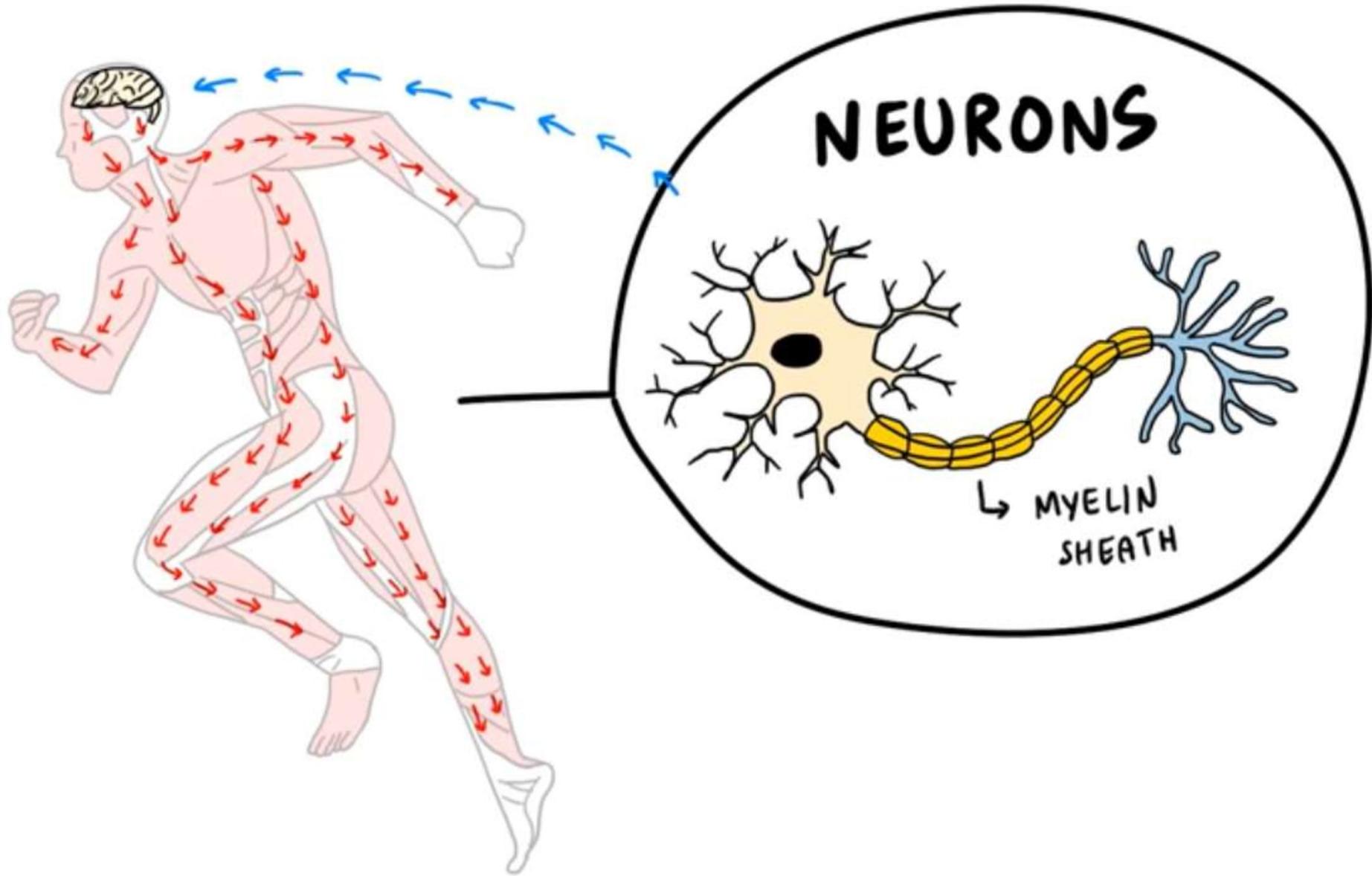


# GUILLAIN BARRE SYNDROME (GBS)

Done by : Malak Al-Tamimi  
Faculty of Medicine /Mutah uni



# ❖ Demyelinating Disorders

- **Central demyelinating disorders**

  - Multiple sclerosis

  - Acute disseminated encephalomyelitis(ADEM)

