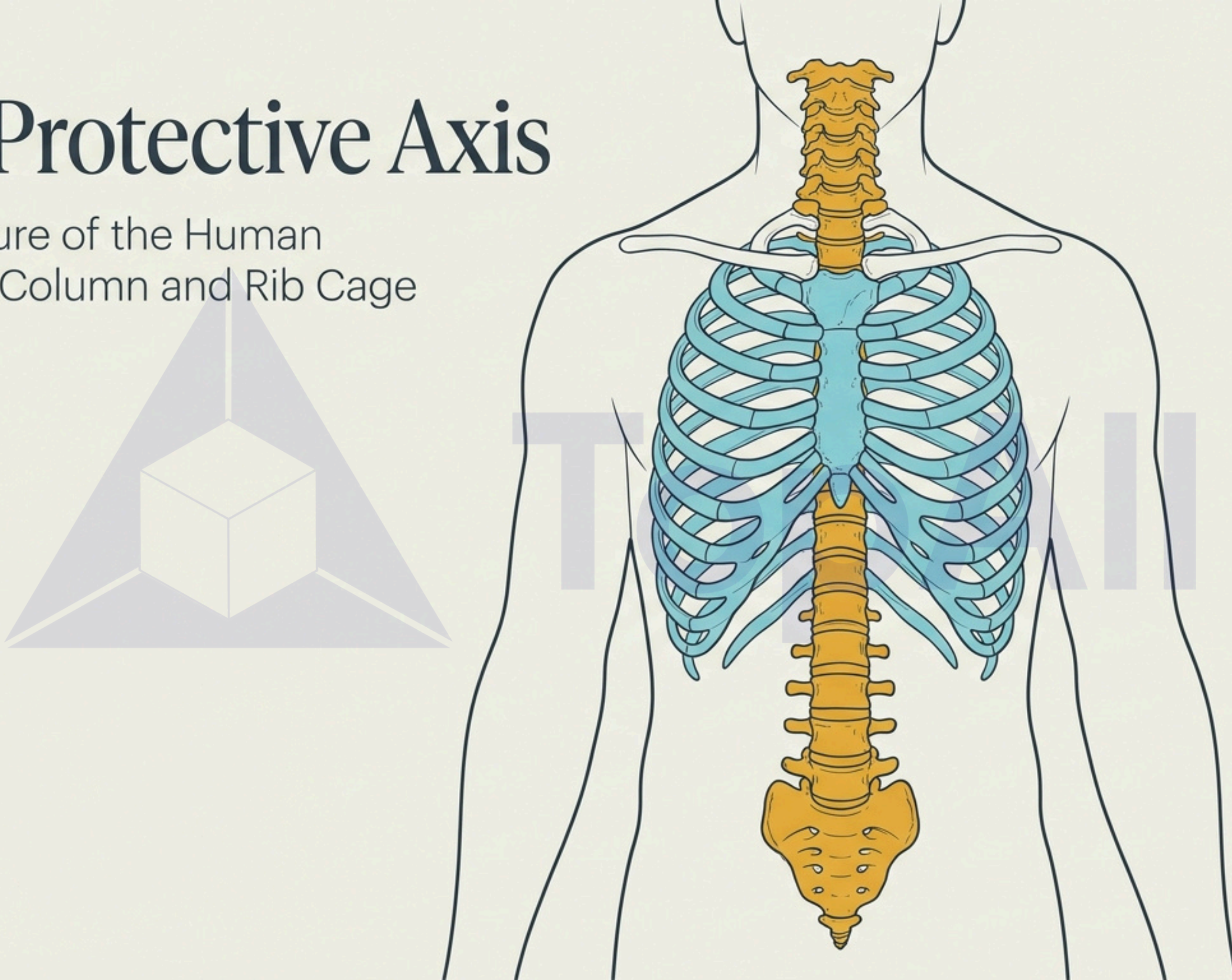


The Protective Axis

Architecture of the Human
Vertebral Column and Rib Cage



The Central Pillar: 26 Vertebrae

2 Function

Constitutes the primary, weight-bearing framework of the human trunk.

1 Placement

Dorsally placed, extending downward from the base of the skull.

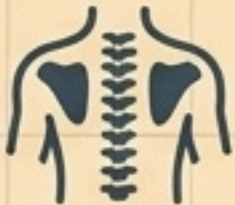
3 Composition

Formed by 26 serially arranged individual mechanical units (vertebrae).



