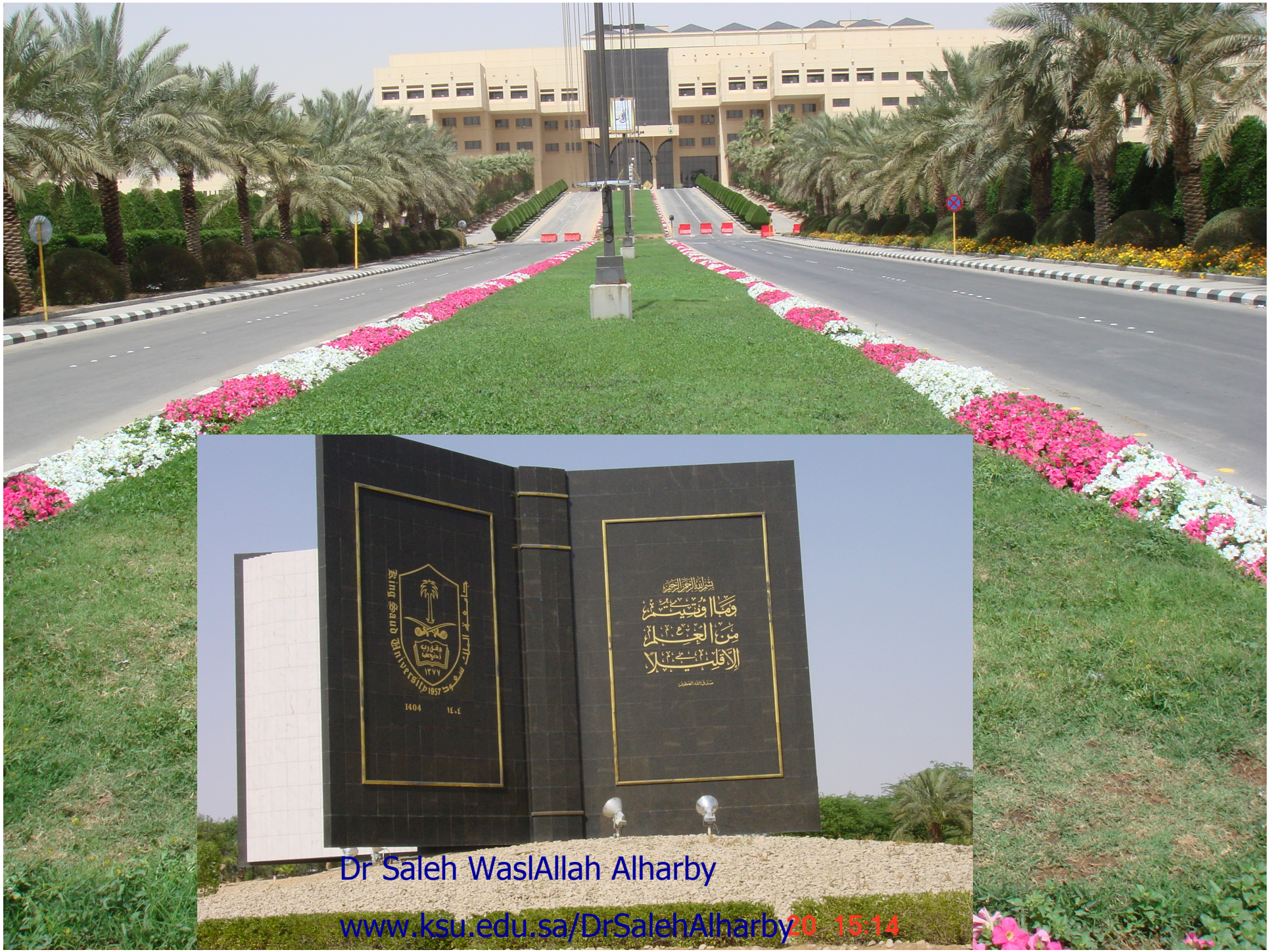

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PERIPHERAL NERVES INJURIES

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- WHAT IS A PERIPHERAL NERVE?

