

Unit 10:

Spinal cord and spinal nerves

GENERAL OBJECTIVES:

- Understand the organization of the content of vertebral canal.
- Compare developmental differences between spinal cord and vertebral column.
- What/where are two enlargements of the spinal cord?
- How does the spinal cord end?
- How are white and gray matter distributed in the spinal cord?
- What are spinal cord segments?
- What are motor and sensory roots of spinal nerves?
- What are ventral and dorsal rami of a spinal nerve?
- How are somatic plexuses formed?

SPECIFIC OBJECTIVES:

Spinal (Vertebral) Canal

- Walls:
 - Anterior & posterior
- Contents:
 - Epidural Space
 - internal vertebral venous plexus
 - Dura mater, Arachnoid Mater
 - Subarachnoid Space
 - Pia Mater
 - *Ventral and Dorsal Roots, Cauda Equina*
 - Spinal Cord
 - *Segmental organization*
 - Lumbar Enlargement
 - *Conus Medullaris (Vertebral level in adults, infant)*
 - Filum Terminale
 - Arterial Supply:
 - Branches
 - *Vascularity (rich v's. poor), Degree of Anastomosis*

Intervertebral Foramina

- Walls:
 - Anterior, posterior, superior & inferior
- Contents:
 - *Ventral Root*
 - *Dorsal Root (with dorsal root ganglion)*
 - Recurrent meningeal branch of spinal nerve
 - Radicular arteries (along nerve roots)
 - Communicating veins (to internal vertebral venous plexus)

Spinal Nerves

- *Ventral Rami* -> Nerve Supply of Limbs (via Plexuses)
- *Dorsal Rami* -> Nerve Supply of Back (ie. Skin, Intrinsic Muscles & Joints/Ligaments)