Anatomical Segmentation



	Cervical (Present in almost all mammals)	7
	Thoracic	12
	Lumbar	5
	Sacral (Fused)	1
	Coccygeal (Fused)	1

Total Vertebrae: 26



You've Learned the Theory. Let's Test Them Now.

$$E=mc^2$$



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Practice Now



At prep.topall.app

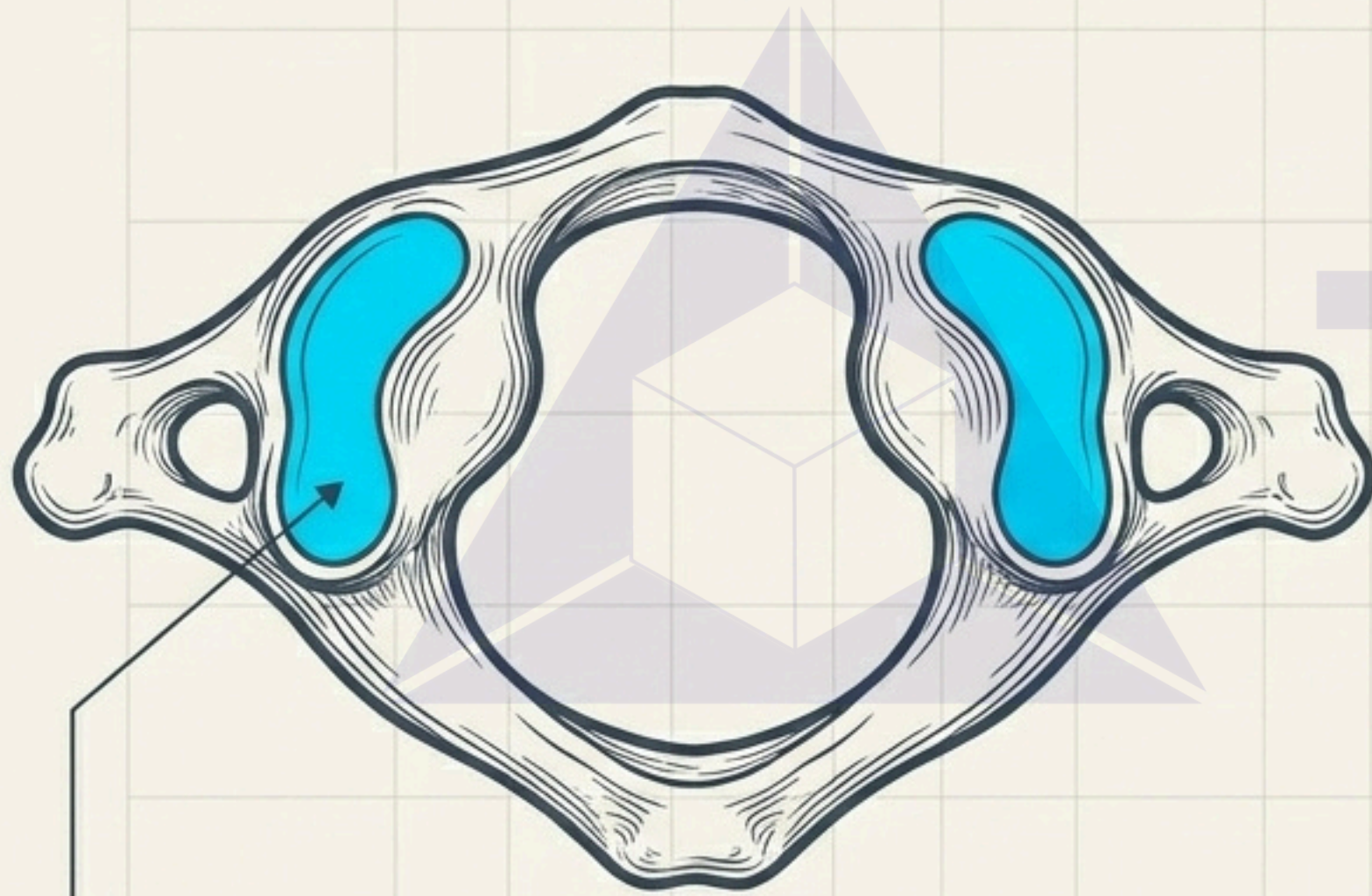
Key Highlights

- » Free Study Material, Videos & Infographics
- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
- » Track Your Performance Smarter



