Peripheral nerve injuries

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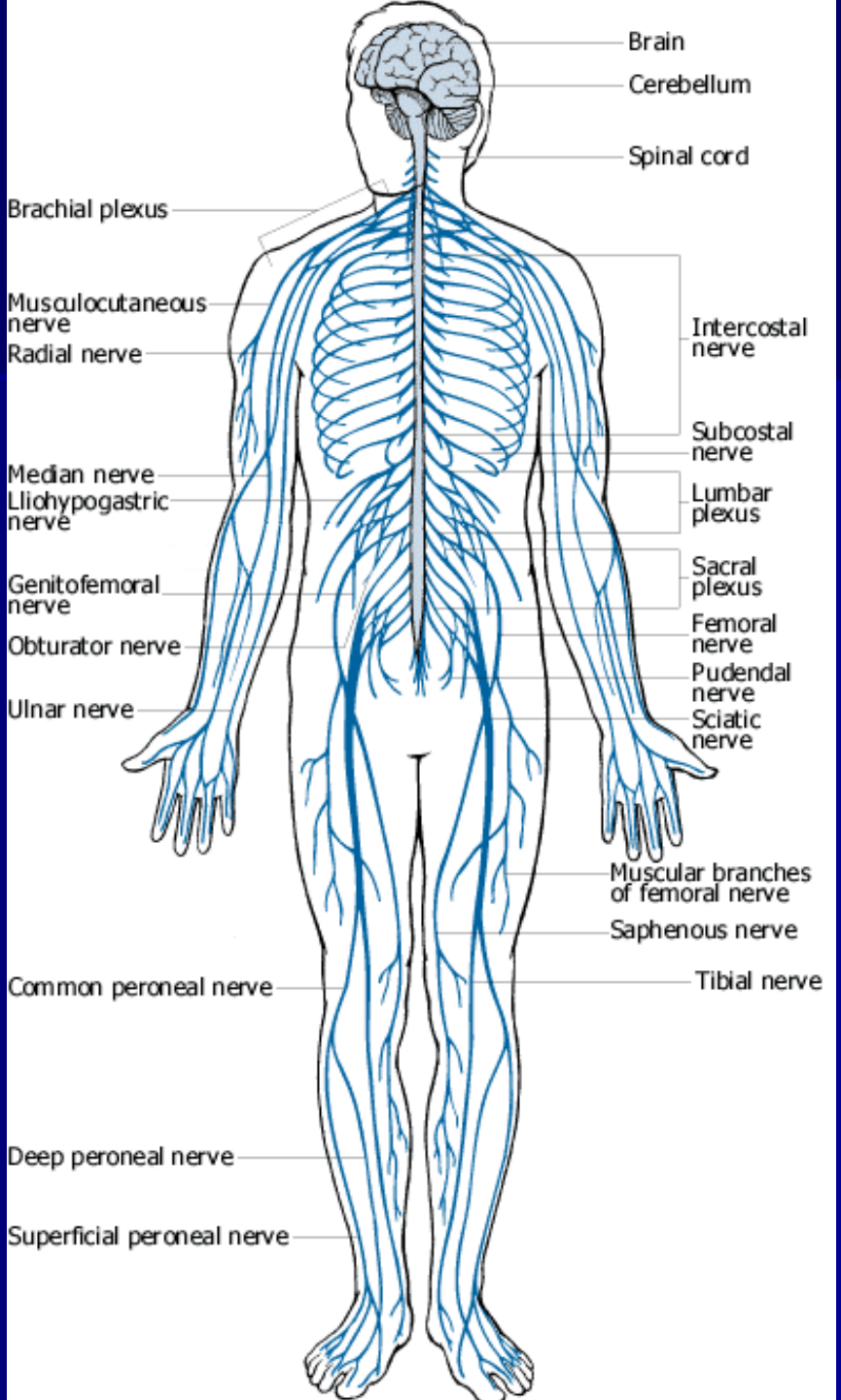
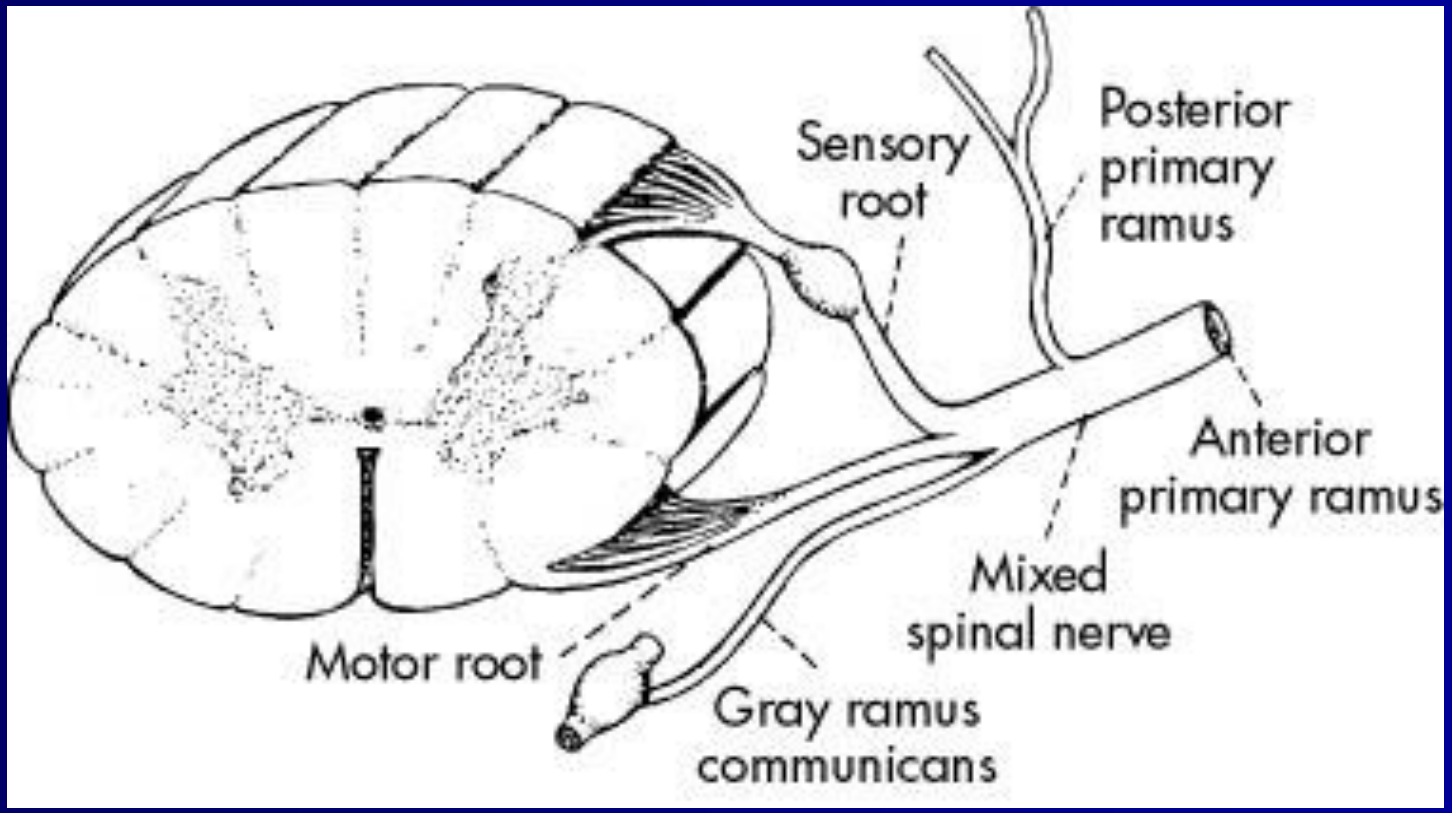