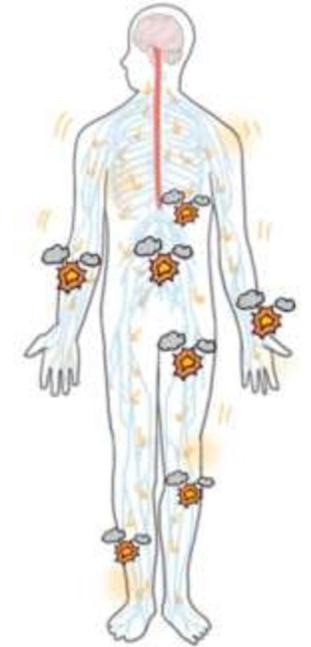
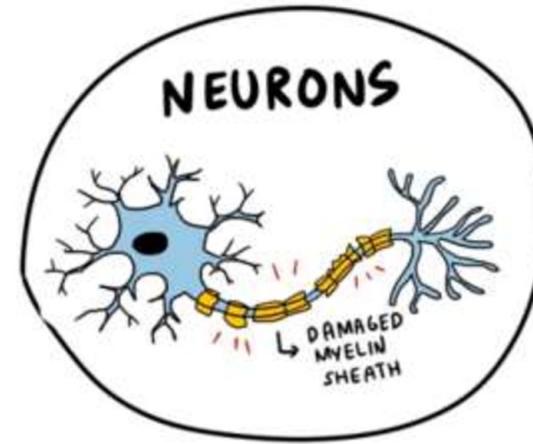
  - Neuromyelitis optica

  - Progressive multifocal leukoencephalopathy

- **peripheral demyelinating disorders**

  - Guillain-Barré syndrome

  - chronic inflammatory demyelinating polyneuropathy(CIDP)



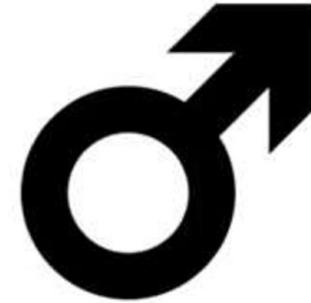
# Guillain-Barre Syndrome (GBS): Introduction

- **Autoimmune demyelinating disorder** that leads to *progressive paralysis*
- Most common cause of acute flaccid, neuromuscular paralysis  
Worldwide