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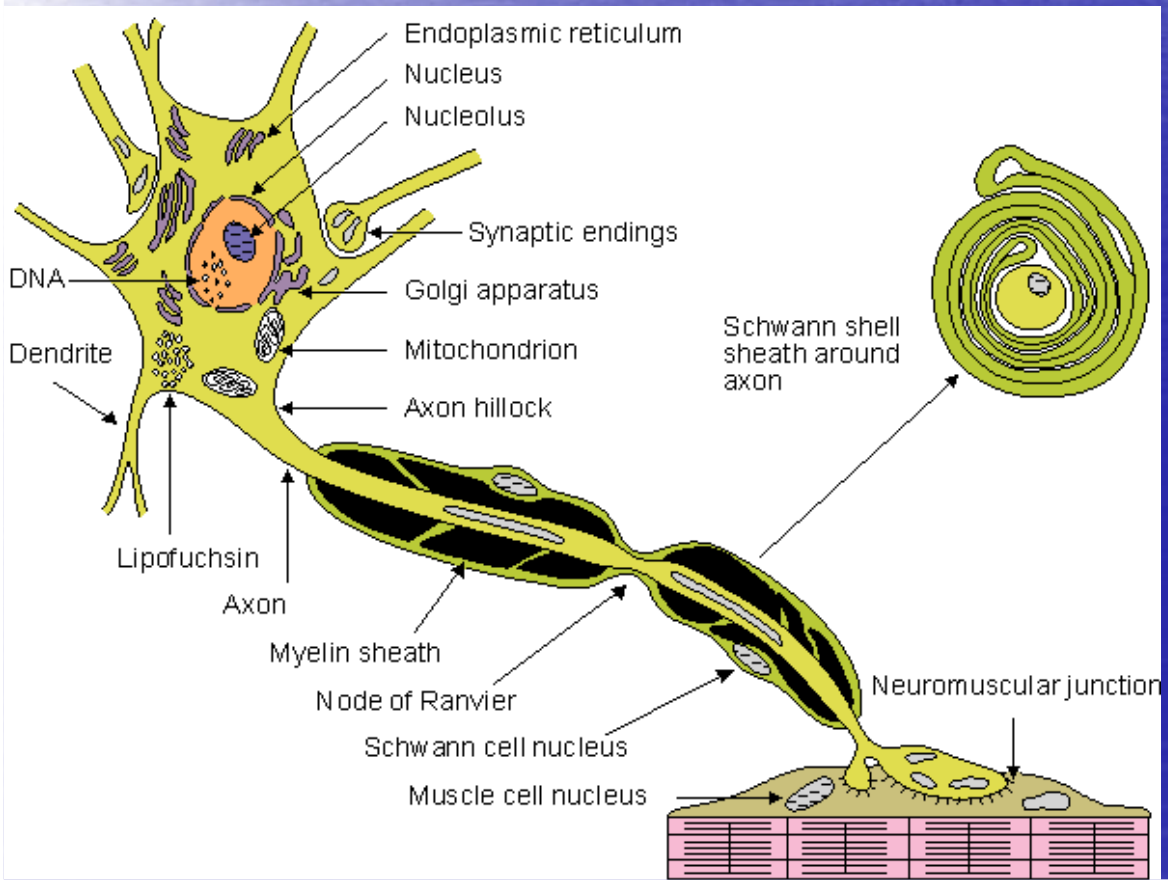
PERIPHERAL NERVE INJURIES

SALEH W ALHARBY



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- ***WHAT ARE THE FEATURES OF A PERIPHERAL NERVE?***
  - RELATES PERIPHERY AND SPINAL CORD.
  - MIXED (SENSORY AND MOTOR).
  - REGENERATES.

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OUTLINE

- DEFINITION.
- TYPES OF NERVE INJURIES.
- FATE (pathophysiology) AND REHABILITATION.
- ETIOLOGY.
- PRESENTATION.
- DIAGNOSIS.
- CLINICAL EXAMPLES:

(ERB'S,CARPAL TUNNEL,RADIAL,ULNAR,SCIATIC AND PERONEAL N.)

