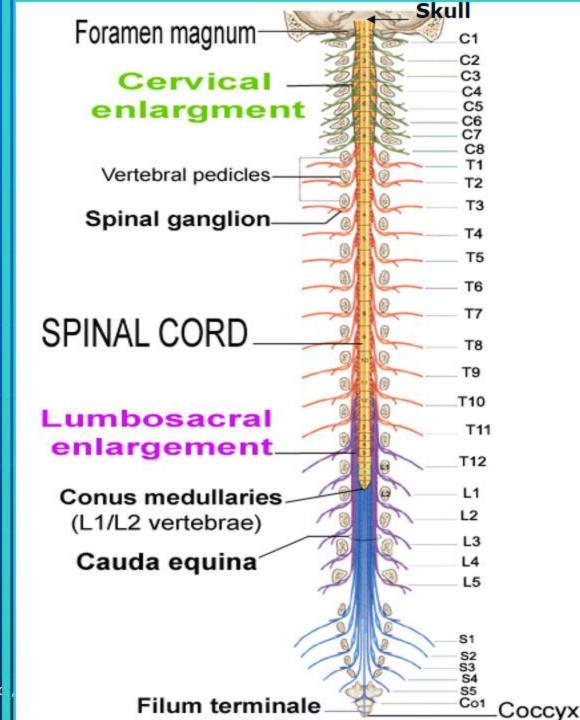
Brachial Plexus

Dear blooming doctors.

I hope that I shed a light in your way for supremacy.

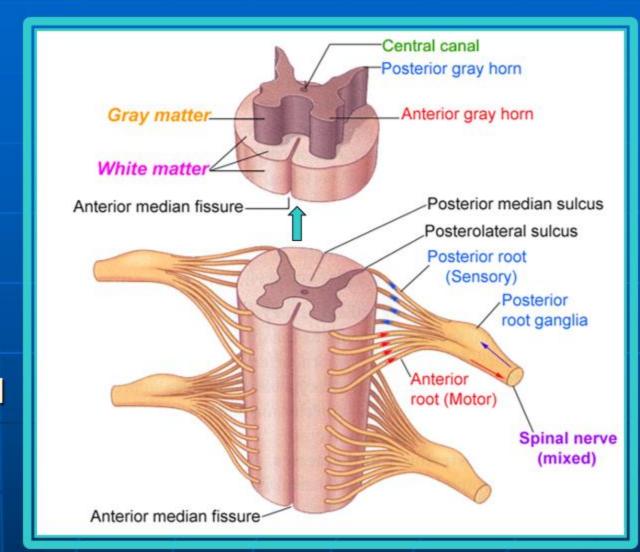
Spinal Cord

- Elongated cylindrical cable inside vertebral canal of vertebral column.
- Extends from base of the skull to the disc between L1/L2 vertebrae.
- □ Has 2 Network of nerves (plexus), that runs From and To the limbs forming 2 nerve enlargements:
 - Upper: Cervical.
 - Lower: Lumbosacral.



Spinal segment

- Spinal cord organized into <u>31</u> segments.
- Each segment form of 2 parts:
 - Gray matter, inner →
 H-shaped area full with nerve cells
 (neurons).
 - White matter, outer →
 Full with bundles of nerve fibers.
- Each segment gives a pair of spinal nerves (Right + Left) = 31 pairs.



Spinal segment- Gray matter

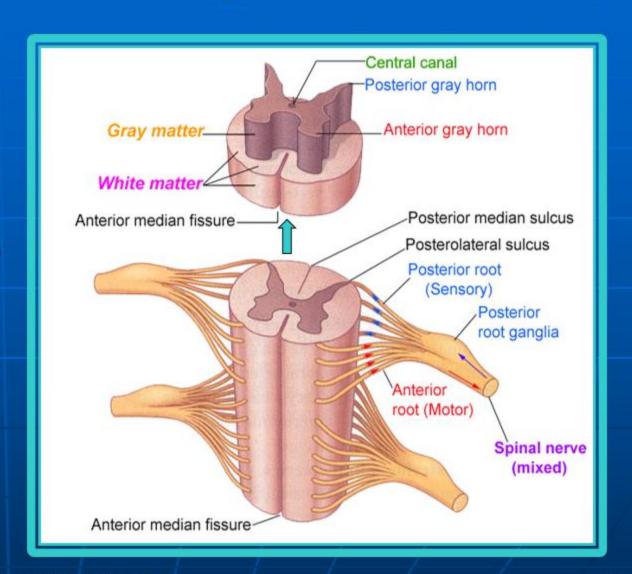
Gray matter subdivided into:

Anterior horn:

Contain motor cells
 To give <u>motor</u> impulses for contraction of skeletal muscles.

Posterior horn:

 Contain sensory cells that Receives <u>sensory</u> input.

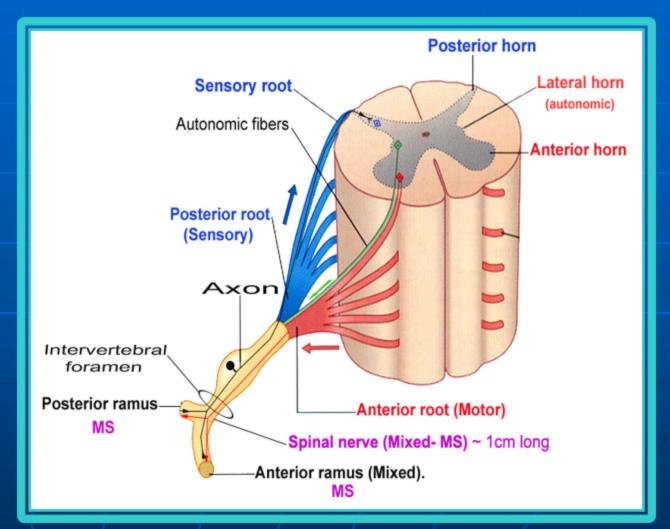


Spinal nerves-1

31 pairs

Each spinal nerve consists:

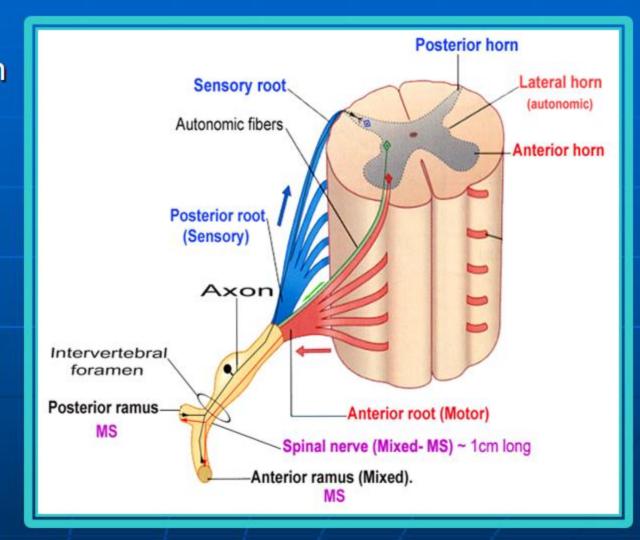
- Anterior motor root:
 Carry motor stimuli out from motor cells at the anterior horn to the spinal nerve.
- Posterior sensory root:
 Carry sensations from spinal nerve to posterior horn cells.



