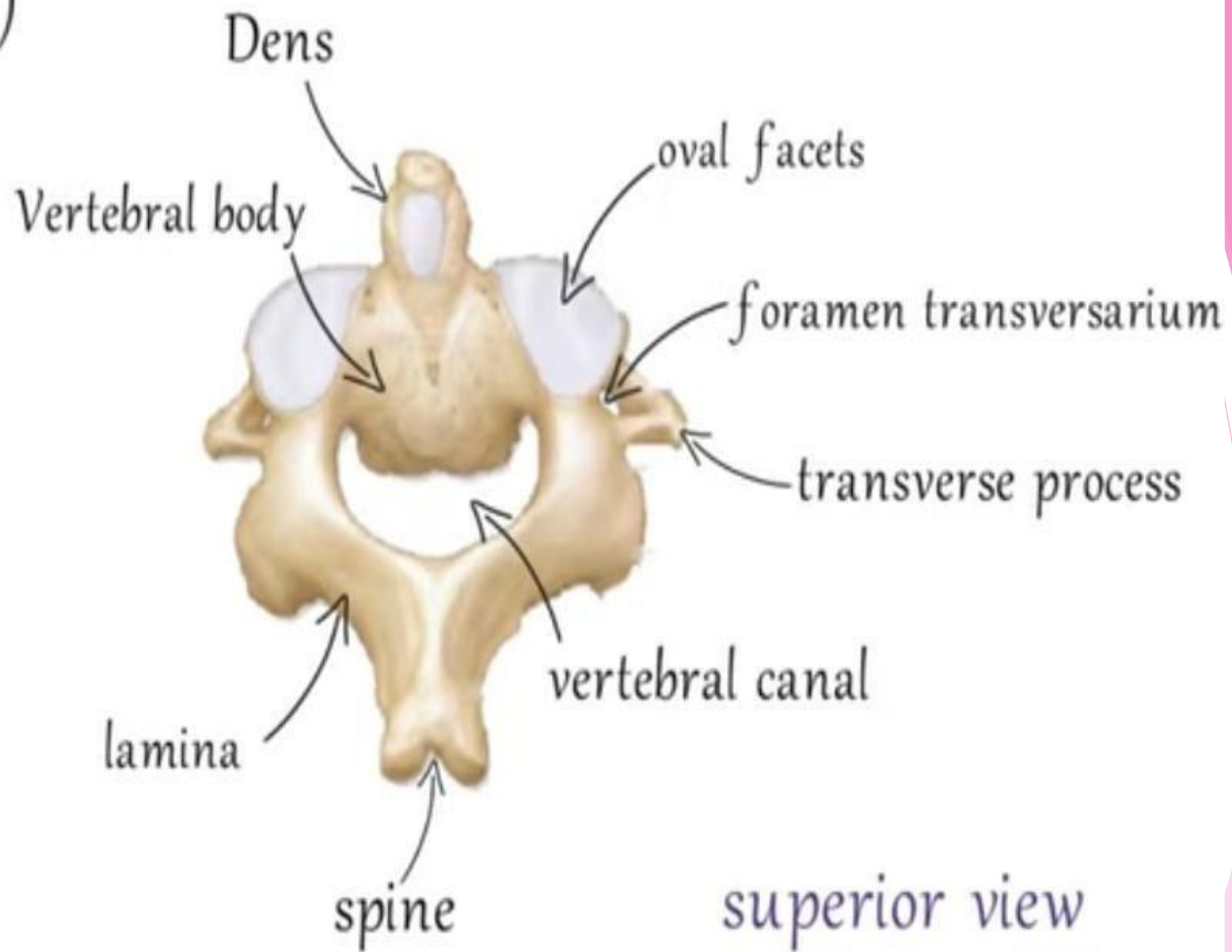
1. support the skull and upper extremities while permitting freedom of movement
2. articulate with the rib cage, and provide for the attachment of muscles ribs, and visceral organs.
3. The intervertebral discs lend flexibility to the vertebral column and absorb vertical shock.
4. Between the vertebrae are openings called intervertebral foramina that allow passage of spinal nerves. Vertebral column protect the spinal cord.