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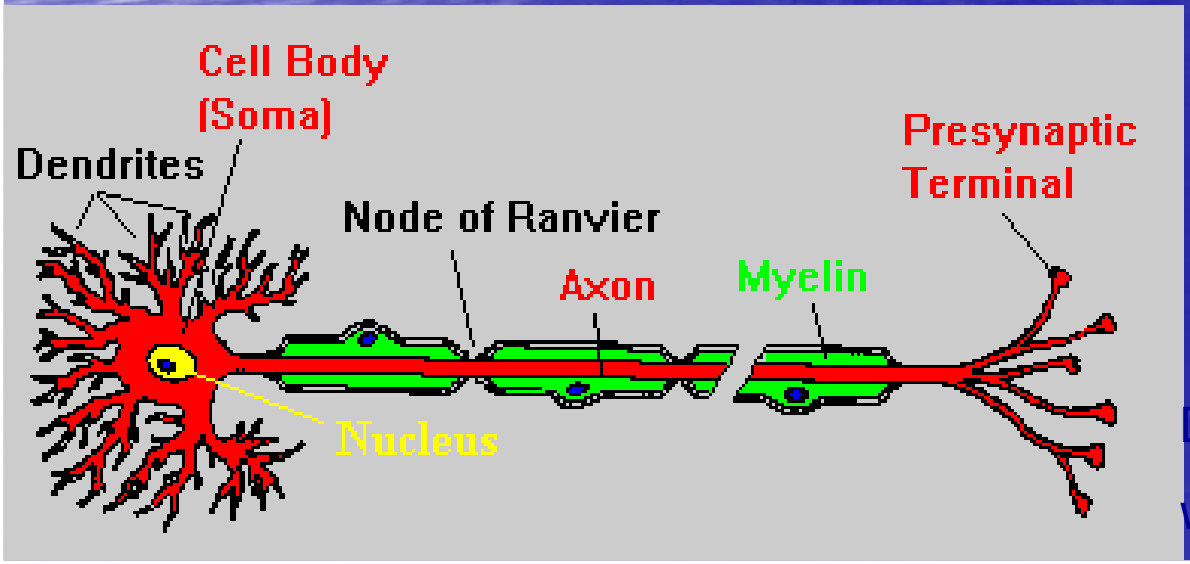
DEFINITION

Partial or complete interruption of normal physiology of the nerve.

NERVE CONDUCTION IS AFFECTED.



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TYPES OF NERVE INJURIES

1-NEUROPRAXIA

REVERSIBLE FAILURE OF PROPAGATION OF THE ELECTRICAL IMPULSE ACROSS THE AFFECTED NERVE SEGMENT WITHOUT ANATOMICAL DISTURBANCE OF THE NERVE. HRS-DAYS.

SATURDAY NIGHT PALSY

HONEYMOONERS SYNDROME

WHEELCHAIR BOUND PERSONS

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TYPES OF NERVE INJURIES

2-AXONOTMESIS

COMPLETE ABSENCE OF SENSORY AND MOTOR ACTIVITIES.

DAYS-WEEKS

AXONAL AND MYELIN SHEATH DAMAGE

LOSS OF CELL BODY CONTINUITY TO ITS END ORGAN.

ENDO,PERI AND EPINEURIUM ARE PRESERVED.

PROGNOSIS FOR RECOVERY IS GOOD.

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TYPES OF NERVE INJURIES

3-NEUROTMESIS

COMPLETE DISRUBTION OF ALL THE AXONS AND SUPPORTING CONNECTIVE TISSUE STRUCTURES.

VERY POOR PROGNOSIS WITHOUT SURGICAL REPAIR.