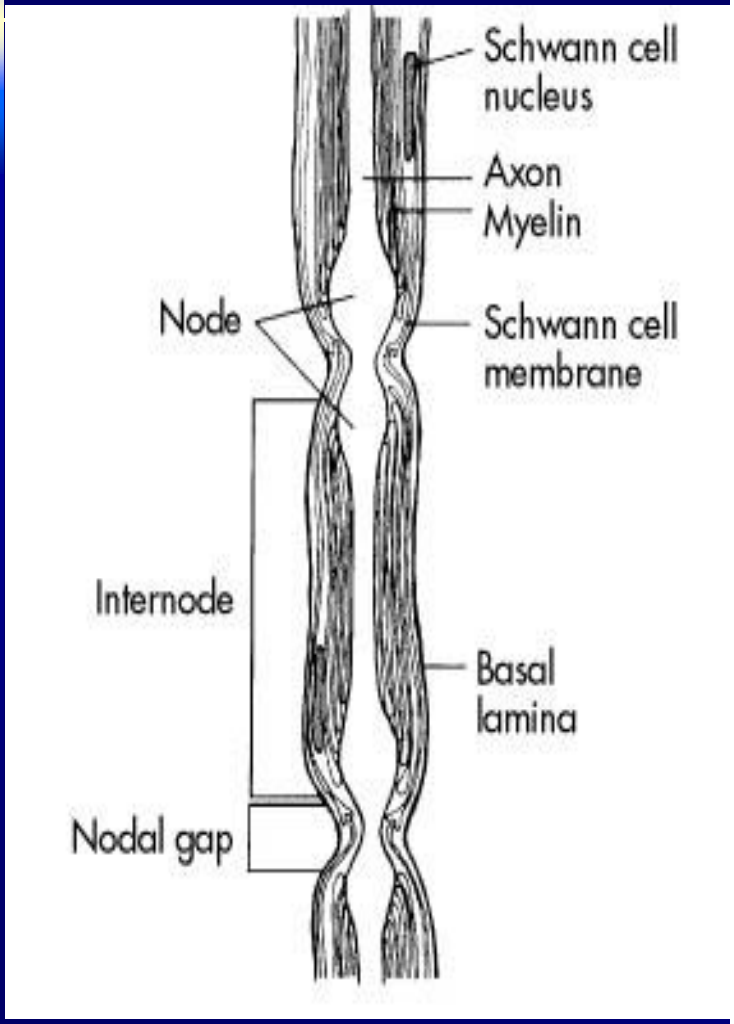
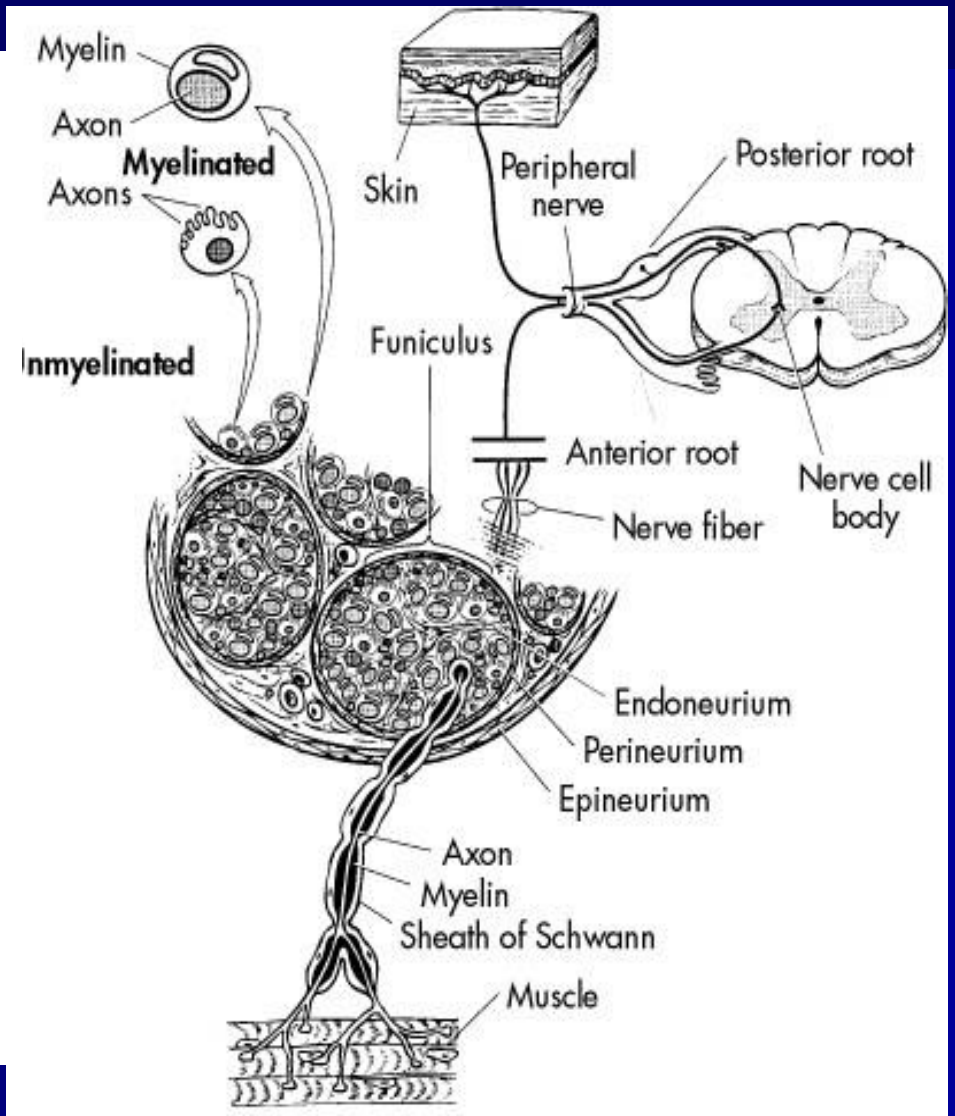

