

VERTEBRAL COLUMN

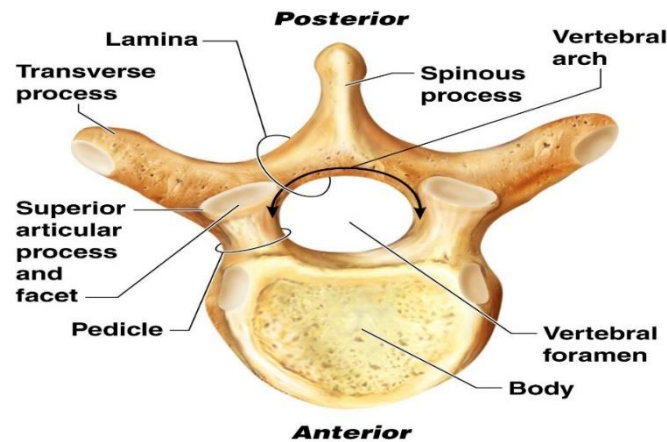
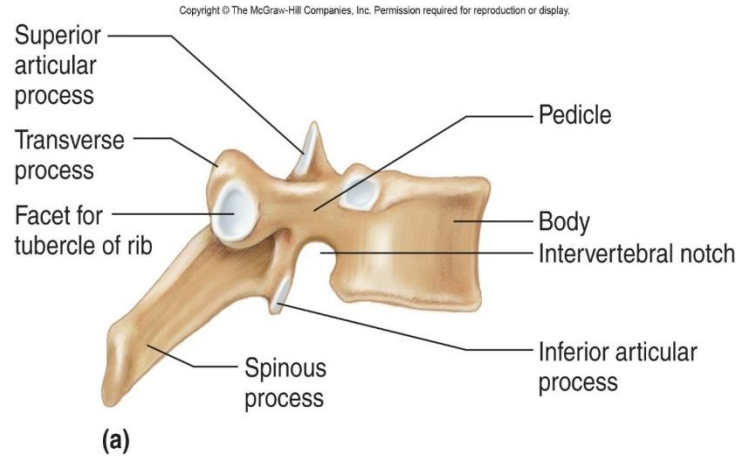
د. باسم المظفر