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FATE AND REHABILITATION

- ***WALLERIAN DEGENERATION***

  1 MM PER DAY

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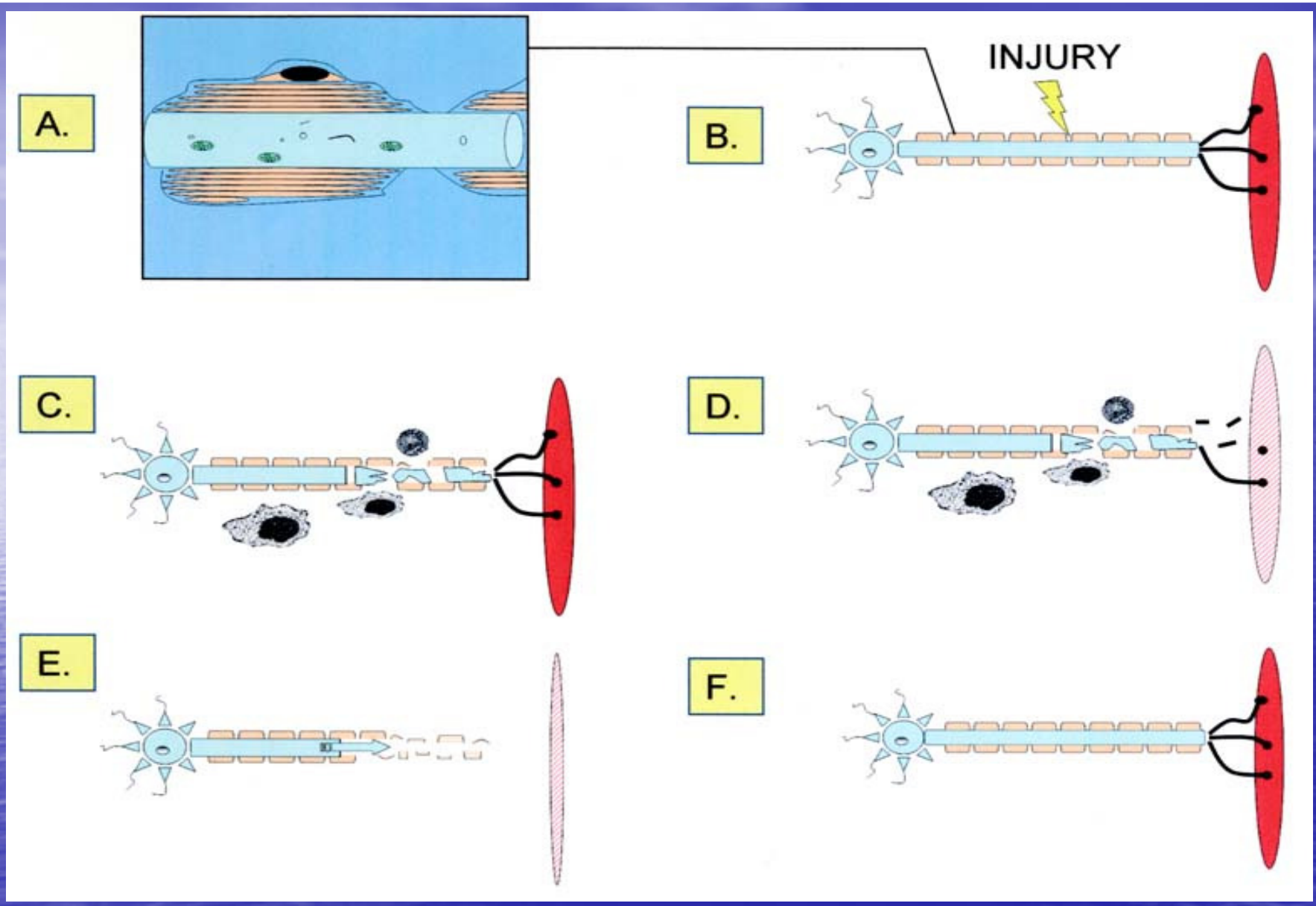