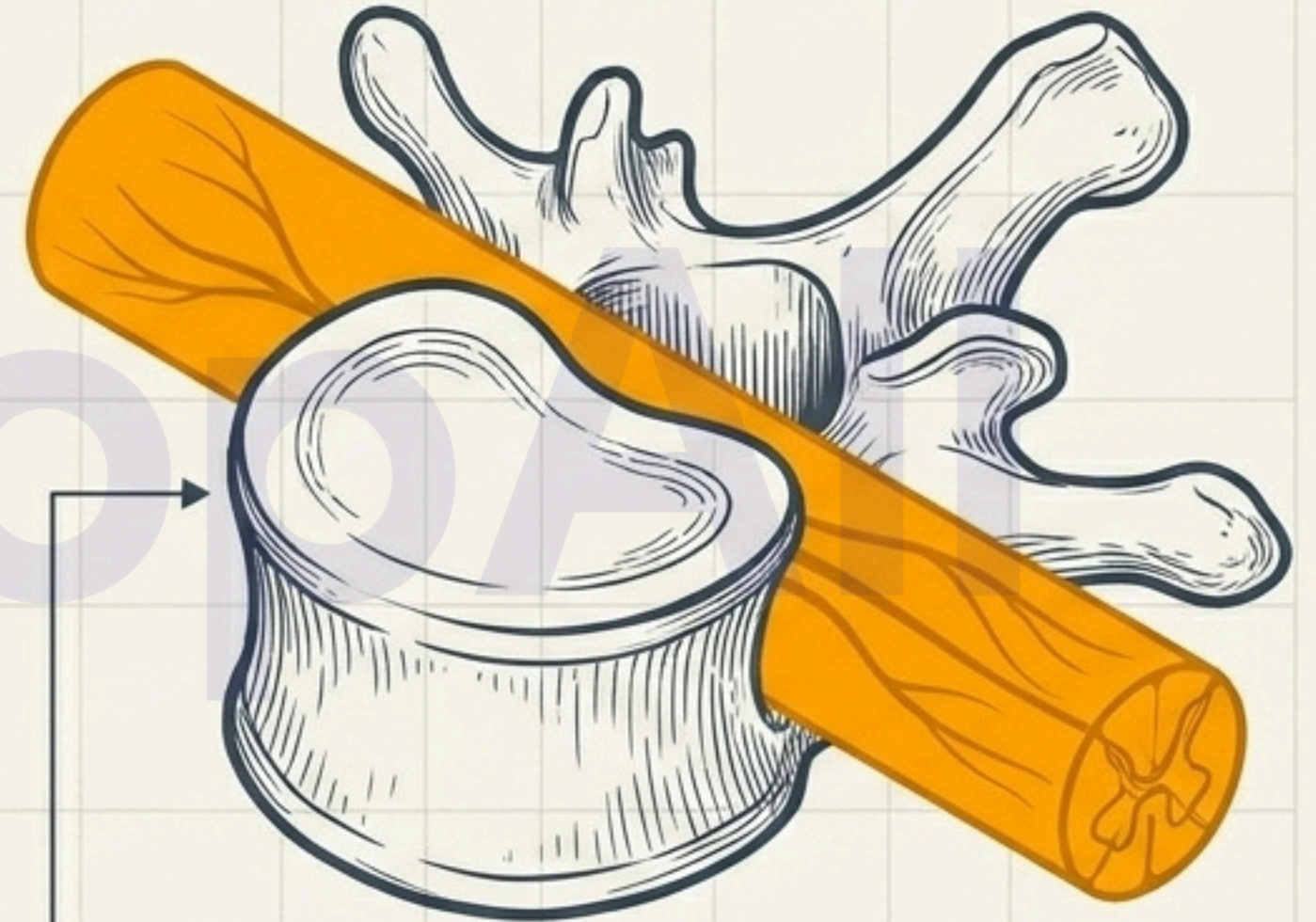
The First Vertebra & The Hollow Core

The Cradle (The Atlas)