## Epidemiology:

- 0.4 to 2 cases per 100,000
- Males slightly more affected than females



## GUILLAIN-BARRÉ SYNDROME

→ ACUTE PARALYTIC POLYNEUROPATHY

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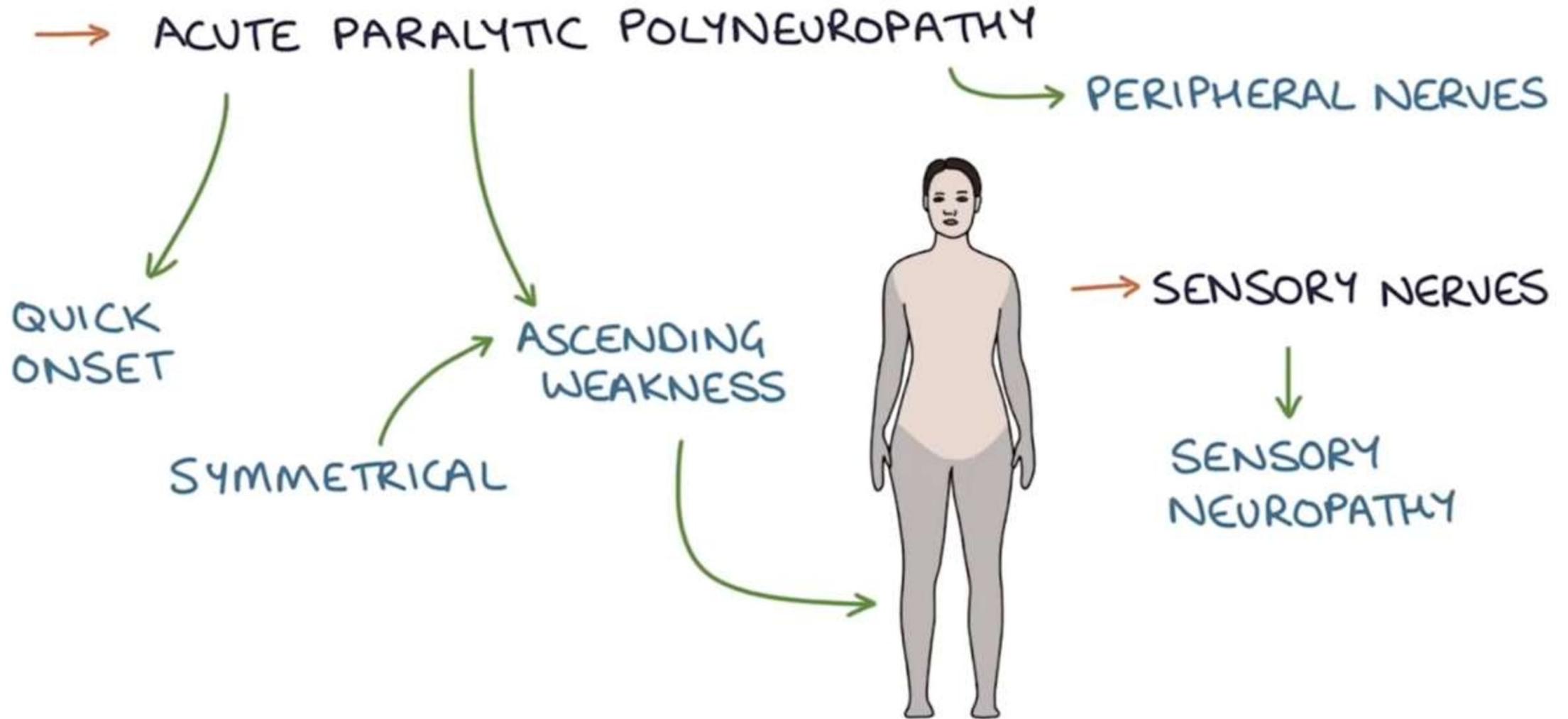
QUICK  
ONSET