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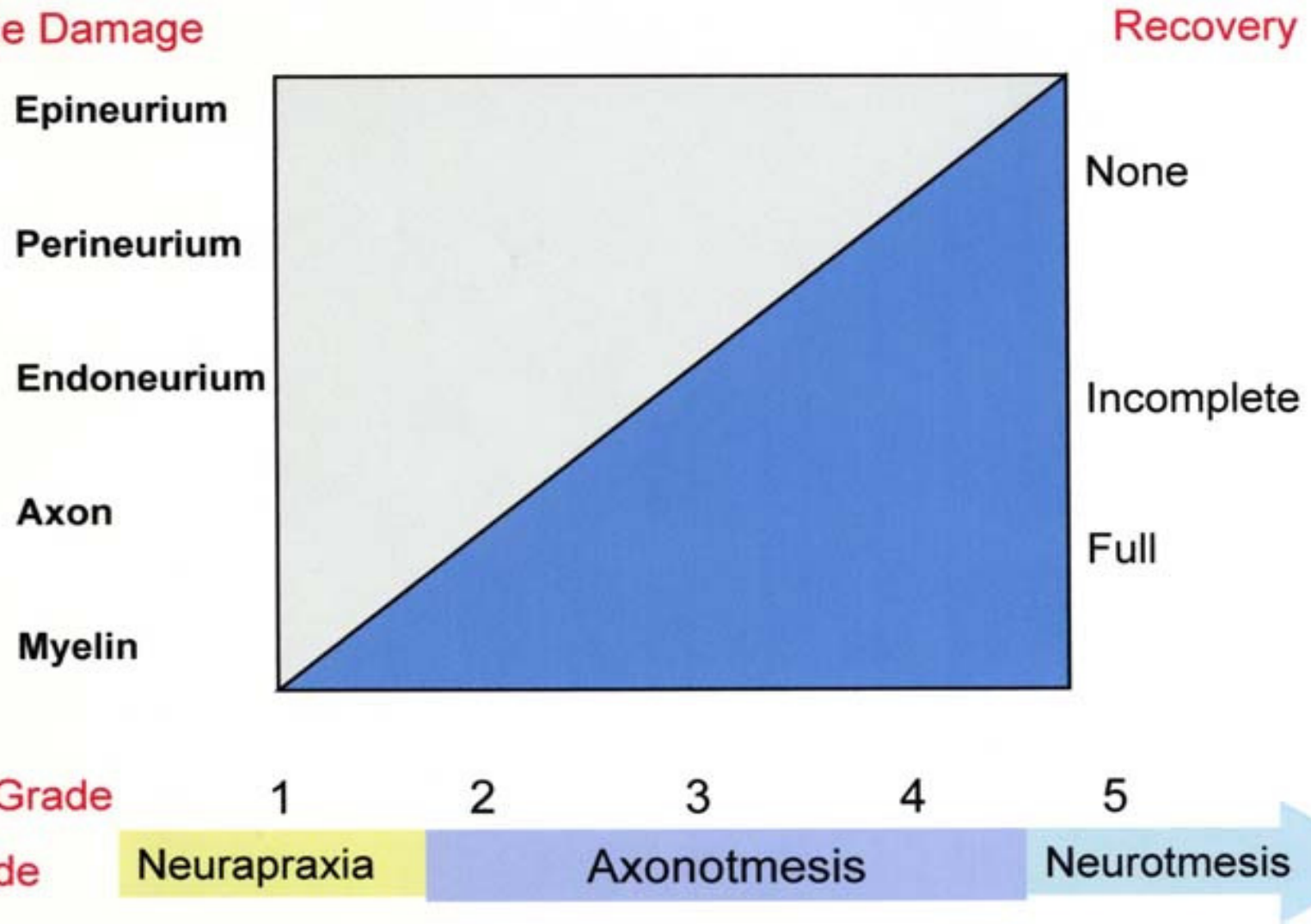
Peripheral Nerve Injury Classification



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REHABILITATION

- PAIN CONTROL.
- SPLINT. (AVOID PRESSURE SORES)
- NERVE AND MUSCLE STIMULATION.
- NEARBY JOINTS RANGE OF MOTION.
- MONTHS ----- YEARS .

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ETIOLOGY

- ACUTE
  - FRACTURE
  - WRONG POSTURE
  - SURGERY
  - ELECTRICAL BURN
- CHRONIC
  - TIGHT NERVE PASSAGE
  - TUMORS

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PERSENTATION

- PAIN
- LOSS OF SENSATION
- LOSS OF MOTION
- LOSS OF POWER
- LOSS OF REFLEXES
- WASTING
- TROPHIC CHANGES ***(skin,sc,neurovascular,bones,muscles)***
- CONTRACTURES

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DIAGNOSIS

- PAIN
- LOSS OF SENSATION
- LOSS OF MOTION
- LOSS OF POWER
- LOSS OF REFLEXES
- WASTING
- TROPHIC CHANGES ***(skin,sc,neurovascular,bones,muscles)***
- CONTRACTURES

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DIAGNOSTIC AIDS

- X-RAY
- EMG
- NCS
- MRI

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CLINICAL EXAMPLES

- ERB' PALSY
- CARPAL TUNNEL SYNDROME(MEDIAN NV)
- RADIAL NERVE INJURY
- ULNAR NERVE INJURY
- SCIATIC NERVE INJURY
- LATERAL POPLITEAL NERVE INJURY

