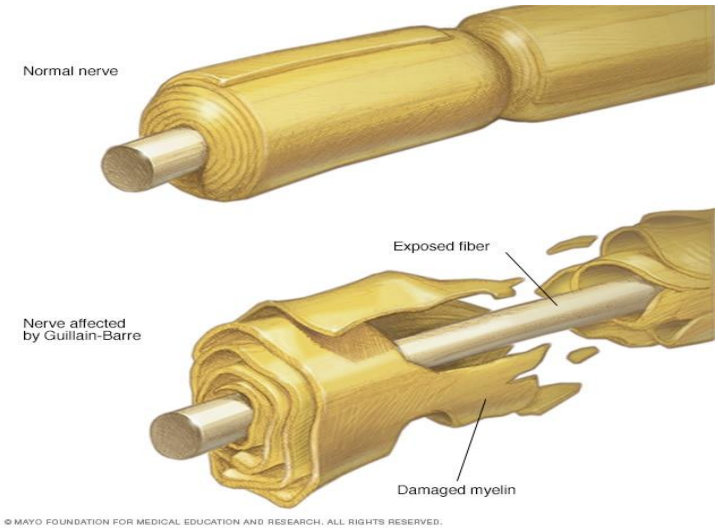
Guillain-Barré Syndrome – Quick Guide

Definition:

- A disorder in which the body's immune system attacks parts of the peripheral nervous system resulting in generalised flaccid paralysis (in an ascending and symmetrical pattern – feet to face)
- It can often be the result of an infection or occasionally following a vaccination – it is not fully understood why this occurs
- It is not contagious, can affect people of any age, has an acute onset with rapid progression and can be potentially life threatening
- The immune system destroys the myelin sheath surrounding axons of peripheral nerves, preventing effective transmission of signals ie. loss of sensory and motor function

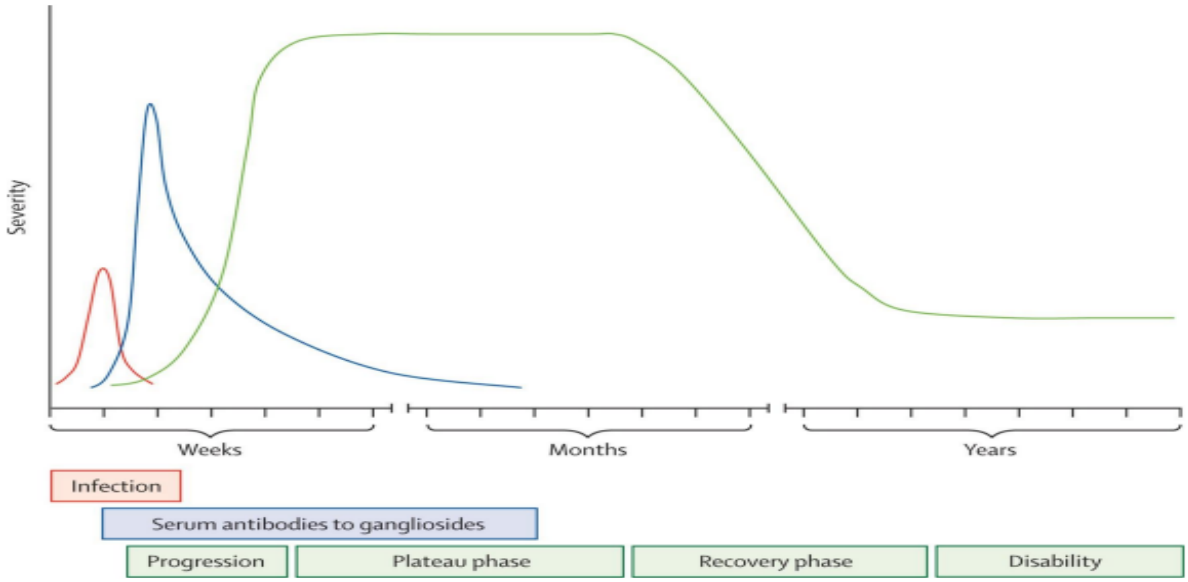


Diagnosis & investigation:

- Exclude other causes of progressive weakness – is it symmetrical?
- EMG studies – reduced nerve conduction
- Lumbar puncture LP – raised protein count (>0.5g/L) with normal cell count
- Lack of cranial/spinal reflexes

Prognosis & treatment:

- Within 24-72 hrs the disease can progress up to quadriparesis and respiratory paralysis with max. neurological deficit occurring by 2-3 weeks from onset
- Recovery occurs over weeks-months but can be up to a year – require ongoing rehabilitation after hospital stay
- 80% make fully recovery, 20% will be left with lasting disability
- Approx. 5-8% mortality from complications including respiratory failure, sepsis, PEs and other co-morbidities
- Those patients who go into respiratory failure – 10% are left severely disabled
- Treatments shown to improve recovery are 5 day course of Intravenous Immunoglobulin (IVIg) when first diagnosed, often followed by Plasmapharesis (Plasma Exchange) daily for 4-5 days (may require an additional course if suffer a relapse)



Nursing Considerations:

Airway & Breathing:

- If weakness spreads to cranial nerves (specifically bulbar function) patients are at serious risk of aspiration/airway problems so will require intubation & ventilation
- When assessing breathing in early stages, do NOT wait for respiratory decompensation – electively intubate if showing signs of respiratory distress
- BD-TDS Vital Capacity (VC) measurements can help detect breathing deterioration – VCs < 15ml/kg or < 1L require intubation

GBS QUICK GUIDE PART 2

- GBS patients normally require tracheostomy where rapid onset occurred once in recovery phase - prolonged weaning usually required while respiratory muscles recover: usually 3-4 weeks post onset
- Weaning process involves whole MDT but initiation/planning often orchestrated by doctors, physios and SLT then administrated by nursing and physio staff
- Progression of respiratory weaning will normally involve –
    1. PSIMV to PS (fully mandatory to spontaneous ventilation mode)
    2. PS to CPAP (high/medium level ventilatory support to PEEP only)
    3. VFB (Ventilator Free Breathing) sprints increasing in time with PS in between and overnight to rest (put onto trache mask with humidified O2. MUST go onto PS not CPAP to allow proper rest in between sprints to prevent decompensation)
    4. Continuous VFB on trache mask down to trache bib
    5. Decannulation
- Cuff deflation and speaking valve sessions usually occur between stages 2-5 and led by SLTs - speaking valve can be placed over trache when on trache mask or used in-line with ventilator circuit but cuff MUST be deflated before applying speaking valve! (when using valve in ventilator circuit, a non-invasive ventilator setting is usually required to prevent ventilator alarming)
- These patients will require careful respiratory management with daily (or even twice daily) chest physio sessions with additional chest physio on every turn
- With the loss of/weakness in chest wall muscles, they require deep breaths to prevent atelectasis and with the loss of diaphragm and often abdominal muscle movement, they require manually assisted coughs. NiPPY Clearway cough-assist machines are, therefore, used frequently. These will be set up by physios but can be used pre/post turning to aid secretion clearance

Cardiovascular:

- Impaired baroreceptor buffering can cause rapid fluctuation between hypotension & hypertension in GBS patients
- Avoid using beta blockers in hypotension as can increase risk of cardiac arrest. Instead, treat with fluid boluses and head down position
- Cardiac arrhythmias often occur during procedures such as intubation and suctioning (these include sinus bradycardia, VT and AV block) – ALL GBS patients must have glycopyrronium syringe and atropine minjet in an easily-accessible place at bedspace

Neurological:

- Once diagnosis of GBS made, neurological observations can be done 6-12 hourly – DO NOT apply painful stimulus even if ventilated and fully paralysed in the acute onset phase
- On-going motor/sensory function and cranial nerve function tests usually done on doctors' daily assessment and monitored by Physio team

Pain management:

- Patients can suffer from severe neuropathic pain from onset and continuing throughout their hospital stay – they must be started on regular anti-epileptic agents used for neuropathic pain (eg. Gabapentin, Pregabalin) soon after admission, in addition to regular Paracetamol, NSAIDs and opiates
- Can also be started on nightly tricyclic antidepressant (such as Amitryptyline) used for neuropathic pain

Nutrition & Elimination:

- If loss of bulbar function then will need NG feeding until this returns. Progression to eating and drinking will be orchestrated and monitored by SLT – this must be supervised closely by nursing staff due to high risk of aspiration and respiratory compensation
- Paralytic ileus can occur in these patients so 4-6 hrly GRV measurements must be done when on NG feeding. Report any GRV > 500ml to doctor and inform dietician – may require free gastric drainage, pro-kinetics and intra-abdominal pressure monitoring if severe
- Strict fluid balance – maintain euvolaemia
- All GBS patients should be on regular laxatives and softeners (Senna & Docusate) with additional aperients if BNO > 3 days

GBS QUICK GUIDE PART 3

Hygiene & Skin:

- With loss of movement GBS patients are at high risk for pressure damage to skin – strict 3-4 hourly turning in bed with monitoring of at-risk areas (heels, sacrum, elbows + NGTs, ETTs and catheters)
- VTE prophylaxis – Flotrons and LMWH usually but can switch to TED stockings at night if patient not tolerating
- Regular limb movement exercises to maintain range of movement and flexibility (started by physios but can be taught to visiting family and nursing staff)
- Resting foot splints to be used during day (2hrs alternating legs) to prevent foot drop and hand/arm splints to be applied as per OT advice
- Massage therapy is often well-received by GBS patients and can be organised through an external company (full circle)

Psychosocial:

- The inability to move means GBS patients can really struggle to sleep; affecting their ability to take part in rehab and can result in severe delirium and PTSD – important to establish routine with patient (when they wish to be washed, positions they prefer to sleep in, skin care routine and any methods to aid sleep such as music, podcasts, essential oils)
- GBS patients can get very frustrated with trying to communicate – weakness in the face can mean small gestures like nodding, grimacing, eyebrow raising can cause tiredness quickly so frequent input from SLT is essential to optimise communication
- Lack of communication and movement often results in patients feeling depressed, anxious, helpless and isolated – try to facilitate communication as much as possible and involve neuropsychiatry if concerned