SYMMETRICAL

ASCENDING  
WEAKNESS

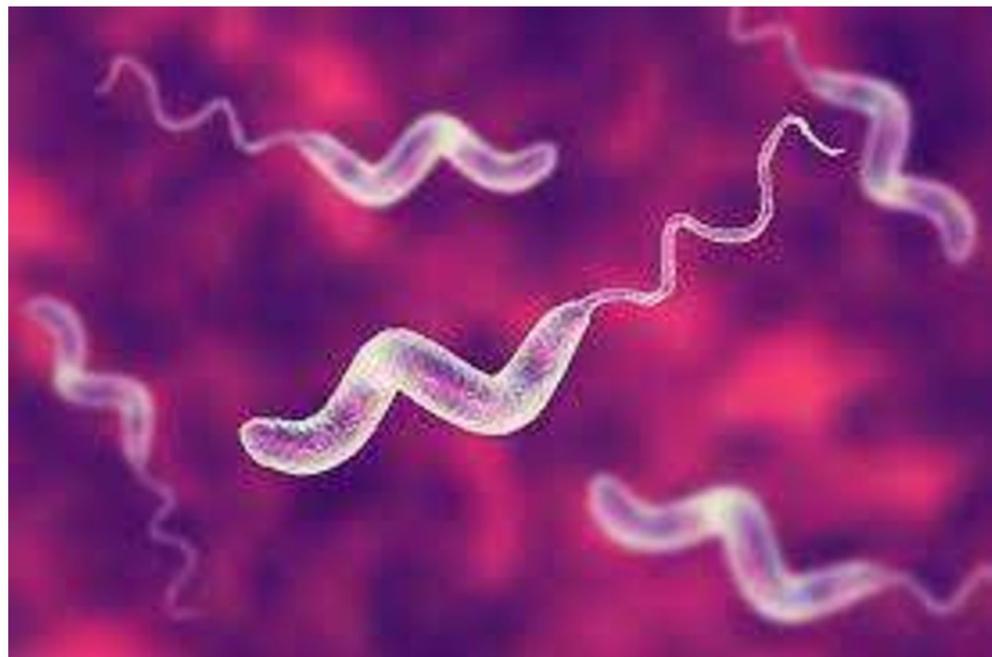


# GUILLAIN-BARRÉ SYNDROME



## Possible Causes

- **Influenza vaccine**
  - 1 case per 1 million vaccinations
- **Gastrointestinal and Respiratory Infections**
  - Campylobacter infection (watery/bloody diarrhea)
  - Influenza infection
- **Surgery**
- **Trauma**

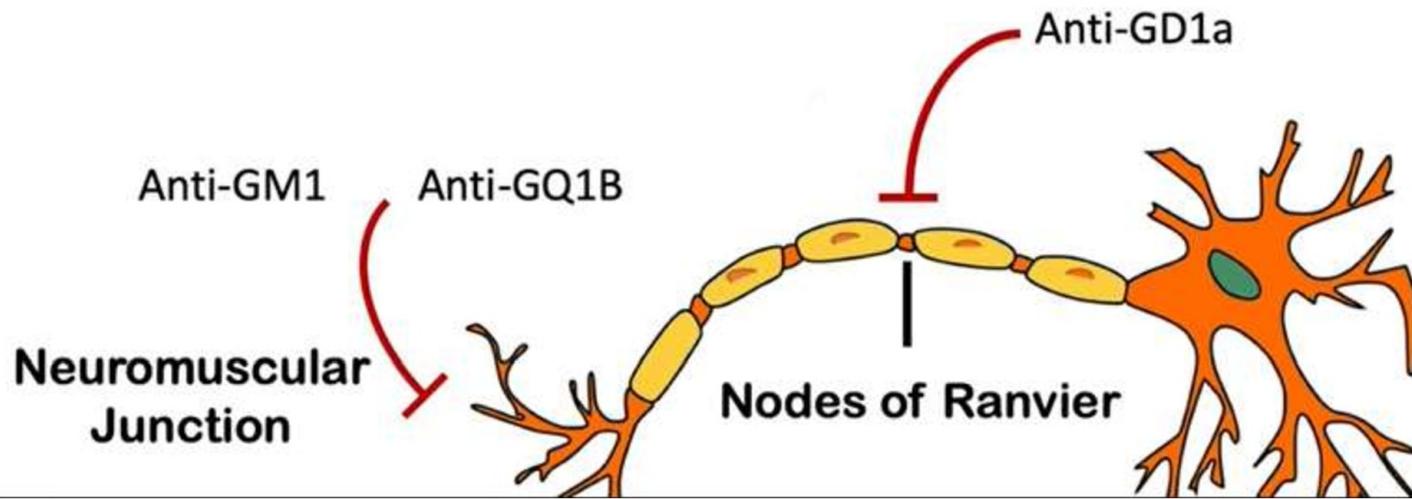
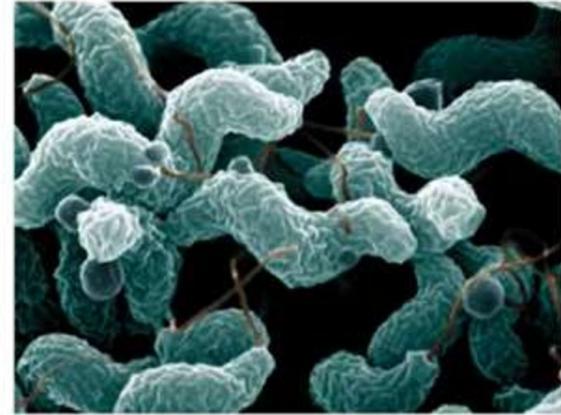