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ERB'S PALSY

- BIRTH INJURY (DIFFICULT LABOUR)
- TRACTION ON NERVE ROOTS C5-6
- STRETCH-RUPTURE-AVULSION
- UPPER LIMB IN EXTENSION
- MOTHER NOTICE NO MOTION
- 90% GOOD RECOVERY
- ROLE OF SURGERY AFTER 3 MONTHS
- REMEMBER PROPER REHABILITATION

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CARPAL TUNNEL SYNDROME

- MEDIAN NERVE ENTRAPMENT BY FLEXOR RETINACULUM (TVS CARPAL LIGAMENT)
- PAIN,NUMBNESS,NIGHT
- MANUAL WORKERS
- DIAGNOSIS
- CONS Rx
- SURGERY

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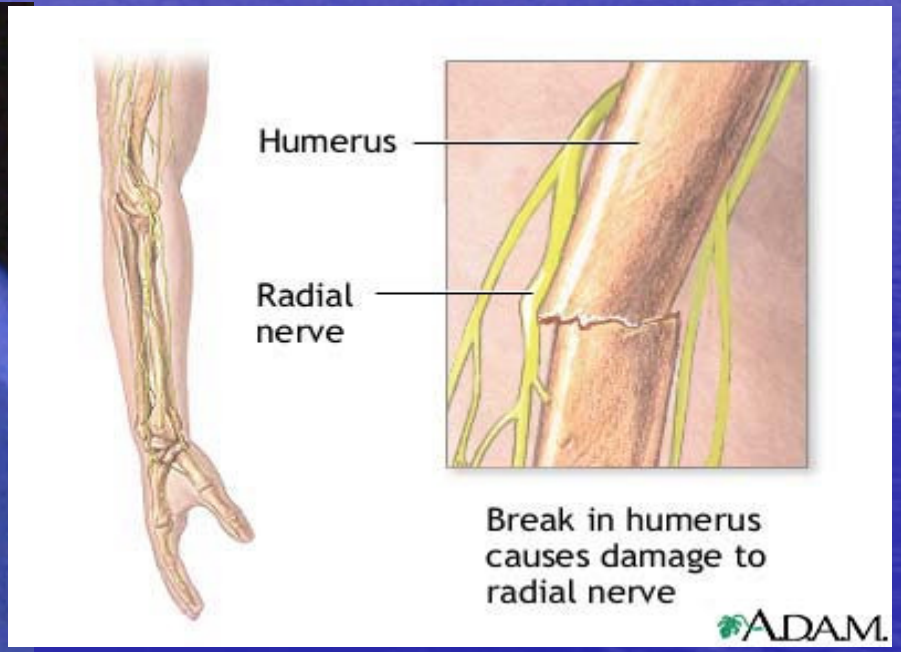
RADIAL NERVE INJURY



