



# NEUROLOGY

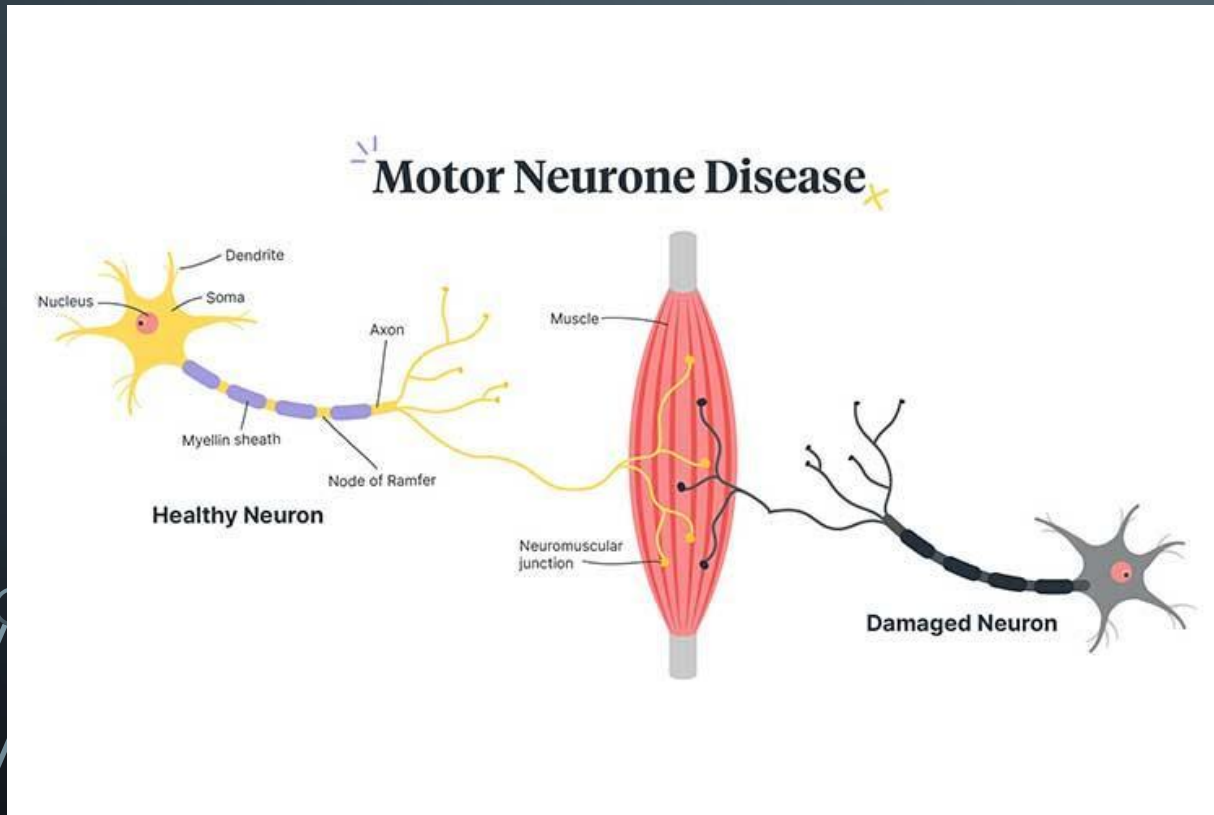
SPINAL CORD COMPRESSION

SYRINGOMYELIA AND SYRINGOBULBIA

FRIEDREICH'S ATAXIA

CAUDA EQUINA SYNDROME

# MOTOR NEURON DISEASE



- Inherited or sporadic

## Conditions:

- Amyotrophic lateral sclerosis (Lou Gehrig disease)
- Progressive bulbar palsy
- Primary lateral sclerosis
- Spinal muscular atrophy
- Post-polio syndrome

# MOTOR NEURON DISEASE

## Symptoms:

- Upper motor neuron: Increase muscle tone/stiffness – spastic paralysis, overresponsive reflexes
- Lower motor neuron: reduce muscle tone – flaccid paralysis; muscle wasting and twitching

## Diagnosis:

- clinical
- neurophysiological tests and MRI of the brain and cord help differentiate from other conditions