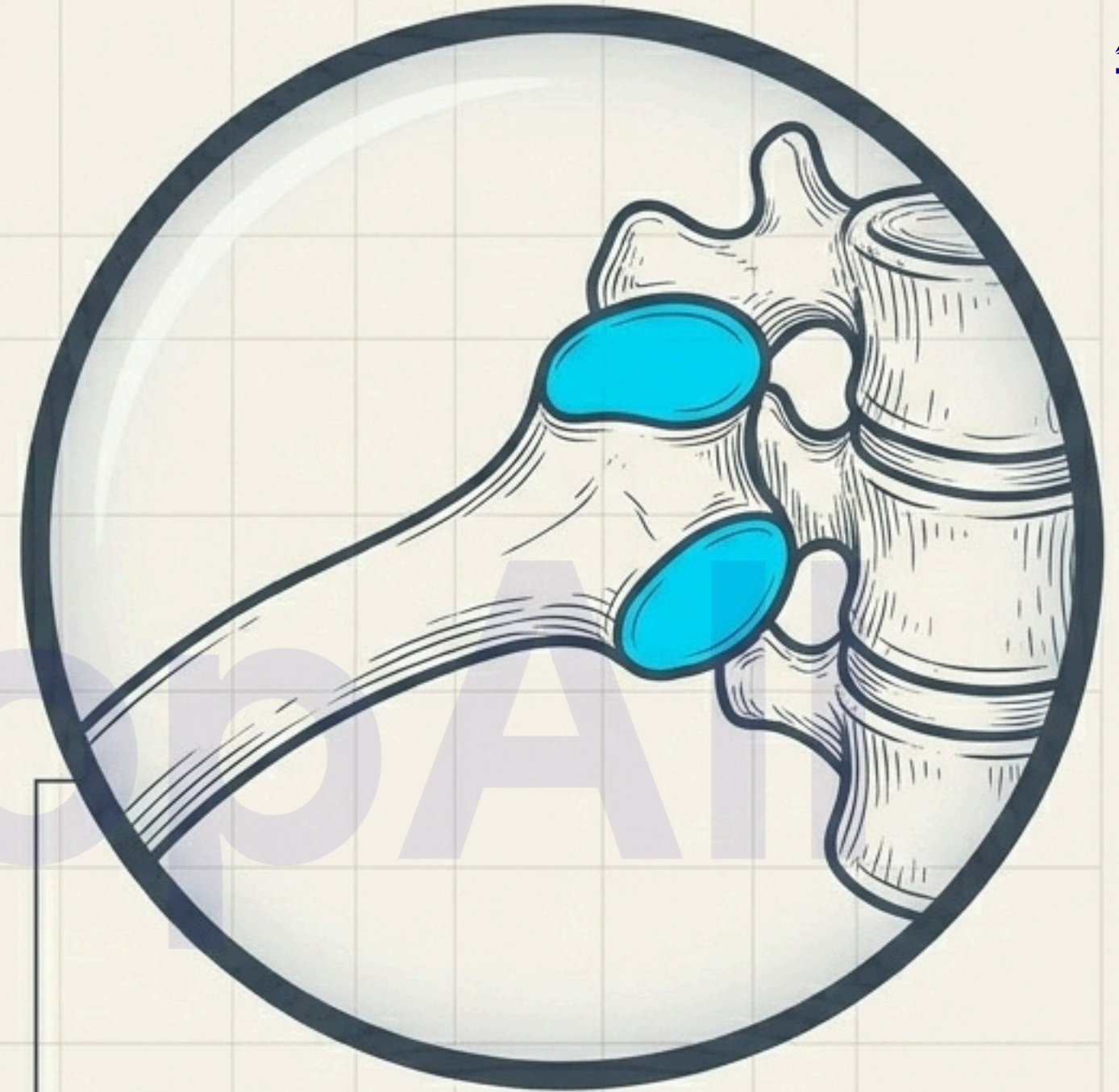
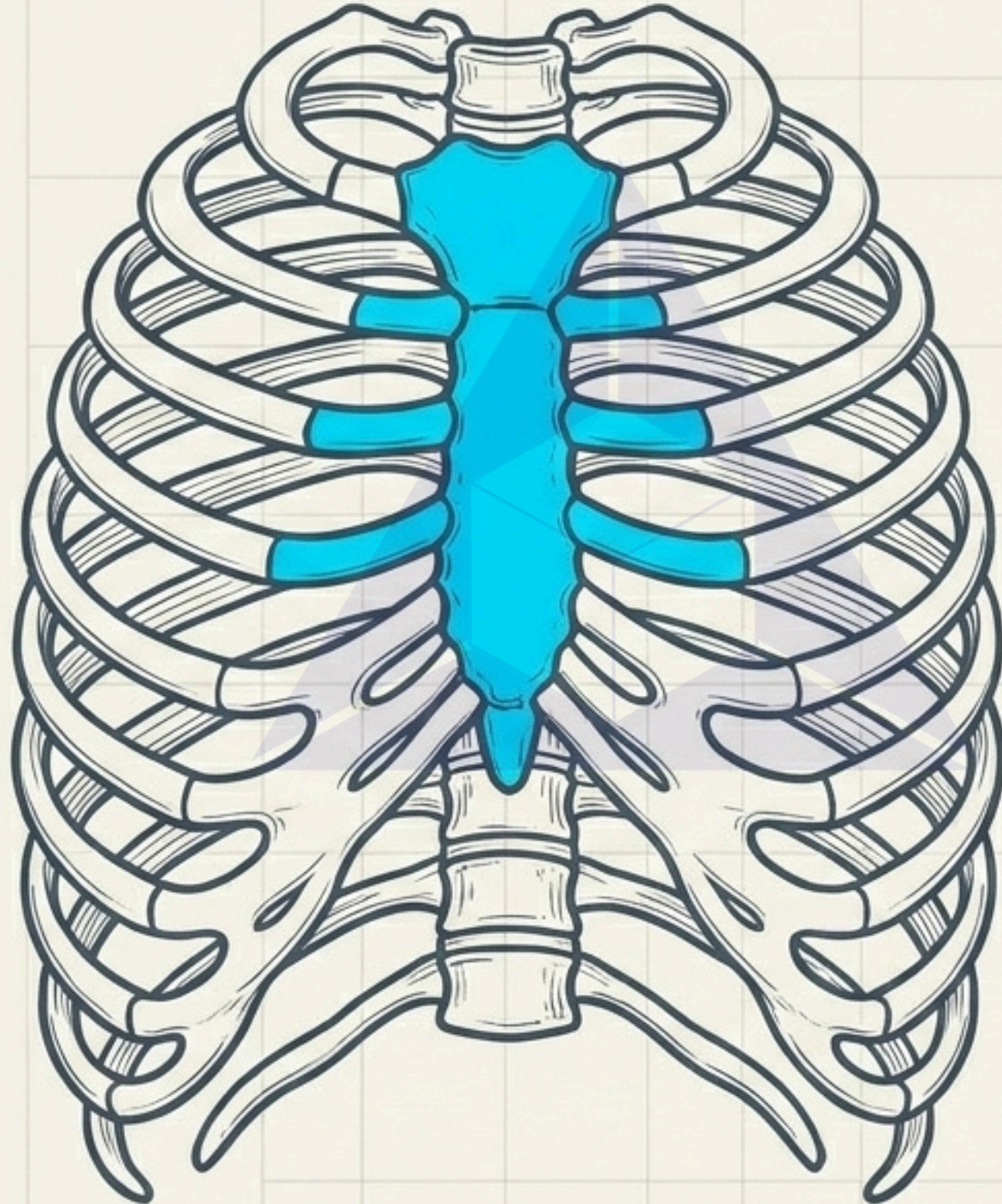
Articulates with the occipital condyles of the skull (dicondylic joint).