Vertebrae & vertebral column

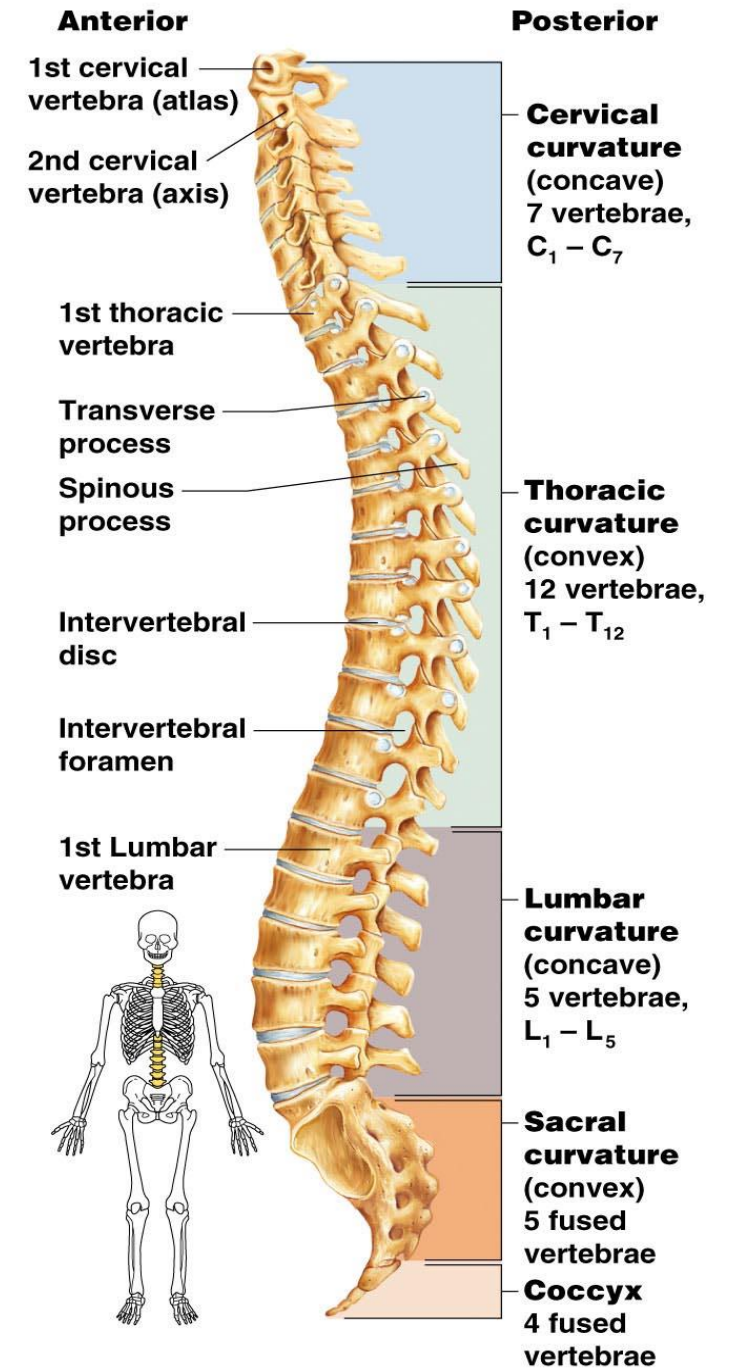
- **Vertebrae.** 33 individual bones that interlock with each other to form the spinal column.
- divided into regions: cervical, thoracic, lumbar, sacrum, and coccyx.
- The five sacral vertebrae fused into one single bone called the sacrum,
- The four of coccygeal vertebrae, which fuse into a single small triangular bone called the coccyx
- The vertebral column provides the axial support for the trunk and transfers the weight of the upper body onto the pelvis and lower limbs. In addition to being sturdy, the spine is also flexible and able to absorb shock.



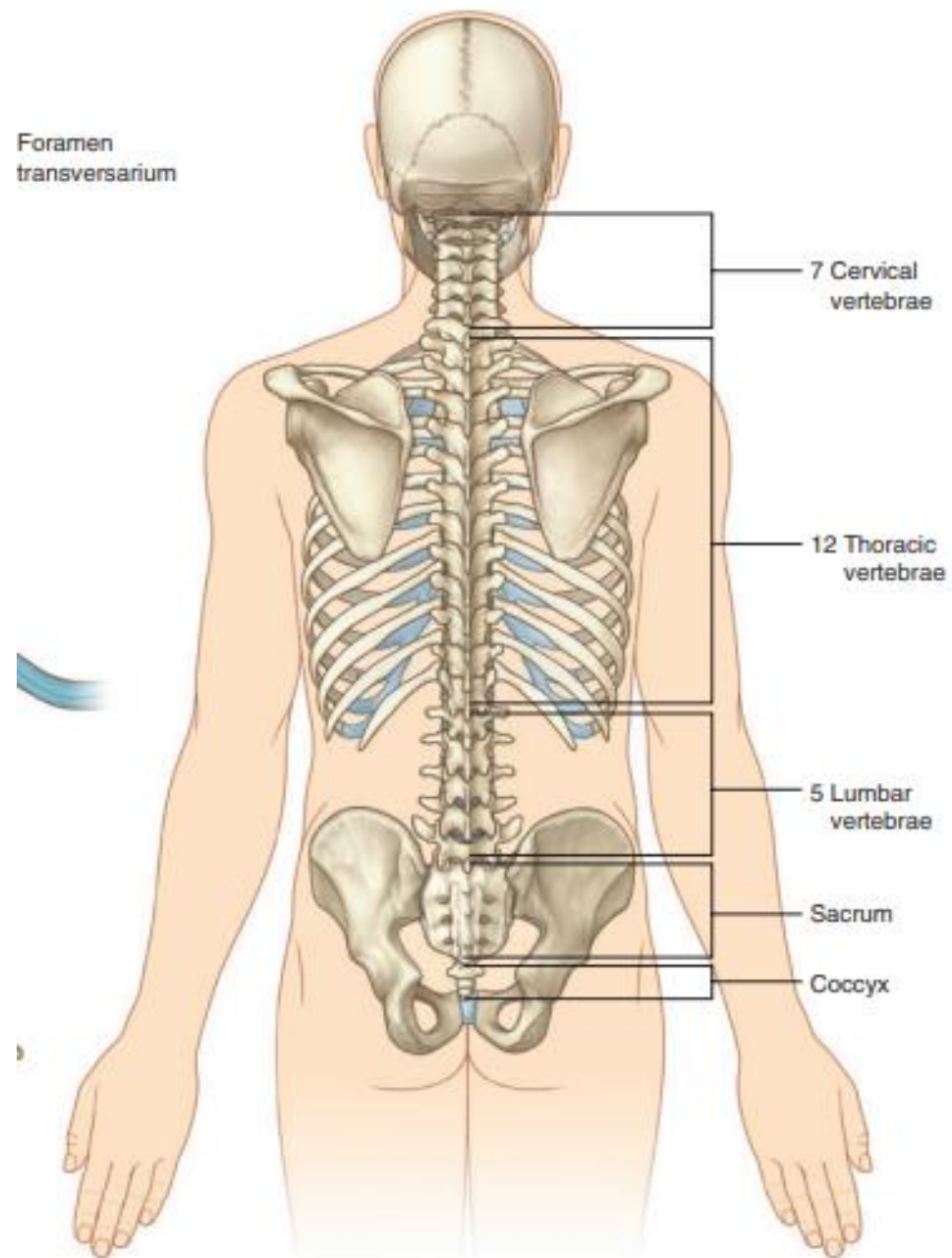
Cervical (7)
Thoracic (12)
Lumbar (5)
Sacral (5)
Coccygeal (3-4)