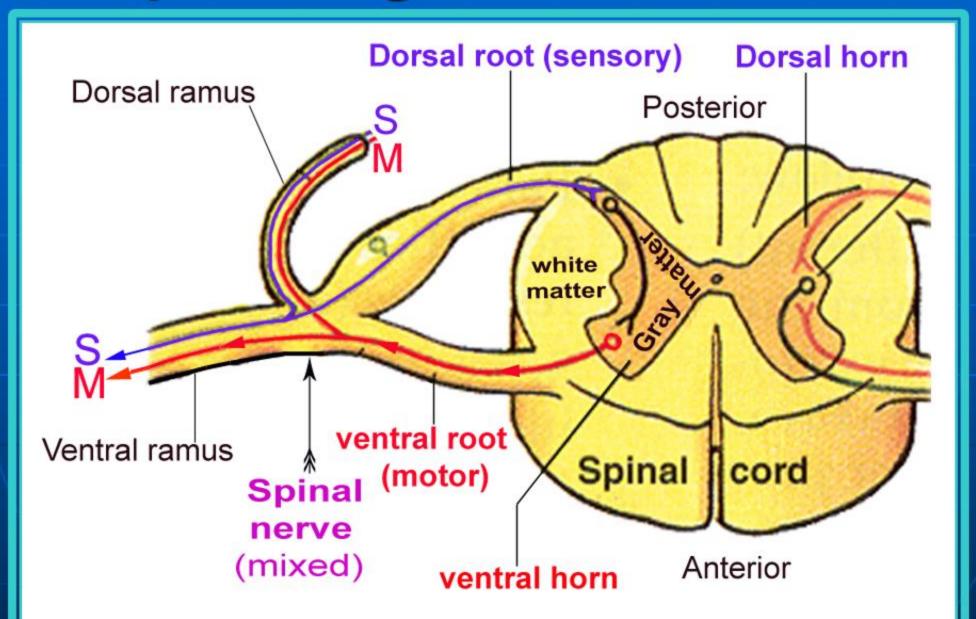
Spinal nerves-2

31 pairs

- Each spinal nerve leave through its intervertebral foramen "between two sequential vertebrae" as a mixed nerve (Motor and Sensory).
- Just outside foramen , it divides into 2 limbs (Ramus = limb):
 - Anterior ramus (mixed).
 To Anterior parts of the body.
 - <u>Posterior ramus (mixed).</u>
 To posterior parts of the body.



Spinal segment- Superior view



Brachial plexus A network within the axilla Divisions **Branches Cords** Trunks Roots Dorsal root (sensory) Dorsal horn that supply the upper limb Dorsal Posterior Lateral pectoral ramus and related structures. Dorsal scapular N. Musculocutaneous N. Suprascapular N. Ventral ramus & Spinal (motor) Spinal | cord ateral Anterio nerve Lateral root of Nerve to (mixed) subclavius median N. Origin: Ventral rami of C5 - T1 spinal nerves. Radial N. Posterior Loves number 3 and 5. **Median nerve** Upper Lowe ▶Has: subscapular subscapular 5 Roots Medial root of Thoracodorsal anterior Lower T. 3 Trunks Media median nerve 3 Anterior divisions 3 Posterior divisions Ulnar nerve Medial pectoral N. 3 Cords Medial cutaneous Medial cutaneous Long thoracic nerve of forearm nerve of arm. Lateral cord gives 3 branches nerve Medial cord gives 5 branches

Posterior cord gives 5 branches

Brachial Plexus

A network of nerves within the axilla that supply the upper limb and related structures.

Origin: Ventral rami of C5-T1 spinal nerves.

Loves number 5 and 3.

Parts:

- 5 Roots.
- 3 Trunks.
- 3 anterior divisions + 3 posterior divisions.
- 3 Cords.
 - Lateral cord gives 3 branches.
 - Medial cord gives 5 branches.
 - Posterior cord gives 5 branches.

Brachial Plexus

Divisions:

- Since the trunks are intended to supply FLEXOR and EXTENSOR muscles, each trunk divides into <u>anterior division for Flexor</u> and <u>posterior division for</u> <u>Extensor muscles</u>.
- > This occurs before they pass below the clavicle.
- 3 Anterior divisions → for Flexor muscles.
- 3 Posterior divisions → for Extensor muscles.

3 Cords:

- Cords are named according to their relation to 2nd part of the axillary artery.
 - Posterior divisions of the 3 trunks unite to give→ Posterior cord.
 - Anterior divisions of Upper trunk and Middle trunks unite→ Lateral cord.
 - Anterior division of the lower trunk continue as → Medial cord.