The Conduit (The Neural Canal)



Neural Canal: The central hollow portion through which the vital spinal cord passes and is protected.

The Thoracic Shield



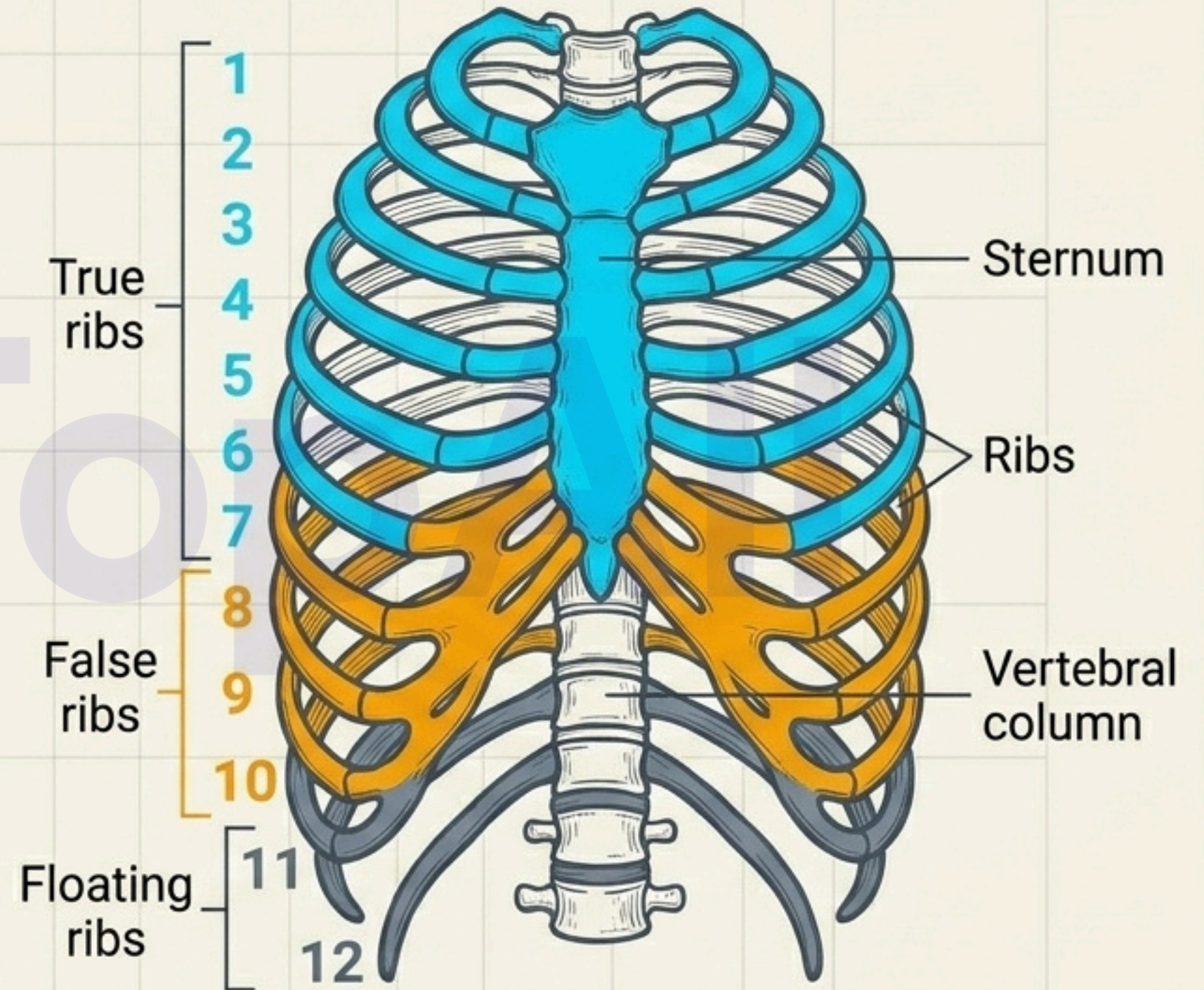
Bicephalic Articulation

Each rib features two distinct articulation surfaces on its dorsal end where it anchors rigidly to the vertebral column.