Atlas (C1)

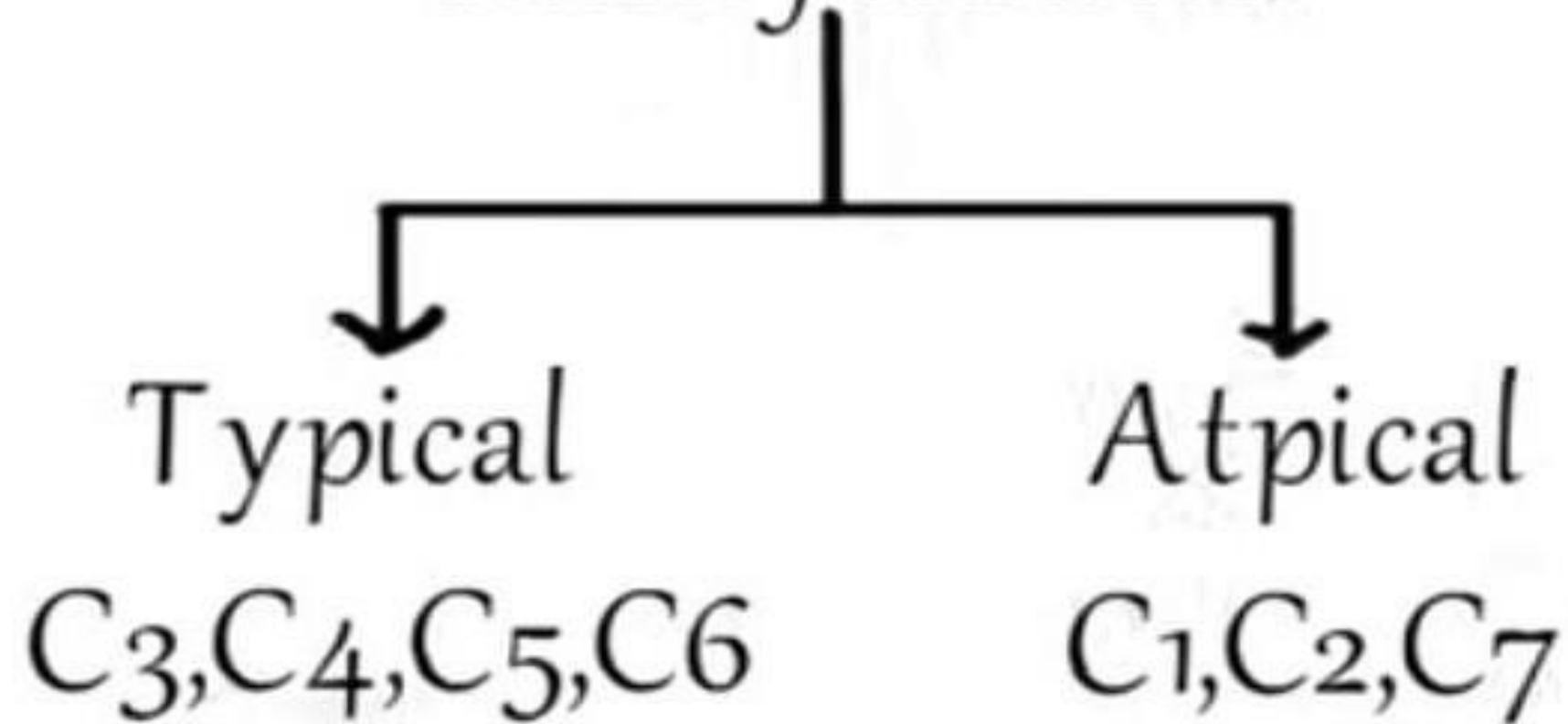


Axis (C2)



Cervical Vertebrae

Classification:



Difference between typical and atypical

characteristics	C ₃ -C ₆	C ₁	C ₂	C ₇
Body	✓	⊗	✓	✓
Anterior arch	⊗	✓	⊗	⊗
Posterior arch	✓	✓	✓	✓
Spinous process	Bi fid	No	Bi fid	Single
Superior articular facets	Bean shape	Bean shape	Oval	Bean shape

The background of the slide is white. On the right side, there are several overlapping, semi-transparent geometric shapes in various shades of pink and magenta. These shapes include triangles and polygons of different sizes, creating a modern, abstract design. The colors range from a light, pale pink to a deep, vibrant magenta.

Thank You