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Foramen
transversarium



Typical vertebra

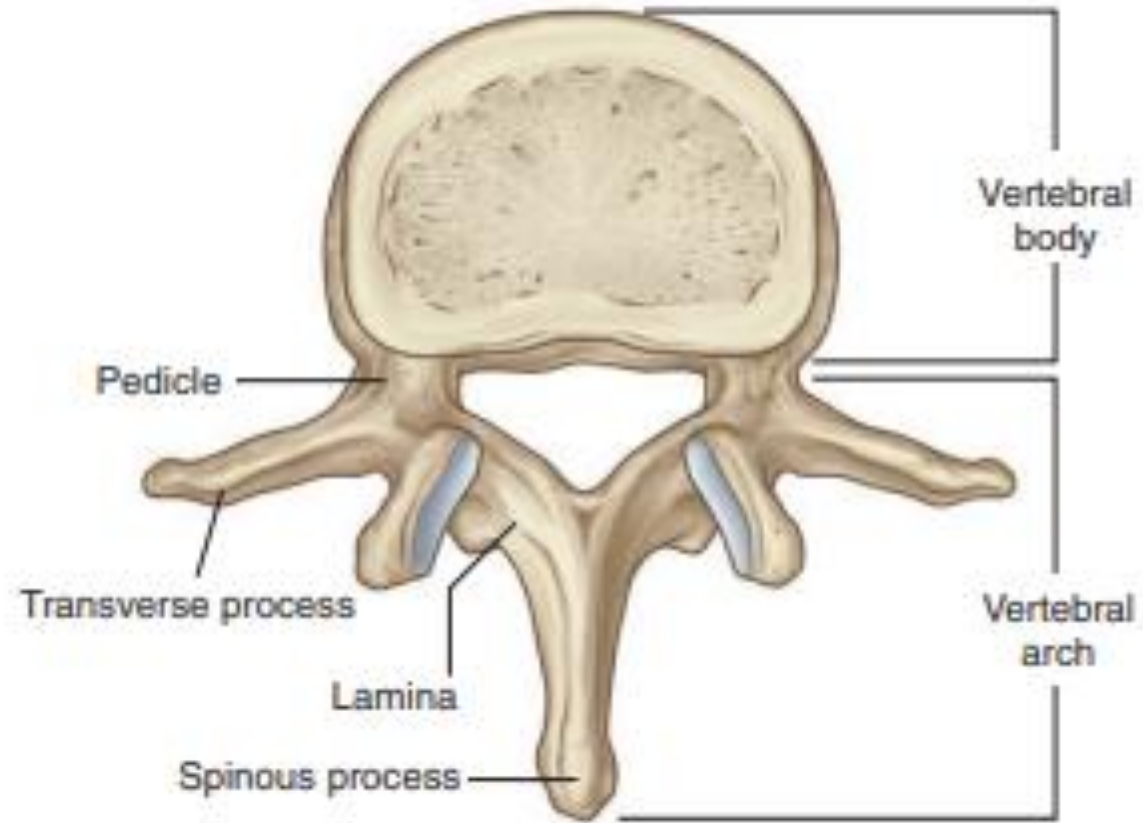
A typical vertebra consists of;