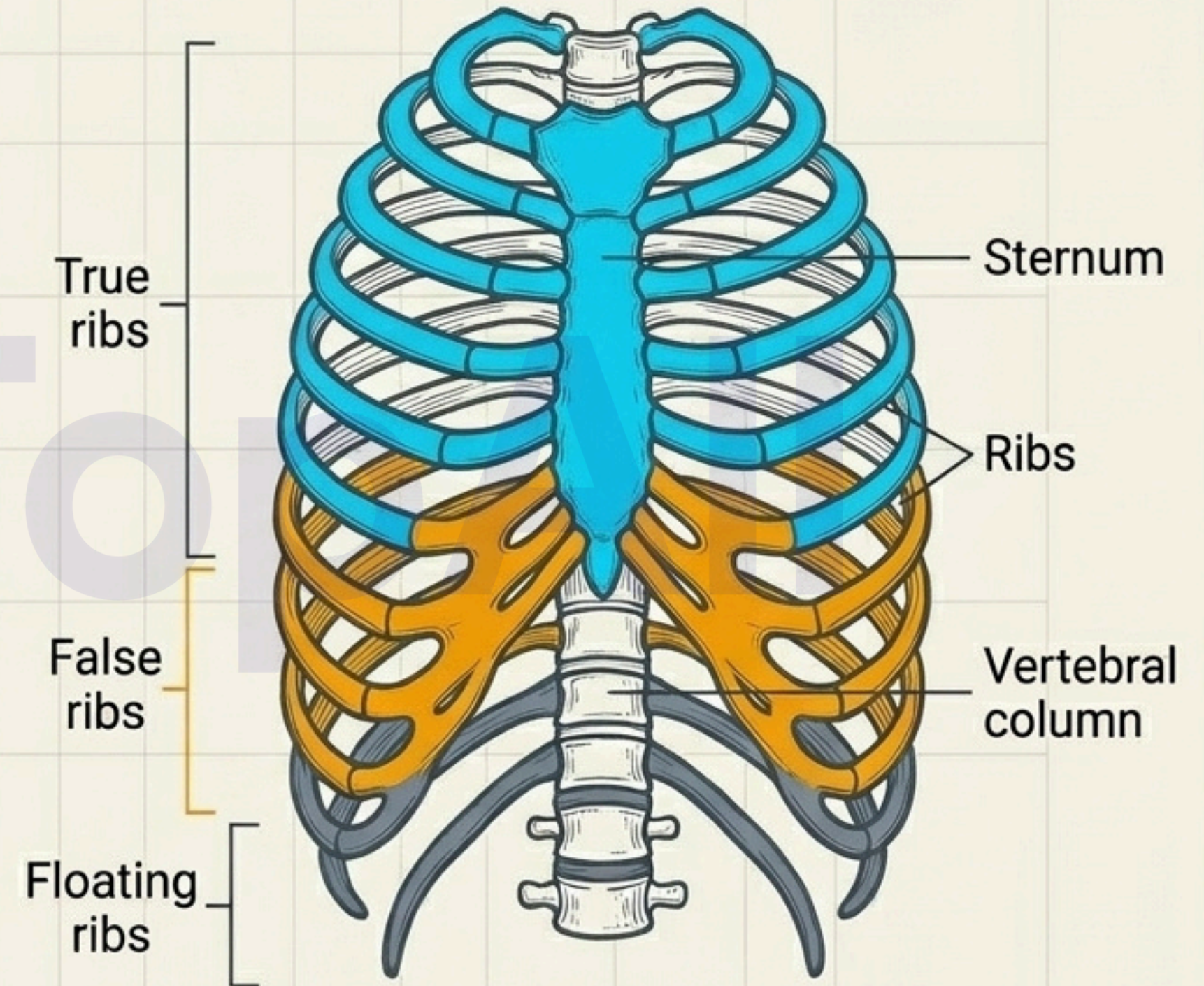
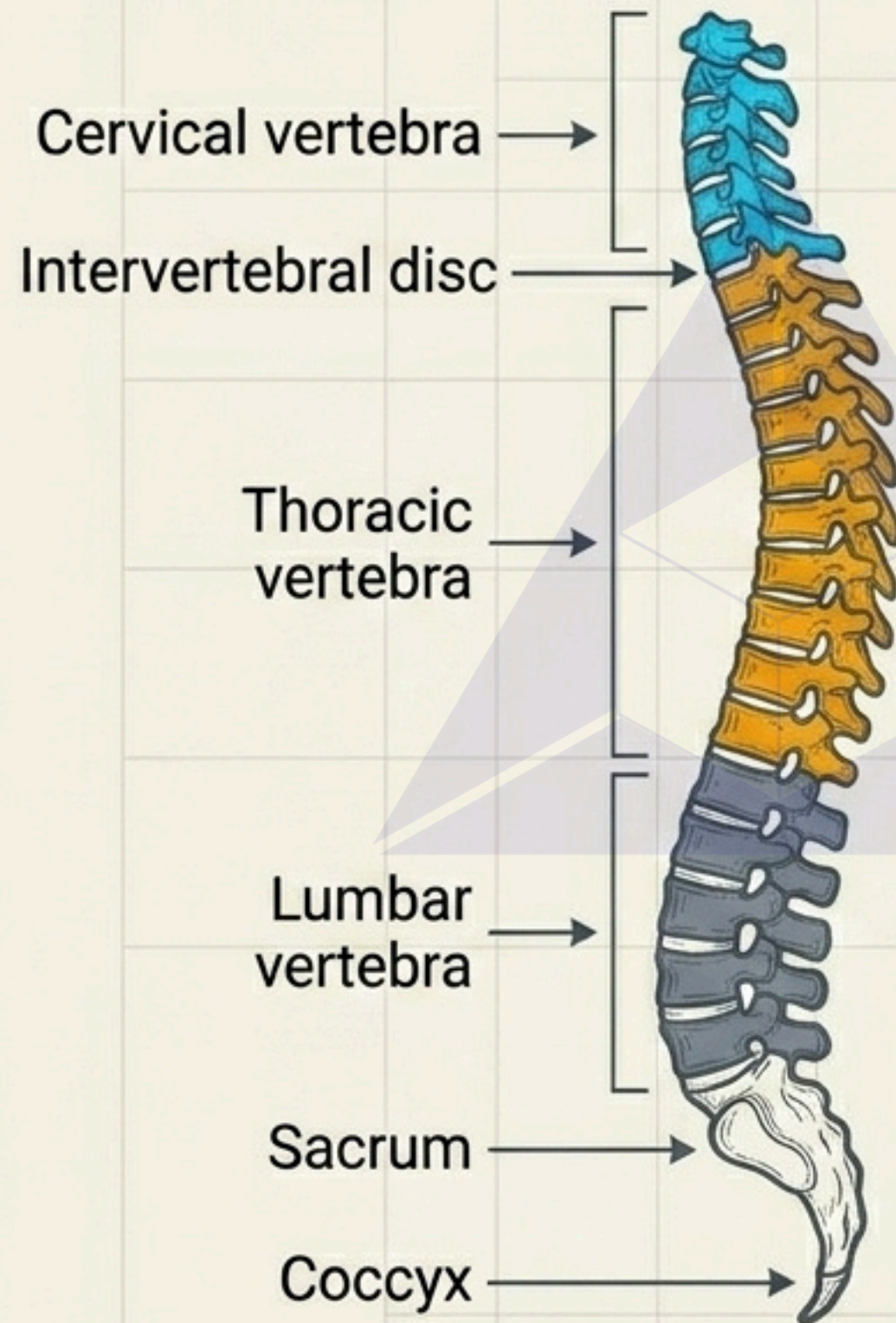
True, False, and Floating

