

THE PERIPHERAL NERVES

- They have both sensory and motor
- They are arranged in bundles as shown bellow
- They have
 1. Endoneurons a delicate connective tissue surrounding each individual fibre or axon
 2. Perineuron wich is a smooth connective tissue surrounding each bundle of fibre
 3. Epineurium which binds many bundles together

Spinal nerves

- 8 cervical nerves
- 12 thoracic nerves
- 5 lumber nerves
- 5 sacral nerves
- 1 coccygeal nerves
- A total of 31 pairs
- They arise from both side of the spinal cord through inter-vertebral foramina
- each nerve has sensory and motor union thus mixed nerve
- they also have a contribution from sympathetic part

Nerve roots

1. Anterior root
 - motor axon in the anterior horn of the gray matter
 - axon of sympathetic nerve in lateral horn of gray matter in thoracic lumber
 2. Posterior root
 - sensory axons with spinal ganglion or post root ganglions
- the two join to form spinal nerves
 - then after vertebrae they divide into
 1. posterior primary ramus
 2. anterior primary ramus
 3. ramus communicator which is part of the sympathetic

Posterior primary ramus

- pass backward and divide into medial and lateral branches to supply muscles and skin at posterior aspect of the trunk

Anterior primary ramus

- supply anterior and lateral aspect of the trunk, upper and lower limbs

- in the cervical, lumbar and sacral region the anterior primary rami unite near origin to form plexus thus
- Cervical plexus
- Brachial plexus
- Lumbar plexus
- Sacral plexus
- Coccygeal plexus

CERVICAL PLEXUS

- Is from 1st 4 cervical nerves
- Protected by sternomastoid muscle
- Divided into superficial and deep branches

Superficial

- Supply the back side of the head, skin in front of the neck to sternum

Deep

- Supply muscles of the neck like sternomastoid and trapezius
- Phrenic nerve arise from this plexus
- From C3,4 and 5 to the diaphragm

BRACHIAL PLEXUS

- From C 4,5,6,7,8 and T1
- Supply above and behind subclavian vessels and partly in axilla
- Supply skin and muscles of upper limb and chest muscles
- Form
 1. Circumflex which wind on Humerous, deltoid and shoulder joints
 2. Radial nerve the longest branch to the triceps
 3. Musculocutaneous nerve
 4. Median nerve
 5. Ulnar nerve

THORACIC NERVES

- 12 pairs which do not intermingle
- anterior to the intercostal muscle, skin and muscles of the anterior abdominal wall

LUMBER PLEXUS

- By L1,2,3, and 4
- They form
 1. Obturator nerve to the adductor muscle and skin of thigh
 2. Femoral nerve the longest branch

SACRAL PLEXUS

- Formed by S1,2,3 and L4,5

- Form sciatic nerve the longest in the body and is 2 cm thick
- Divide into
 - i. Medial popliteal nerve
 - ii. Lateral popliteal nerve

COCCYGEAL PLEXUS

- formed by S5 and coccygeal nerve
- supply the skin in the area and muscle of pelvic floor

cranial nerve

- haf GV fat too