- a vertebral body

- and a posterior vertebral arch

Extending from the vertebral arch are a number of processes for muscle attachment and articulation with adjacent bones.

The vertebral foramina of all the vertebrae together form the vertebral canal, which contains and protects the spinal cord.



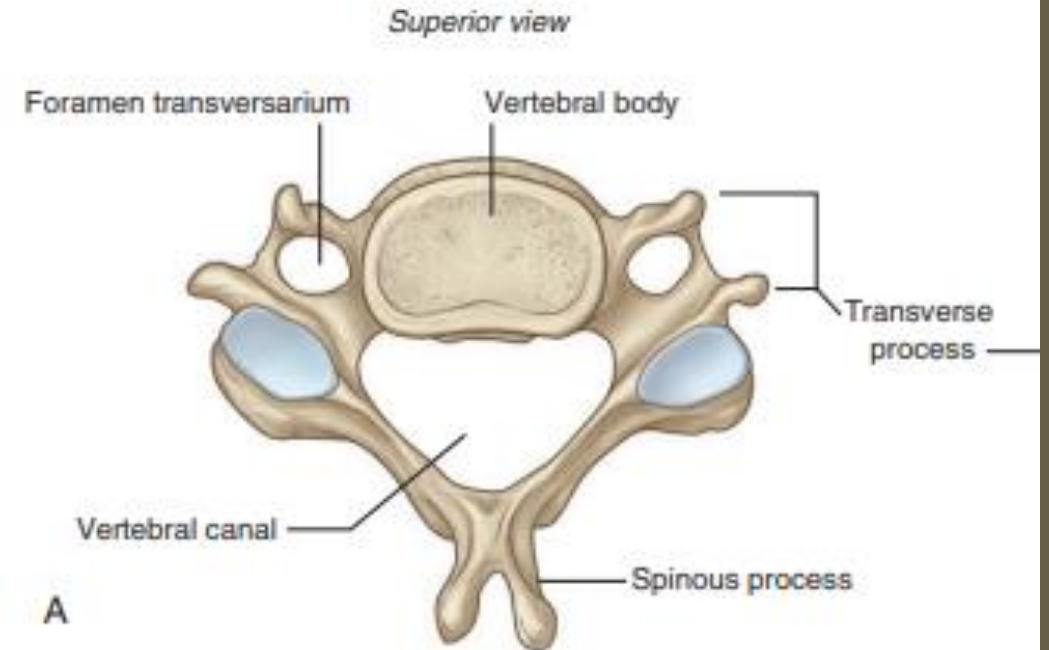
Superior view

- A **spinous process** projects posteriorly and inferiorly from the junction of the two laminae and is a **site for muscle and ligament attachment**.
- A **transverse process** extends posterolaterally from the junction of the pedicle and lamina on each side and **is a site for muscle and ligament attachment**, and for articulation with ribs in the thoracic region.