Brain
Cerebellum
Spinal cord
Brachial plexus
Musculocutaneous nerve
Radial nerve
Intercostal nerve
Subcostal nerve
Median nerve
Lliohypogastric nerve
Lumbar plexus
Sacral plexus
Genitofemoral nerve
Femoral nerve
Obturator nerve
Pudendal nerve
Ulnar nerve
Sciatic nerve
Muscular branches of femoral nerve
Saphenous nerve
Common peroneal nerve
Tibial nerve
Deep peroneal nerve
Superficial peroneal nerve

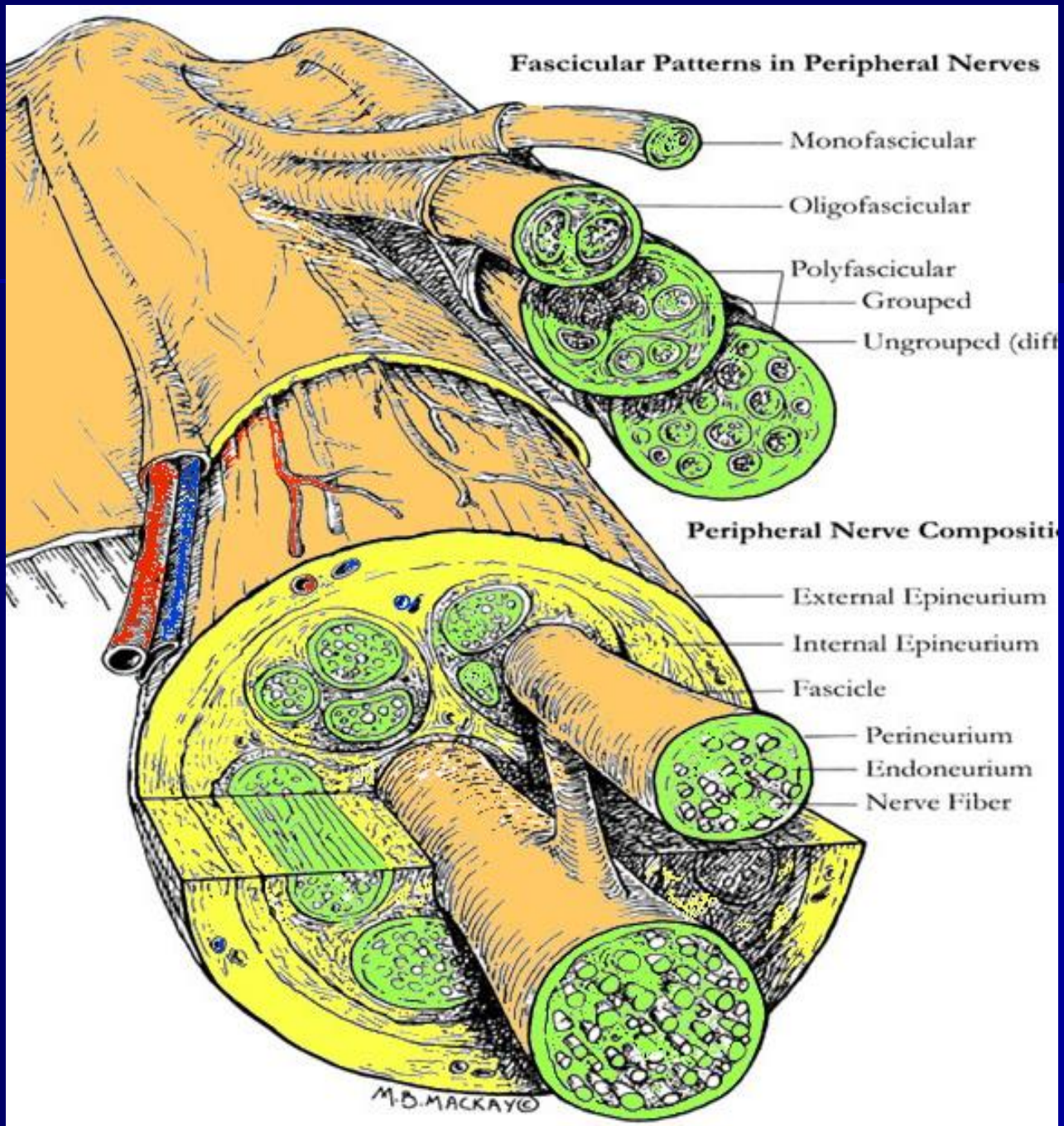
Anatomy of mixed spinal nerve

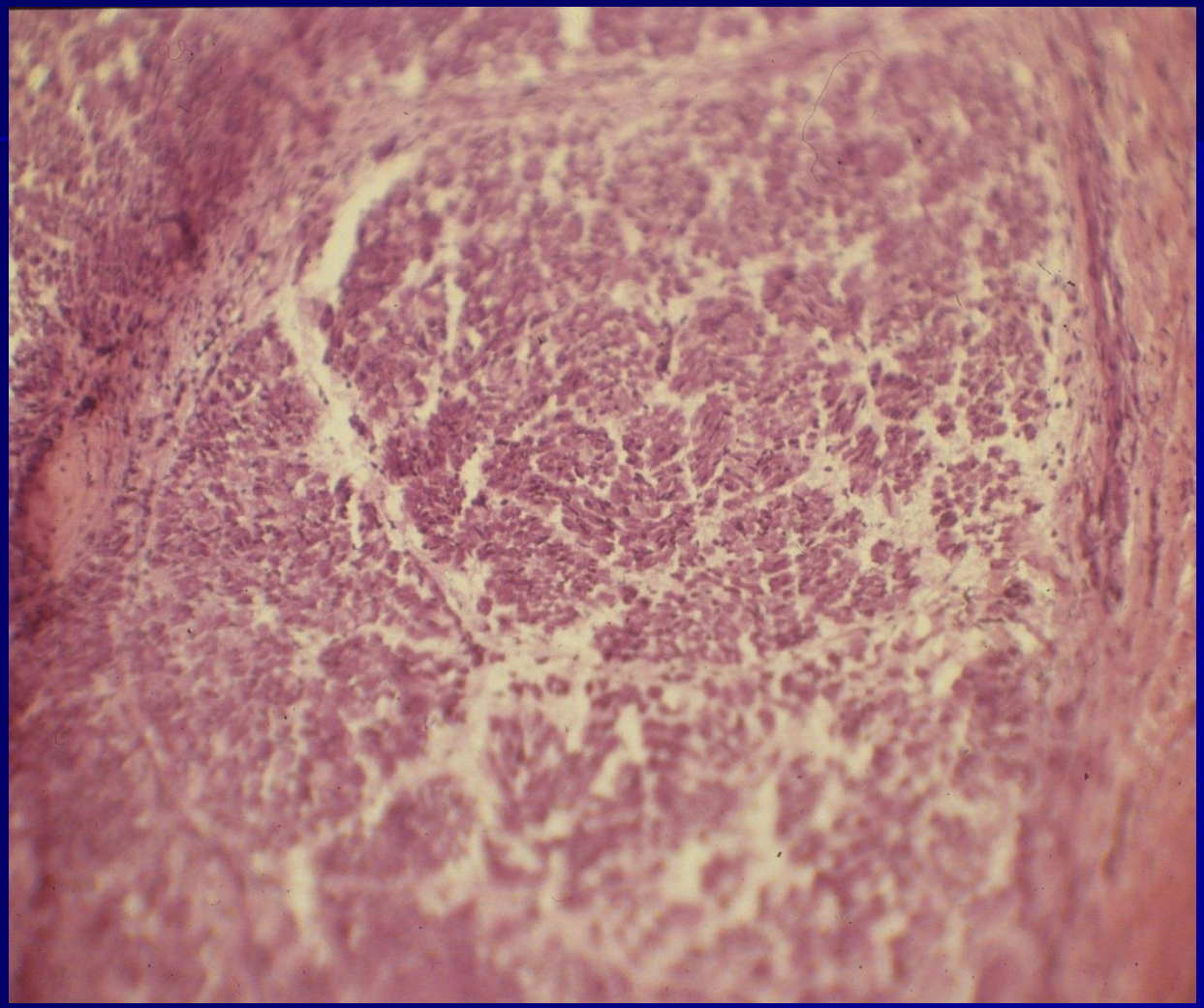


Microscopic anatomy






Fascicular Patterns in Peripheral Nerves
Monofascicular
Oligofascicular
Polyfascicular
Grouped
Ungrouped (dift
Peripheral Nerve Compositi
External Epineurium
Internal Epineurium
Fascicle
Perineurium
Endoneurium
Nerve Fiber
M.B.MACKAY©



Classifications of peripheral nerve injuries

- Seddon's classification divided the nerve injuries into three types:

(a) neuropraxia.
(b) axonotmesis.
(c) neurotmesis.

- Sunderland contributed a further subdivision of nerve injuries and listed five grades according to their severity:

- grade I, loss of conduction in the axons.
- grade II, loss of continuity of the axons without affecting the endoneurium.
- grade III, loss of continuity of the nerve fibers (endoneurium affected).
- grade IV, loss of continuity of the fascicles (perineurium affected).
- grade V, loss of the entire nerve

- **Non-degnerative (Neuropraxia)**

- **Degenerative**
  - Axonotemesis
  - Neurotemesis

Etiology of peripheral nerve injuries

- Surgical causes
- Non Surgical Causes

Non surgical causes

- Metabolic.
- collagen diseases.
- Malignancies.
- endogenous or exogenous toxins.
- Thermal.
- chemical.
- Nutritional.