# GBS: Pathophysiology

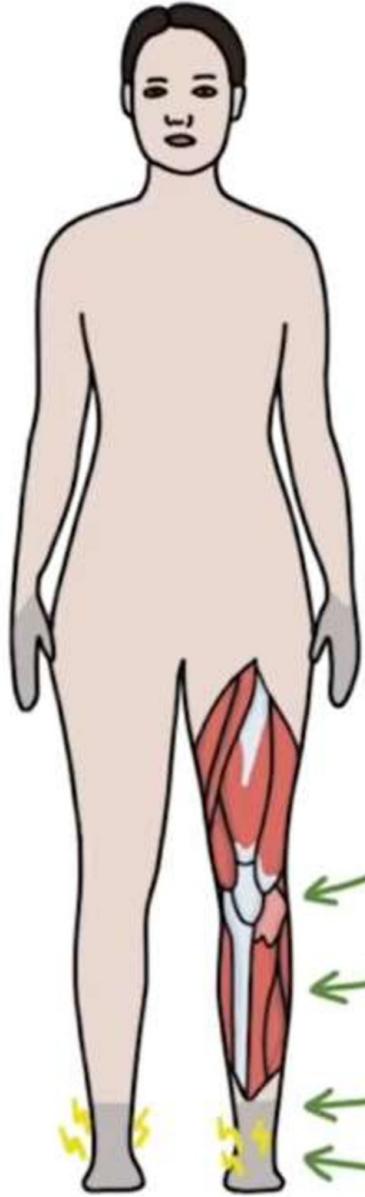
- *Immune-mediated* process leading to neuropathy
  - Occurs post-infection
  - Appears related to **molecular mimicry**
  - **Ganglioside antibodies**
- **Example:** Lipopolysaccharide on outer membrane of campylobacter jejuni resembles gangliosides of peripheral nerve membranes

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## PRESENTATION



↓ REFLEXES (PERIPHERAL NEUROPATHY)

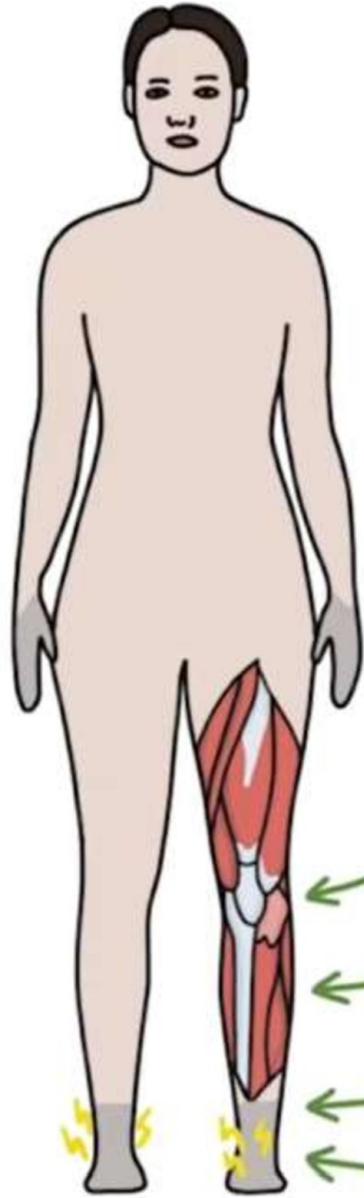
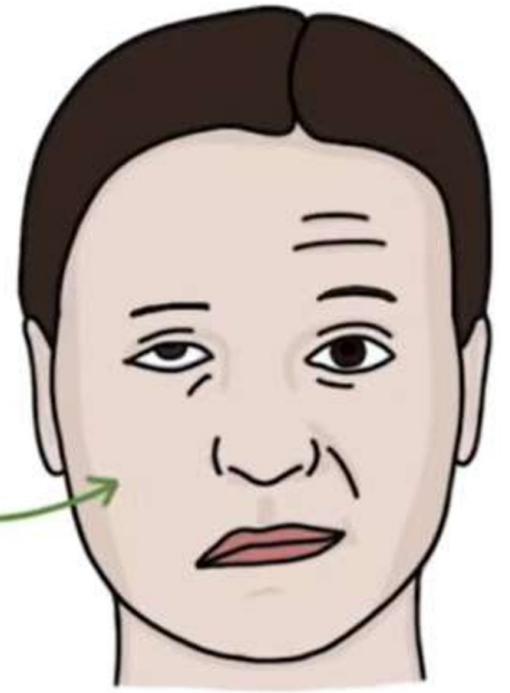
SYMMETRICAL ASCENDING WEAKNESS