## Treatment: no cure

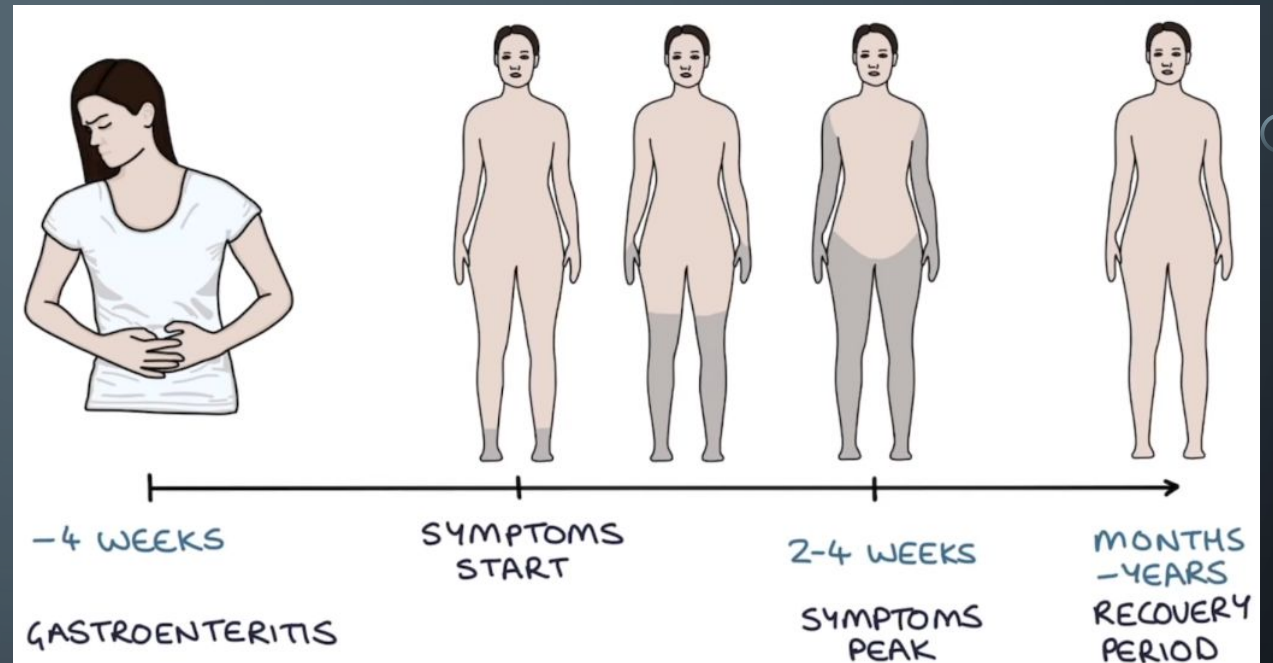
- Riluzole (sodium channel blocker)
- Cramp – Baclofen
- Spasticity - Botulinum toxin
- Drooling - Propantheline or Amitriptyline

# GUILLAIN-BARRE

Acute paralytic polyneuropathy

Triggered by infection :

- Campilobacter Jejuni
  - Cytomegalovirus
  - Epstein-Barr virus
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- Symptoms: symmetrical ascending weakness, reduced reflexes, peripheral loss of sensation, neuropathic pain, facial nerve weakness



# GUILLAIN-BARRE

Diagnosis:

- clinical
- Brighton criteria
- Nerve conduction studies (reduced signal)
- Lumbar puncture (raised protein)

Brighton Diagnostic Criteria for GBS	Level of Diagnostic Certainty			
	1	2	3	4
<b>Symptoms</b>				
Bilateral and flaccid weakness of limbs	+	+	+	+/-
Decreased or absent deep tendon reflexes in weak limbs	+	+	+	+/-
Monophasic course and time between onset-nadir = 12 hours to 28 days	+	+	+	+/-
Absence of alternative diagnosis for weakness	+	+	+	+/-
CSF cell count <50/ml	+	+/- <sup>a</sup>	-	+/-
CSF protein concentration > 60 mg/dL	+	+/- <sup>a</sup>	-	+/-
Nerve conduction study findings consistent with one of the subtypes of GBS	+	+/- <sup>a</sup>	-	+/-

# GUILLAIN-BARRE

## Treatment:

- IV immunoglobulins
- Plasma exchange
- Supportive care
- VTE prophylaxis
- Respiratory failure: intubation and ventilation; admission to ICU

# CHARCOT-MARIE-TOOTH

Hereditary motor and sensory neuropathy of the peripheral nervous system

Signs and symptoms:

- Muscle wasting, cramps, spasm of the legs and arms
- Loss of sensation of the lower and upper limbs