Diagnostic Matrix (60%)

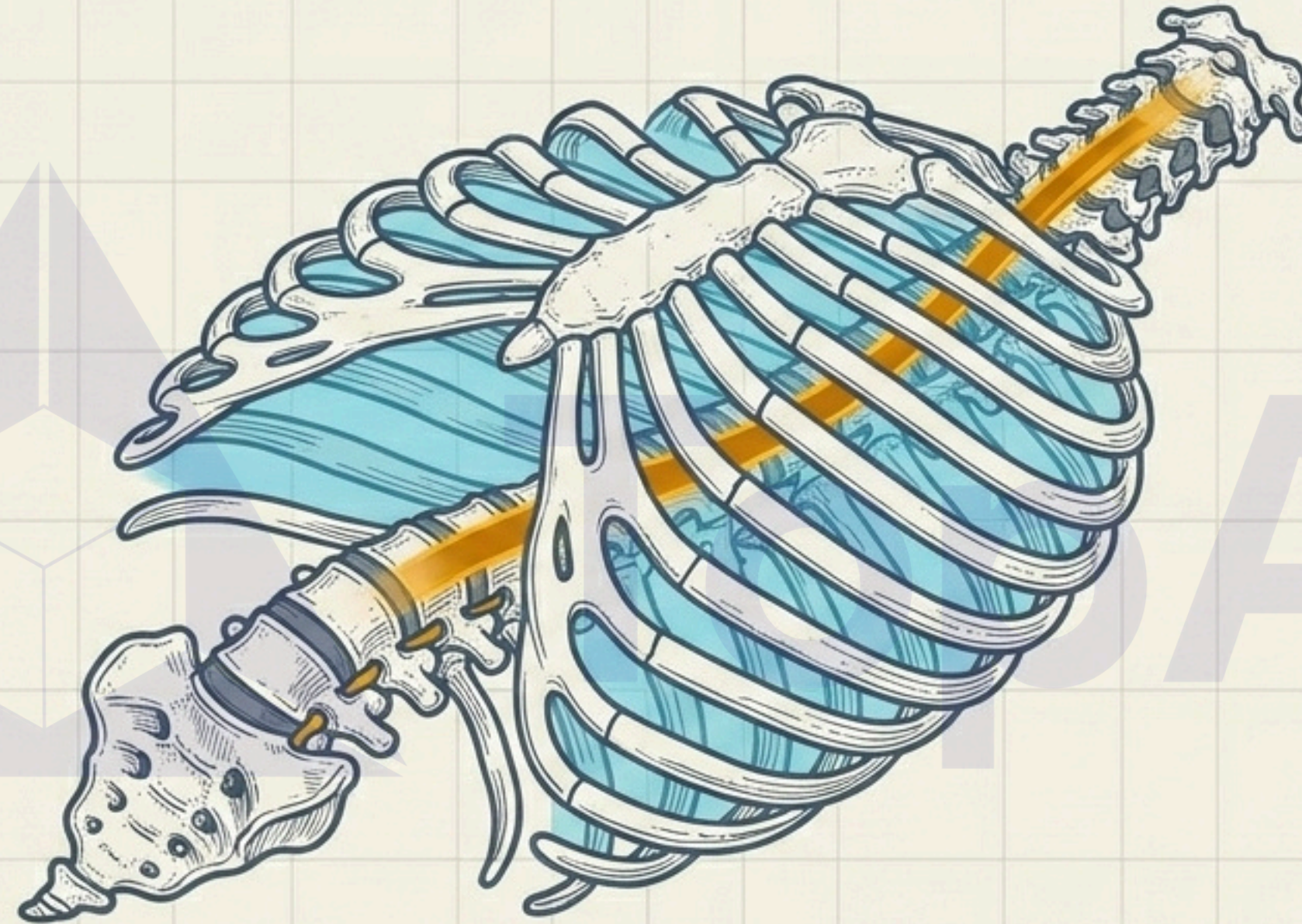
Classification	Dorsal Attachment	Ventral Attachment
True Ribs (Pairs 1-7)	Thoracic vertebrae	Directly to sternum via hyaline cartilage
False Ribs (Pairs 8-10)	Thoracic vertebrae	Attached to 7th rib via hyaline cartilage
Floating Ribs (Pairs 11-12)	Thoracic vertebrae	No ventral connection



The Axial Blueprint (Detailed Views)



Synthesis: The Core of Locomotion & Protection



The **axial skeleton** acts as a **unified biomechanical system**. It provides the rigid framework required for locomotion and muscular attachment, while simultaneously serving as an impenetrable, **flexible shield** for the **central nervous system** and vital organs.



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