PERIPHERAL LOSS OF SENSATION

NEUROPATHIC PAIN

# PRESENTATION

FACIAL NERVE  
WEAKNESS



↓ REFLEXES (PERIPHERAL NEUROPATHY)

SYMMETRICAL ASCENDING WEAKNESS

PERIPHERAL LOSS OF SENSATION

NEUROPATHIC PAIN

# GBS: Other Clinical Features

## Autonomic Dysfunction

- Blood pressure dysregulation
  - Orthostatic hypotension
- Urinary retention
- Cardiac arrhythmias
- Sinus tachycardia
- *Significant cause of morbidity and mortality*
- Altered mental status
  - “Bickerstaff encephalitis”
- Dysphagia
- Facial nerve involvement
- Neurogenic pulmonary edema

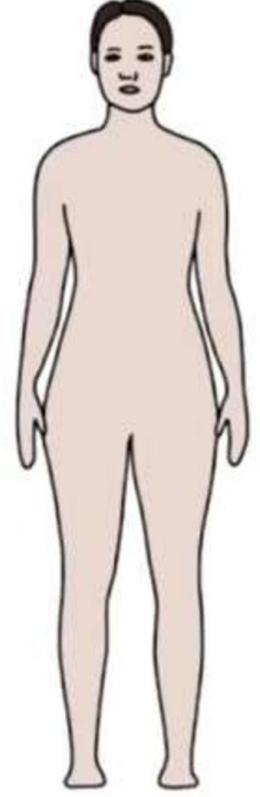
Symptoms peak within approximately 2-3 weeks of onset

Resolution of symptoms within 4-6 weeks

Monophasic in nature



# CLINICAL COURSE



-4 WEEKS

SYMPTOMS  
START

2-4 WEEKS

MONTHS  
-YEARS

GASTROENTERITIS

SYMPTOMS  
PEAK

RECOVERY  
PERIOD

# GBS: Diagnosis

## Diagnosis:

- *Clinical diagnosis*
  - Diagnostic Criteria

### Required:

- 1) Progressive, symmetric weakness of >1 limb
- 2) Hyporeflexia/Areflexia
- 3) Progression <4 weeks
- 4) Symmetric weakness

+ Supportive

+ Exclusion of  
Other Diagnoses

- EMG & Nerve conduction tests can be used to confirm/differentiate (conduction block, decreased F-wave, sural sparing)
- **Lumbar puncture (“Albuminocytologic dissociation”)**
  - Normal WBC
  - Elevated CSF protein
  - *These findings may not be present in all individuals*



# Guillain-Barré Syndrome

## Three A's :

- Ascending paralysis
- Autonomic neuropathy
- Albuminocytologic dissociation

# GBS: Clinical Variants

## Miller-Fisher Syndrome

- Involves anti-GQ1B antibodies
- *Triad of symptoms:* 1) **A**cute **O**phthalmoplegia, 2) **A**reflexia, 3) **A**taxia
- Involves no weakness

## Acute Inflammatory Demyelinating Polyneuropathy (AIDP)

- Most common variant
- EMG – partial motor conduction block

## Pharyngeal-Cervical-Brachial Variant

- Primarily involves ptosis, pharyngeal, and neck and spreads to upper extremity muscles

## Acute Motor Axonal Neuropathy (AMAN)

- *Associated with C. jejuni infections*
- Involves anti-GM1 antibodies
- Motor involvement only; *normal reflexes*
- More frequently occurs in Asian countries

## Acute Motor-Sensory Axonal Neuropathy (AMSAN)

- *Associated with C. jejuni infections*

# GBS: Treatment

## Treatment:

- *Better to administer within 4 weeks of symptom onset (Best within 2 weeks)*
- Intravenous Immunoglobulin (IVIg)
- Plasmapheresis
- Intubation due to risk of respiratory failure
- **VTE prophylaxis (LMWH)**
- **Avoid steroid use**

**85% of patients recover and are able to independently ambulate  
However, 20% may still have residual morbidity**

# Thank you