Cervical vertebrae

The seven cervical vertebrae are characterized by ;

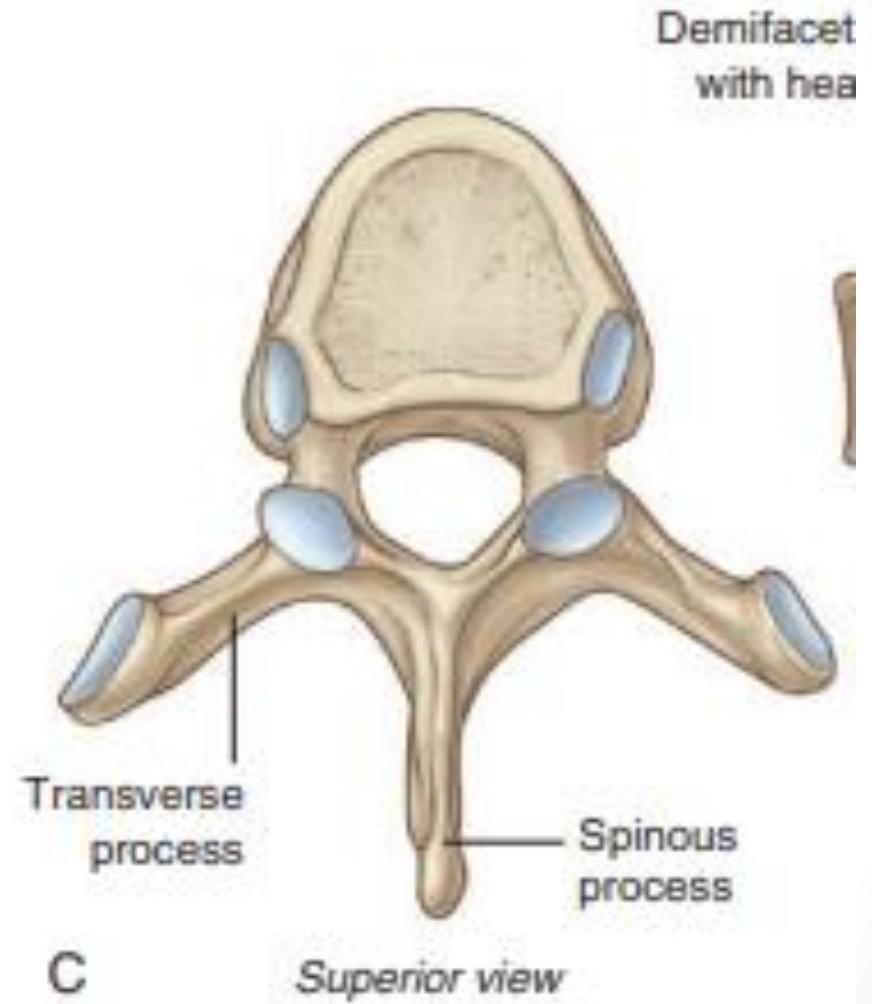
- small size
- presence of a foramen in each transverse process.
- The spinous process is short and bifid
- The first and second cervical vertebrae—the atlas and axis—are specialized to accommodate movement of the head



Thoracic vertebrae

Twelve thoracic vertebrae are all characterized by

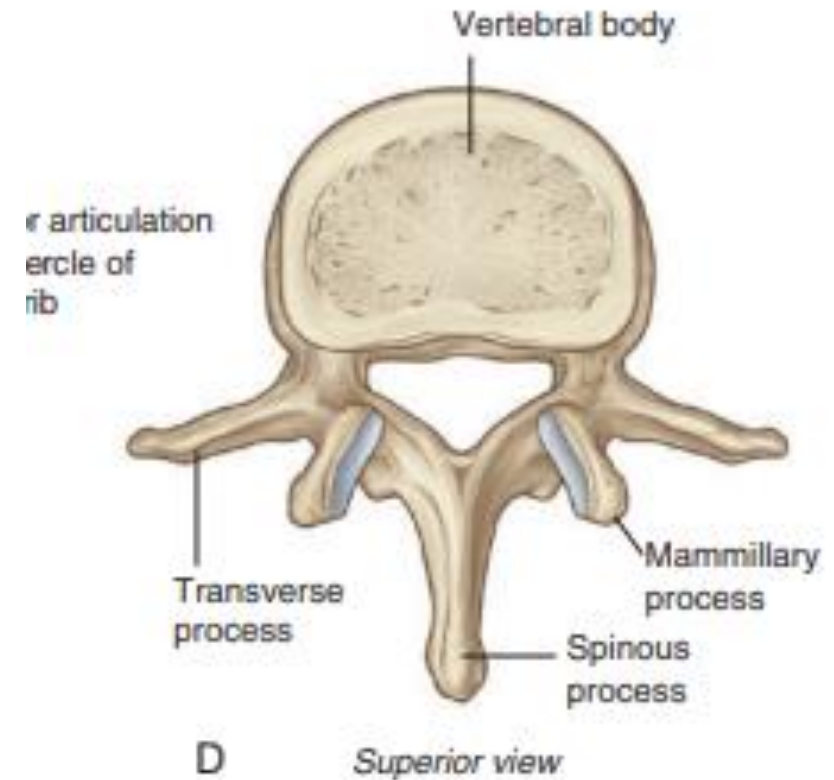
- articulation with ribs.
- long spinous process