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ULNAR NERVE INJURY

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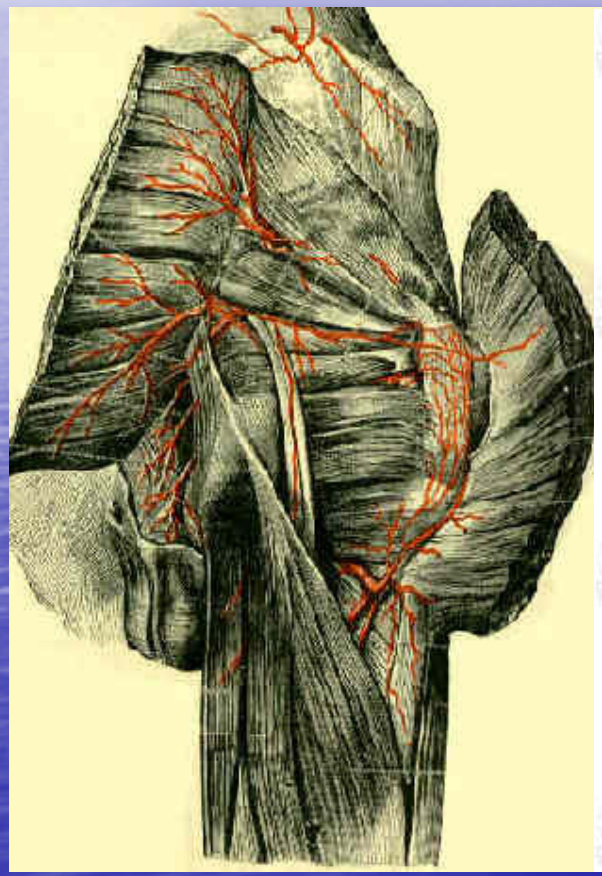
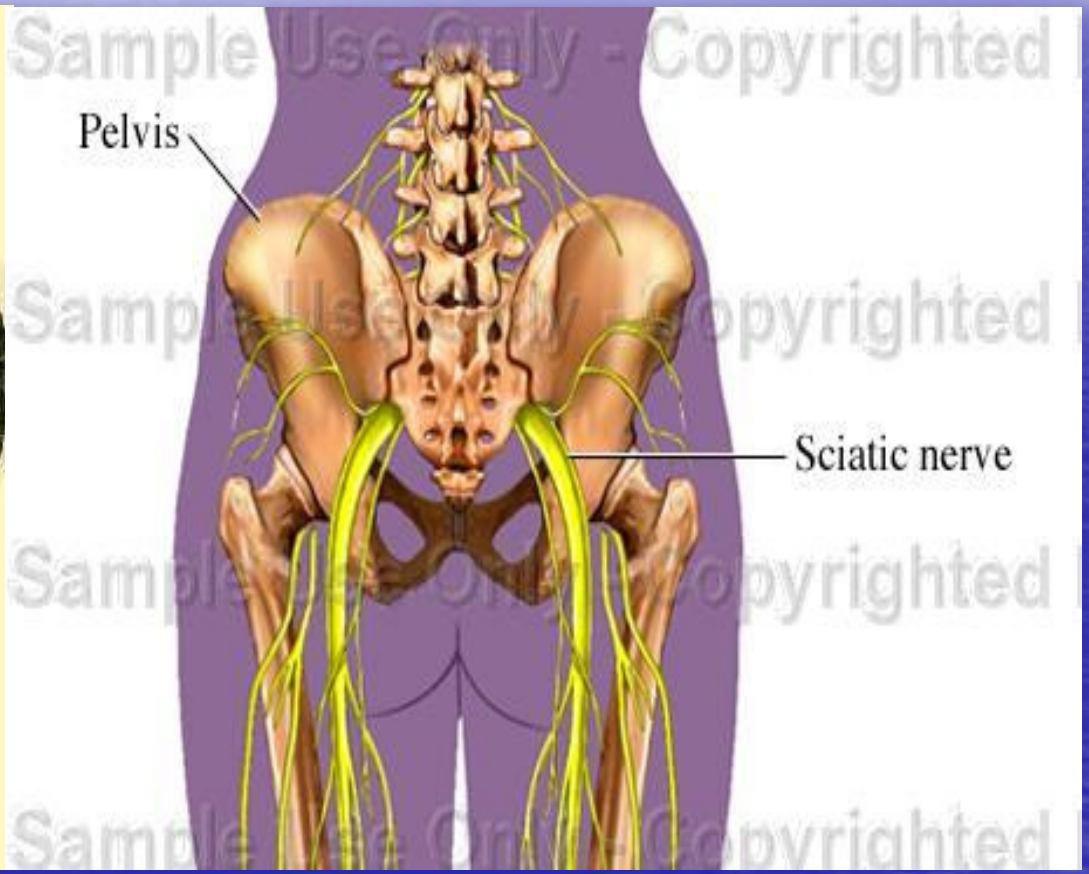
SCIATIC NERVE INJURY





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PERONEAL NERVE INJURY (LPN)

- FOOT DROP
- TIGHT POP
- SKELETAL TRACTION
- DIRECT INJURY (RARE)
- DYNAMIC SPLINT

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QUIZ

- Axon degeneration occurs from mild compression injury
- The prognosis for Neuropraxia is poor
- Axonotmesis is generally caused from separation of the cell body from the neuron
- Wallerian Degeneration typically does not occur in Neuropraxic injury
- Surgical reconstruction is necessary in Neurotmesis
- Wallerian Degeneration does not occur in Neurotmesis
- A ligamentous structure can cause Neuropraxia

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THANK YOU

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