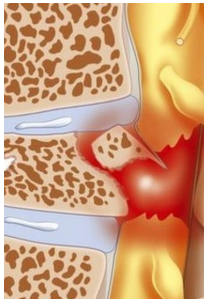
Supporting Clients With Long-term Neurological Conditions

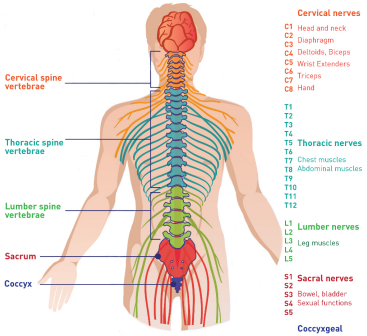
[**Unit 2-** Spinal Cord Injuries]

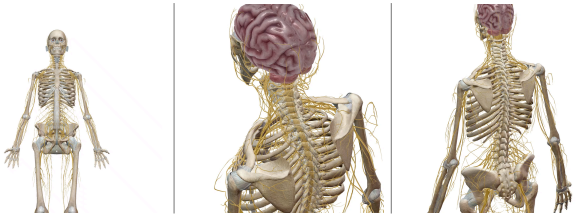
by Dr Grant Ralston



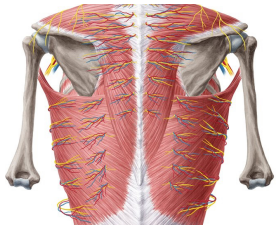
Objectives

- The nervous system and its constituent parts
- Nerve transmission
- The functions of the nervous system
- Spinal cord injury (SCI)
- Pathophysiology of spinal cord injury

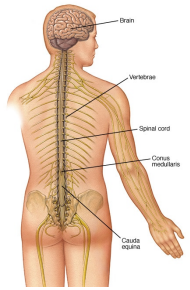


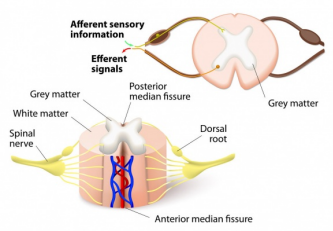


Muscles Of the Back

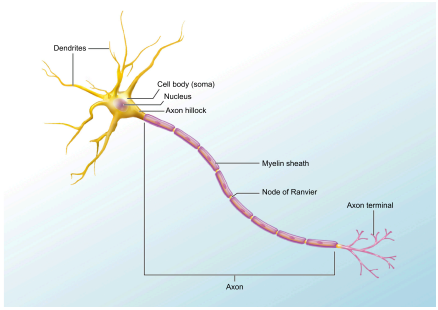


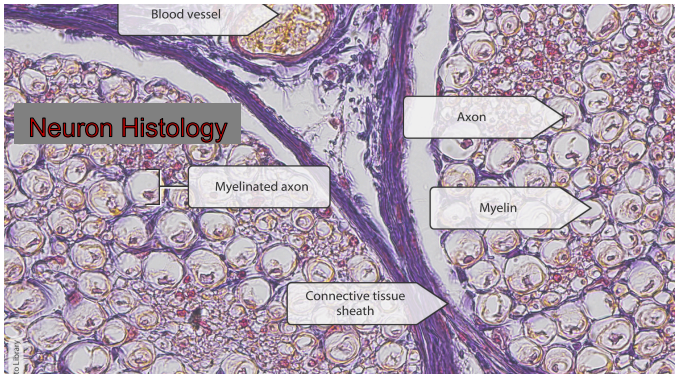
The Spinal Cord

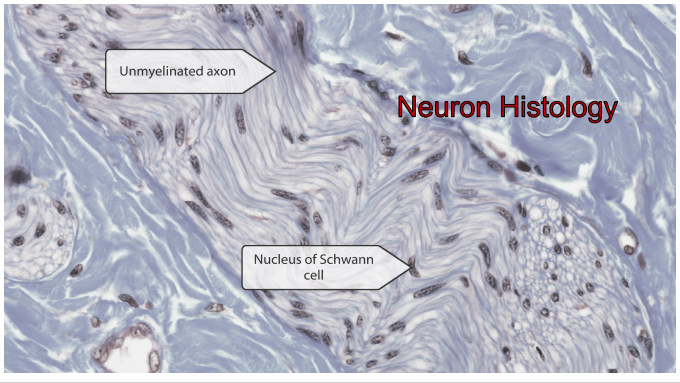




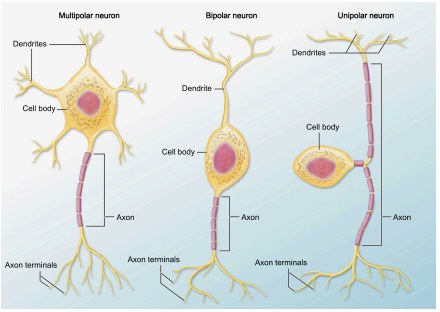
Nerve Transmission: Key Points





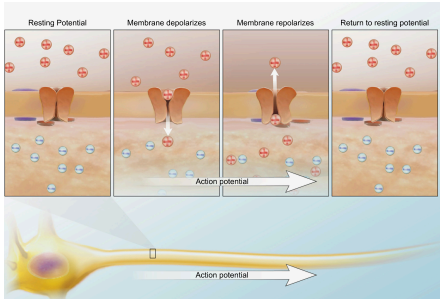


Types of Neurons



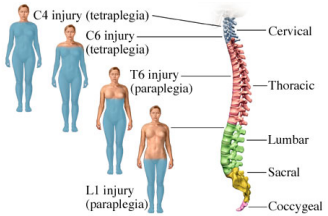
Nerve Transmission: Overview

Resting and Action Potentials



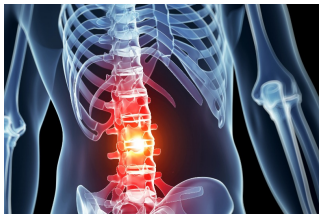
Prevalence of SCI

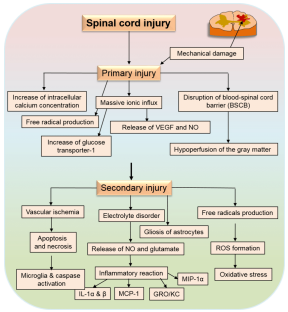
- Approximately 55% of all SCI affect the **cervical** spine (neck) with the remainder being divided between the lumbar (lower back), thoracic (thorax) and sacral spinal levels.



Spinal Cord Injury (SCI)

- Spinal cord injury (SCI) refers to damage to the spinal cord as a direct consequence of trauma being applied to it:
- Either **partial**, where the cord stays intact
- **Complete**, where the entire cord is severed



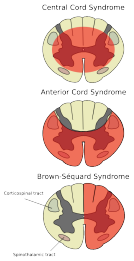


Pathophysiology of Spinal Cord Injuries

Pathophysiology of Spinal Cord Injury

Common patterns of neurological damage and the terms associated with the various types of SCI include:

- **Sacral sparing**
- **Brown-Sequard lesion**
- **Central cord lesion**
- **Anterior cervical cord syndrome**



Symptoms of Spinal Cord Injury

- The 'completeness' of the injury is classified, as follows:
  - Complete: all feeling (sensory) and all ability to control movement (motor function) are lost below the site of the spinal cord injury.
  - Incomplete: some motor or sensory function below the affected area. There are varying degrees of incomplete injury.

Treatment of Spinal Cord Injury