Lumbar vertebra

Five lumbar vertebrae are distinguished from other vertebra;

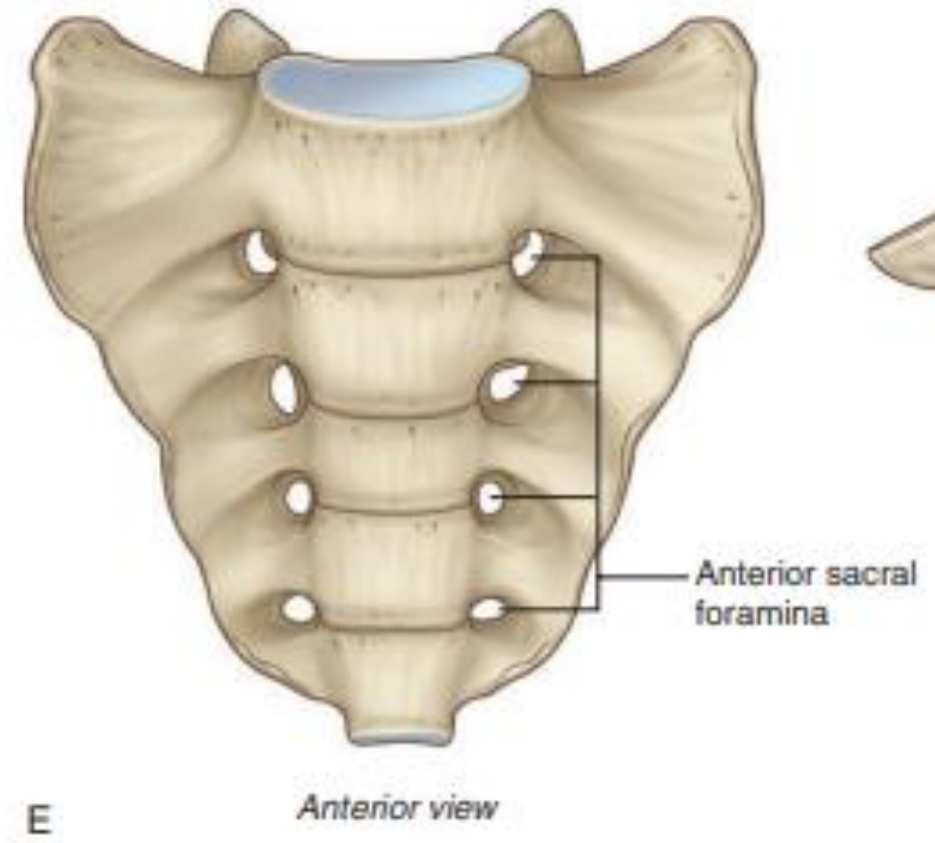
transverse processes are generally thin and long



Sacrum

is a **single bone** that represents the **five fused sacral vertebrae**.

- **articulation with the pelvic bones**
- has **four pairs of sacral foramina** (posterior & anterior) for the passage of the posterior and anterior rami **of spinal nerves**.



Coccyx

- small triangular bone that articulates with the inferior end of the sacrum and represents three to four fused coccygeal vertebrae
- absence of vertebral arches and therefore a vertebral canal