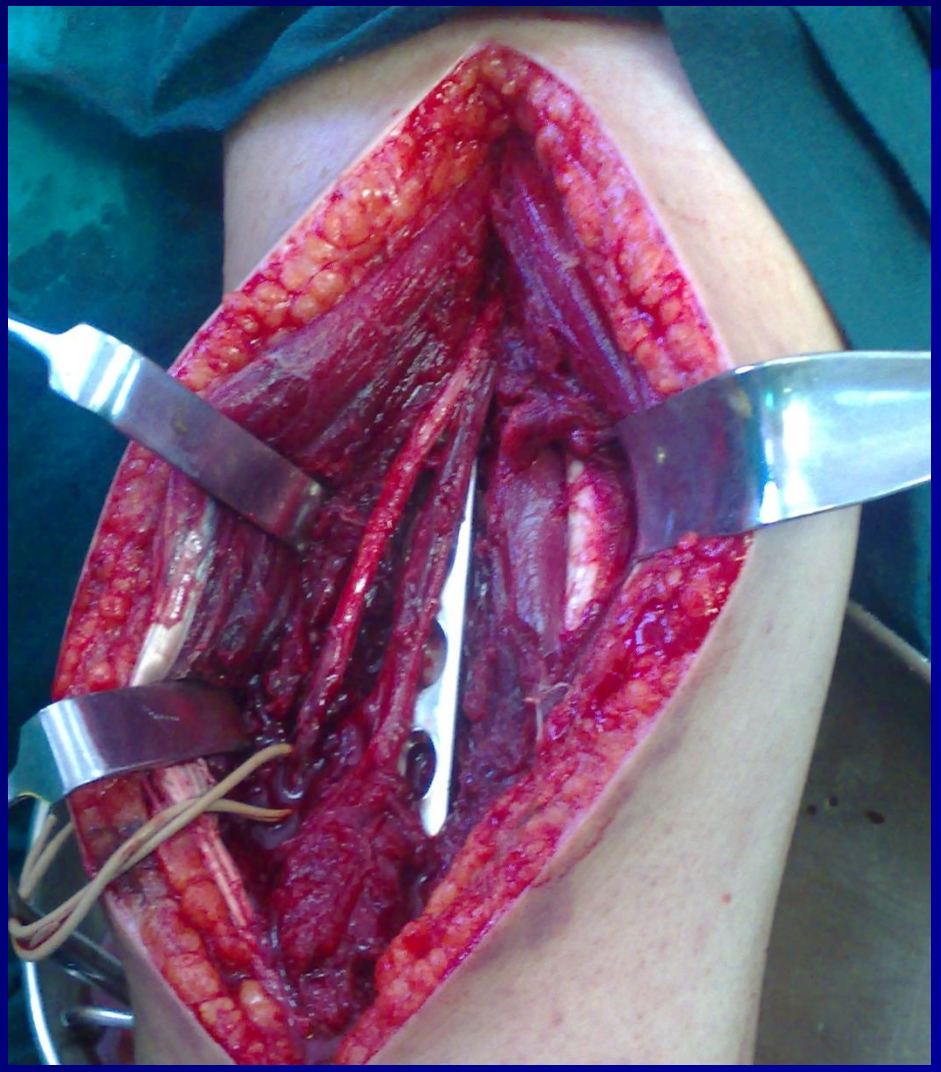
- Surgical Causes

- Acute
- Chronic

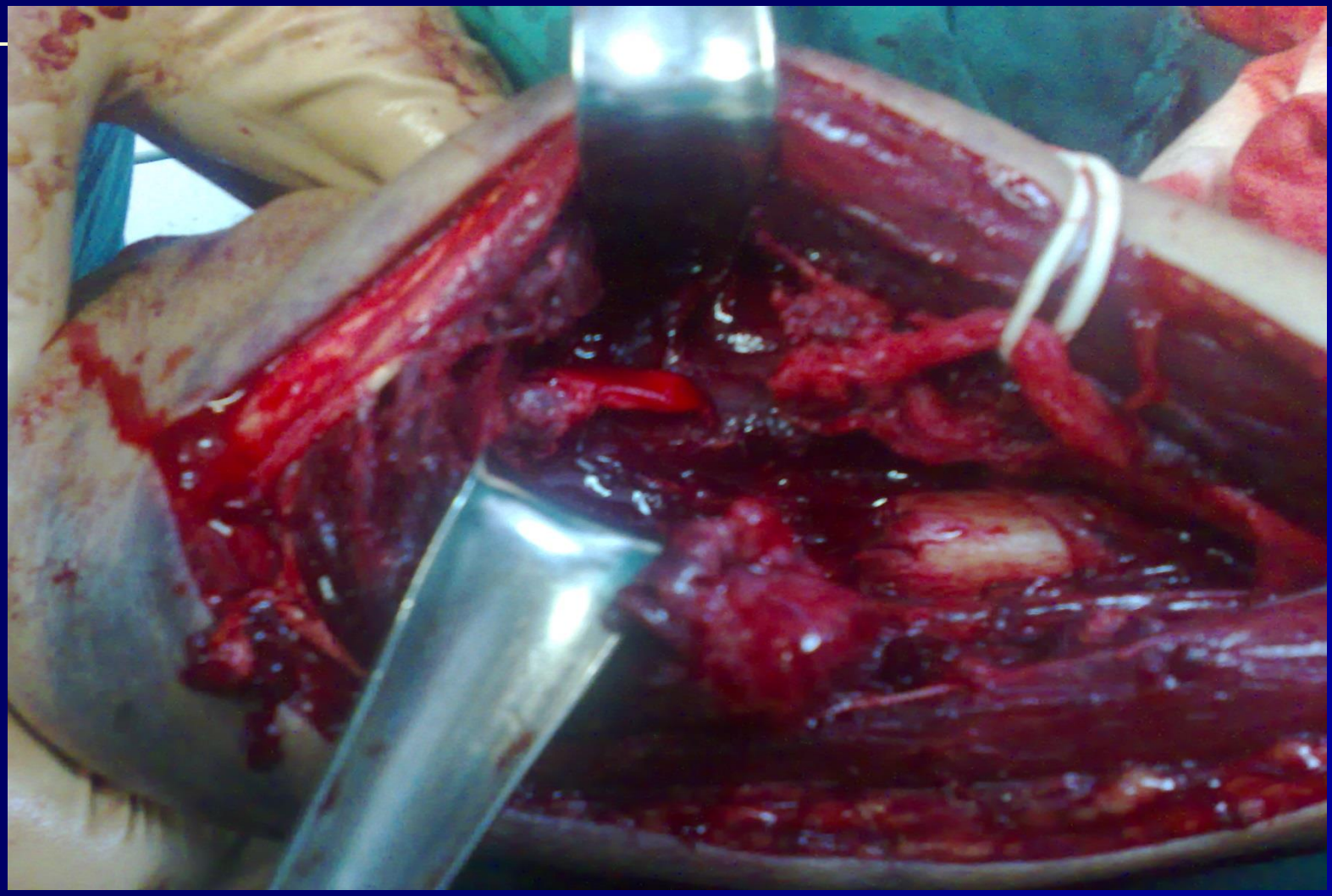
- Acute Surgical causes

Fractures

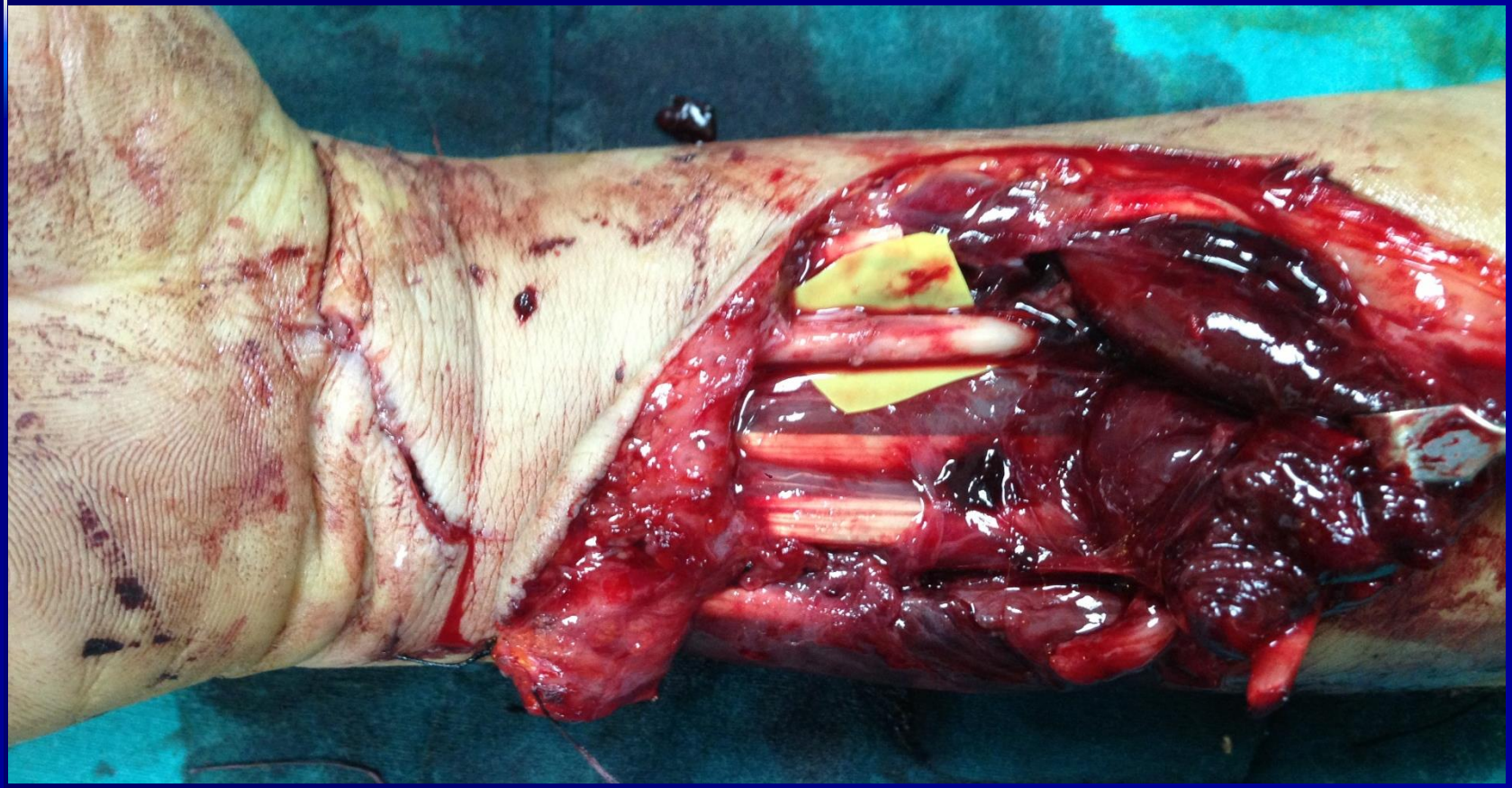
- Simple fracture



Open Fracture



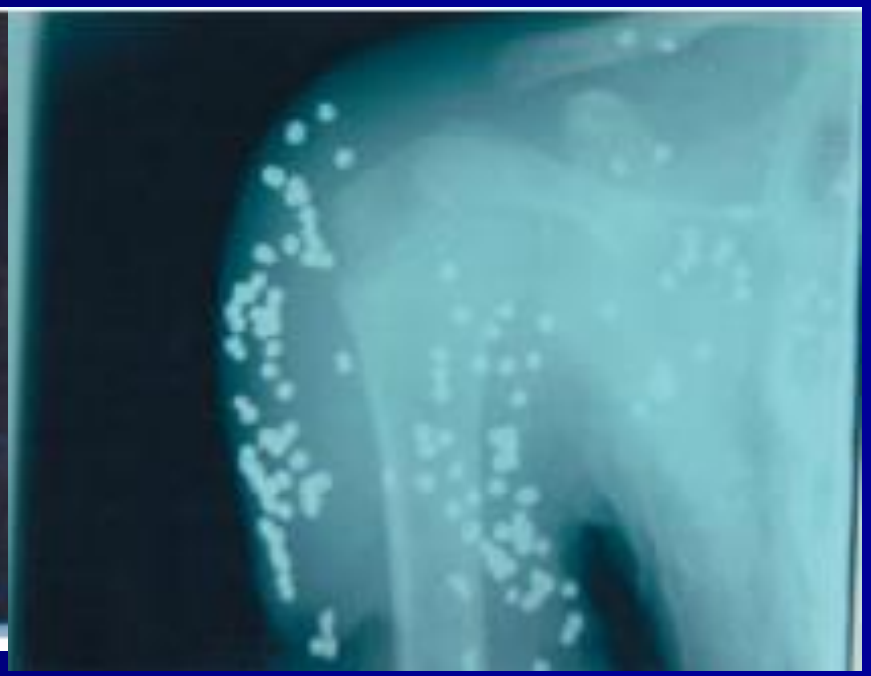
Cut wounds



Traction injury

- The peripheral nerve can be stretched approximately 10% without losing function
- 15% to 20% with temporary loss of function (neurapraxia).
- Greater than 20%, the elastic limits of the perineurium are surpassed, thus creating at least an axonotmesis and, not infrequently, a neurotmesis or complete rupture.

- Gunshot injuries
  - Thermal effect
  - Direct injury



Crushed injuries

Camel bite injury

Chronic nerve injury (neuromas)

Entrapment neuropathies