

twelfth thoracic vertebra.

- Lower end is conus medullaris, extending from the caudal in lower lumbar and sacral regions are spinal nerves called cauda equina.

- anchored to walls of vertebral canal by extensions of the pia matter called DENTRICAL LIGAMENTS and the coccy inferiorly by the FILUM TERMINALE.

- Internal environment:

- core of gray matter (shaped like butterfly)

- surrounded by white matter

- gray matter consists of cell bodies and neurons and white is myelinated axons

- gray matter is subdivided into regions called horns

- a) anterior (ventral) gray horns (voluntary motion)

- b) posterior (dorsal) gray horns is sensory

- c) lateral gray horns (autonomic motor) only in thoracic, upper lumbar and sacral segments of the spinal cord.

- white matter is subdivided into regions called columns (funiculi)

- a) anterior white

- b) posterior white

- c) lateral white

- each of these columns contains bundles of nerve fibers called tracts (fasciculi)

- a) ascending is sensory

- b) descending is motor

- Spinal cord functions:

- white matter transmits nerve impulses between brain and peripheral, gray matter transmits incoming and outgoing info

- Reflexes: somatic involve contraction of skeletal muscles, visceral (autonomic) involve responses of smooth, cardiac and glands

- spinal nerve attached to spinal segment by two roots: a) posterior dorsal (Sensory root): sensory nerve fibres from periphery to spinal cord; b) anterior or ventral

- (motor) root: motor neurons axons transmit impulses from spinal cord to periphery

- cell bodies of somatic motor in anterior gray horns

- cell bodies of autonomic motor in lateral gray horns.

- Reflex pathway includes: receptor, sensory neuron, integrating center, motor neuron, effector

- Spinal Nerves: 31 pairs

- 8 cervical, 12 thoracic, 5 lumbar, 5 sacral, 1 coccygeal

- nerve is formed by merger of dorsal root and anterior root.

- plexuses= bundles of nerves: Cervical plexuses, brachial plexuses, lumbar plexuses, sacral plexuses

- Dermatomes: skin over entire body is supplied by spinal nerves that carry