



High-Yield Summary

Spinal Cord – Meninges & Blood Supply

## MENINGES

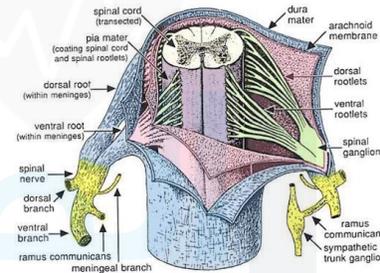
The spinal cord is protected by three membranes continuous with the brain at the foramen magnum.

### 1. PIA MATER

- Innermost vascular membrane, closely adherent to the spinal cord.
- Forms the filum terminale, which descends with the cauda equina and attaches to the back of the 2nd coccygeal segment after piercing arachnoid and dura.
- Gives denticulate ligaments, serrated lateral extensions that pierce the arachnoid and attach to the dura.

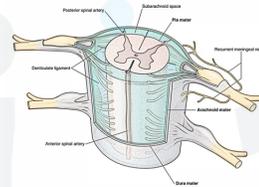
### 2. ARACHNOID MATER

- Thin, transparent membrane lining the inner surface of dura.
- Extends to S2.
- Subarachnoid space contains CSF, spinal vessels, nerve roots, and fibrous tissue.



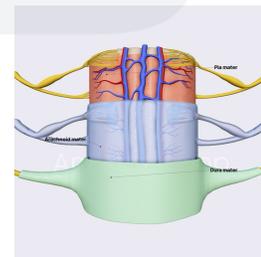
### 3. DURA MATER

- Outermost tough layer.
- Ends at S2; forms tubular sheaths around nerve roots.
- Attached at foramen magnum, intervertebral foramina, back of S2, and posterior longitudinal ligament.



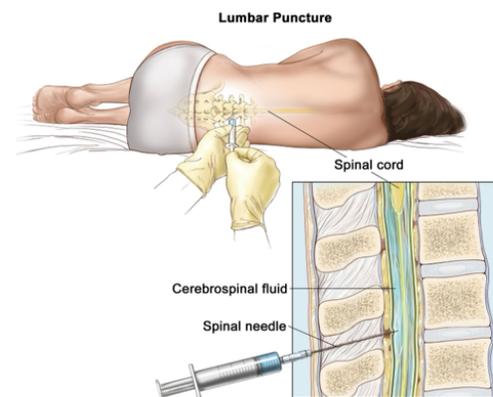
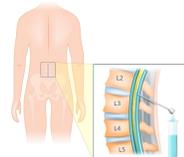
## MENINGEAL SPACES

1. Subarachnoid: between arachnoid & pia.
2. Subdural: between dura & arachnoid; contains serous fluid.
3. Epidural: between dura & vertebral periosteum; contains loose tissue & venous plexus.



## LUMBAR PUNCTURE

- Performed at L3/L4 or L4/L5.
- For anesthesia, diagnosis, or relief of high intracranial pressure.



## FACTORS FIXING THE SPINAL CORD

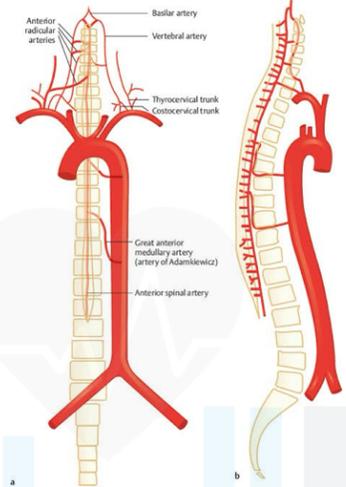
- Filum terminale attachment to coccyx.
- Denticulate ligaments.
- Dural attachments (foramen magnum, intervertebral foramina, S2, posterior longitudinal ligament).

## ARTERIAL SUPPLY

1. Anterior spinal artery: from vertebral arteries; supplies anterior 2/3 of cord.
2. Posterior spinal arteries: supply posterior 1/3.
3. Radicular arteries: from cervical, intercostal, lumbar, and sacral sources.

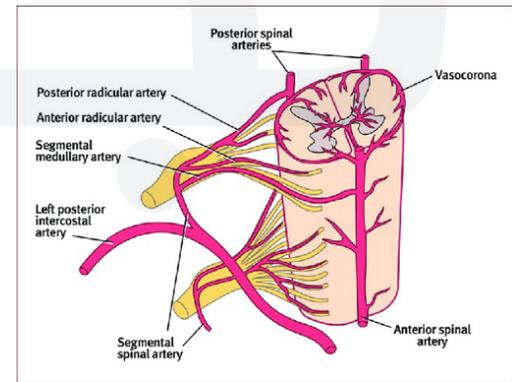
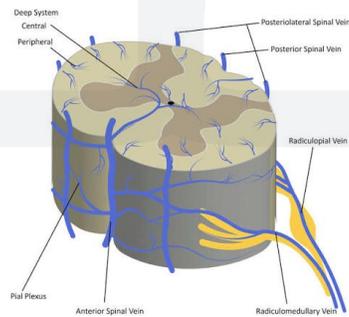
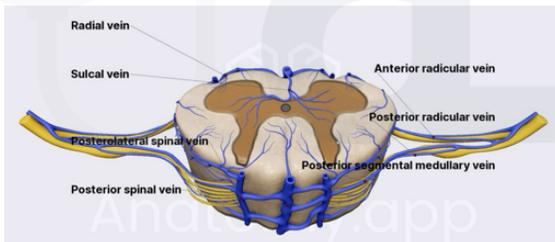
Artery of Adamkiewicz:

- From left T9–T11 intercostal, subcostal, or upper lumbar.
- Supplies lower 2/3 of cord; enters via L2–L3.

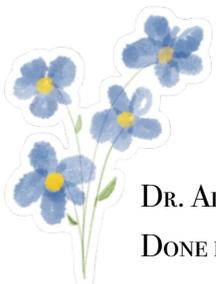
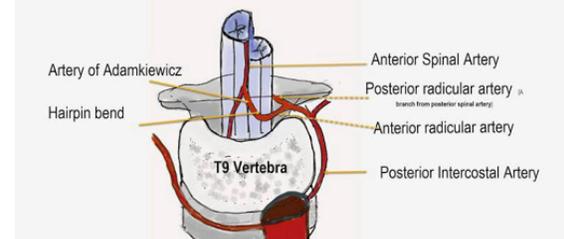


## VENOUS DRAINAGE

- Six longitudinal veins: anterior median, posterior median, two behind ventral roots, two behind dorsal roots.
- Anastomose freely; drain into dural sinuses and internal vertebral venous plexus → vertebral, intercostal, lumbar, and lateral sacral veins.
- Internal vertebral plexus connects SVC and IVC.



### Artery of Adamkiewicz



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لَا حَوْلَ وَلَا قُوَّةَ إِلَّا بِاللَّهِ

"من كوز الجنة"