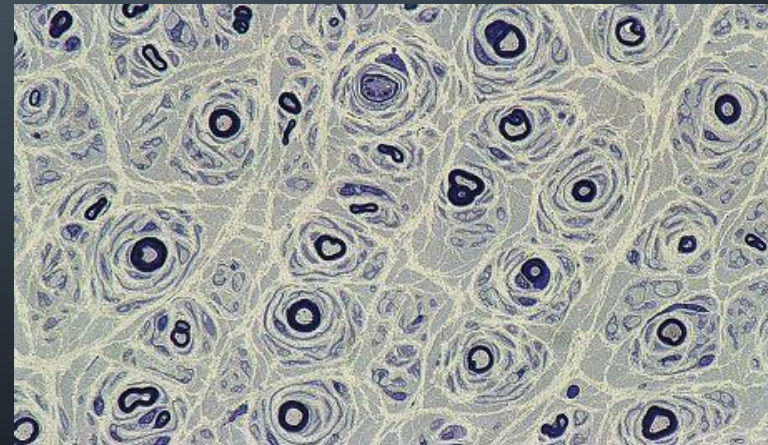
# CHARCOT-MARIE-TOOTH

## Diagnosis:

- Nerve conduction studies
- Nerve biopsy (onion bulb)
- DNA testing

## Treatment: no cure

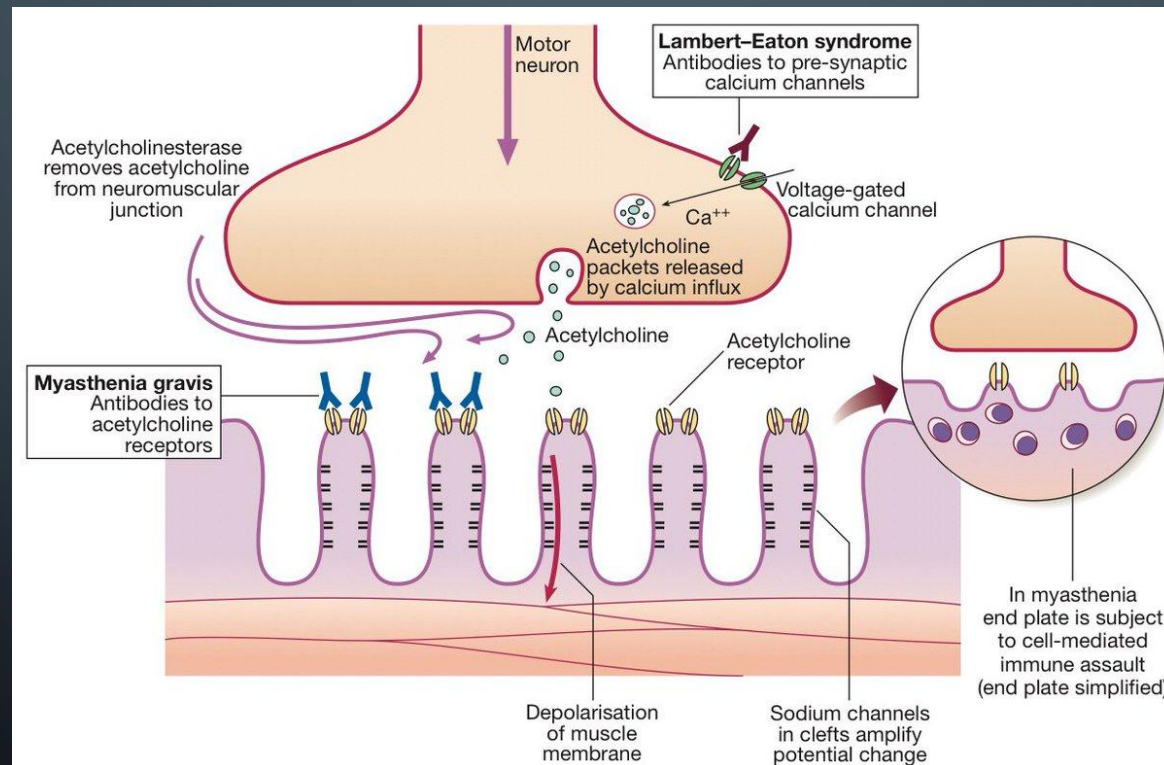
- Occupation, physical therapy, podiatrist, orthopedic surgery





# MYASTHENIA GRAVIS

- Autoimmune disease affecting skeletal muscles
- Affects young women and older men

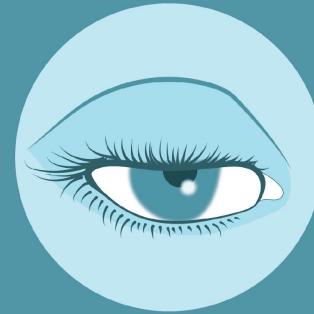


# MYASTHENIA GRAVIS

## Symptoms:

- Weakness neck, face, arms
- Eyelid drooping “Ptosis”
- Appearance mask-like (very sleepy look)
- Keep choking/gagging when eating
- No energy
- Extraocular muscle involvement
- Slurred speech
- Shortness of breath

## Early Symptoms of Myasthenia Gravis



Droopy eyelids  
(ptosis)



Blurry or double vision  
(diplopia)

\*Sometimes, these are the only symptoms

# MYASTHENIA GRAVIS

## Complications:

- Myasthenic Crisis
  - Severe muscle weakness and respiratory failure
- Cholinergic Crisis
  - Severe muscle weakness and respiratory failure

Edrophonium "Tensilon test"

- Treatment
- Acetylcholinesterase inhibitor (Neostigmine or Pyridostigmine)
- Immunosuppressive drugs (Prednisone)
- Surgical removal of thymus