Guillain-Barré Syndrome

Ascending weakness · Watch the diaphragm and the autonomics, not just the legs

STEROIDS DO NOT WORK
IVIG or PLEX, not both

RECOGNIZE IT *the pattern, and what argues against it*

THE CLASSIC PICTURE

Progressive, roughly symmetric weakness, typically **ascending**, with **areflexia**. Often **paraesthesiae** preceding the weakness, and **neuropathic back or limb pain**, which is common and frequently under-treated. Progression over **days to 4 weeks**, then a plateau.

THE ANTECEDENT

A **diarrheal or respiratory illness 1–3 weeks before** in about two-thirds. **Campylobacter jejuni** classically, and associated with the axonal variants and a worse recovery. Also CMV, EBV, Mycoplasma, and Zika.

RED FLAGS AGAINST GBS

A sensory level — think cord compression and image the spine. Also marked **asymmetry**, persistent **bowel or bladder dysfunction at onset**, fever at onset, and a **raised CSF cell count**, which should prompt thought of infection or malignant infiltration.

CONFIRM IT *largely clinical — tests support, they do not gatekeep*

Test	Finding and caveat
Lumbar puncture	**Albuminocytological dissociation** — raised protein with a normal cell count. **Often normal in the first week**, so a normal early LP does not exclude GBS. A raised white cell count should redirect you to another diagnosis.
Nerve conduction studies	Distinguish **demyelinating (AIDP)** from **axonal (AMAN/AMSAN)** variants and support the diagnosis. Also **may be normal early**, so do not wait for them to treat.
MRI spine	Do it if there is **any sensory level, bladder involvement, or asymmetry**. Excluding cord compression is the single most important alternative diagnosis to rule out.
Variants to know	**Miller Fisher** — ophthalmoplegia, ataxia and areflexia, with anti-GQ1b antibodies. **Pharyngeal-cervical-brachial**. **Bickerstaff encephalitis** with drowsiness and upper motor neuron signs.

MONITOR THE RESPIRATORY MUSCLES *this is what kills, and it is silent until it is not*

1. **Measure forced vital capacity regularly** — typically 4–6 hourly while progressing. **Pulse oximetry is useless as an early warning**: neuromuscular respiratory failure causes hypercapnia long before desaturation, so a normal saturation is falsely reassuring.
2. **The "20/30/40" thresholds** — FVC below 20 mL/kg, maximum inspiratory pressure weaker than −30 cmH_2O, maximum expiratory pressure below 40 cmH_2O — are **a widely used guide, but should not be the sole trigger**. Poor values correlate with risk but are **not highly specific** for predicting intubation.
3. **Judge the whole patient.** A **falling trend** matters more than any single value. Watch for **bulbar weakness**, inability to count to 20 in one breath, single-breath counting decline, rising respiratory rate, orthopnea, weak cough, and secretion clearance failure.
4. **Intubate electively, not as a rescue.** Emergency intubation in a decompensating neuromuscular patient is far more dangerous than a planned one. **NIV is generally not appropriate** as a bridge here, particularly with bulbar involvement and aspiration risk.
5. **Watch the autonomics. Dysautonomia** causes labile blood pressure, arrhythmia, ileus and urinary retention, and is a major cause of death. Use **cardiac monitoring**, and be cautious with drugs that provoke swings. **Avoid succinylcholine** — risk of hyperkalemic arrest.

TREAT IT *two options, equivalent, and one that does not work*

IVIG OR PLASMA EXCHANGE

IVIG 0.4 g/kg daily for 5 days, or **plasma exchange** — randomized trials found them of **equivalent efficacy**. IVIG is usually chosen for practicality and availability. **Do not combine them**: sequential treatment adds no benefit. Treat patients who cannot walk unaided, or who are progressing rapidly, ideally **within 2 weeks** of onset.

CORTICOSTEROIDS DO NOT WORK

Oral and intravenous steroid treatment of GBS has been disappointing and steroids are not recommended, alone or added to IVIG. This is a genuine and frequently repeated error — the instinct to give steroids for an inflammatory neuropathy is wrong here.

THE REST OF THE ADMISSION *most of the morbidity is not neurological*

Domain	What to do
Pain	Neuropathic back and limb pain is **common and severe**. Simple analgesia is usually inadequate — use **gabapentinoids** and escalate as needed. Ask actively, since a weak or ventilated patient may not be able to tell you.
Autonomic instability	**Continuous cardiac monitoring** while progressing. Expect swings in blood pressure, **bradyarrhythmia including asystole** (classically on tracheal suctioning), ileus, and urinary retention. **Use short-acting agents** for hypertension, since the swings reverse quickly.
Immobility	**VTE prophylaxis** for everyone, pressure area care, contracture prevention, and **early physiotherapy**. These patients are immobile for weeks and the preventable complications dominate the recovery.
Nutrition & swallow	Formal **swallow assessment** where there is bulbar involvement, with early enteral feeding. Ileus from dysautonomia may complicate feeding.
Communication	A locked-in, fully aware patient who cannot move or speak is **terrifying**. Establish a communication method early, explain everything, and involve family — psychological morbidity after GBS is substantial.

RECOVERY & WHAT CAN GO WRONG LATER *the course after the plateau*

THE TRAJECTORY

Progression for up to **4 weeks**, then a plateau, then gradual recovery over **months**. Most patients regain the ability to walk, but **residual fatigue, pain and weakness are common** and often under-acknowledged. Worse outcomes with **older age, rapid onset, need for ventilation, preceding diarrheal illness, and axonal variants**.

TWO THINGS TO WATCH FOR

Treatment-related fluctuation — improvement then deterioration within about 8 weeks, which may warrant a further course of the same treatment. **If deterioration continues beyond 8 weeks or relapses repeatedly, reconsider the diagnosis as CIDP**, which is treated differently and, unlike GBS, **does respond to steroids**.

PEARLS & PITFALLS

- **Oxygen saturation is a late and misleading sign.** Track the FVC trend and the bulbar function instead.
- **A normal early lumbar puncture does not exclude GBS.** The protein often rises only after the first week.
- **A sensory level means image the spine.** Cord compression is the diagnosis you cannot afford to treat as GBS.
- **Do not give steroids**, and do not combine IVIG with plasma exchange.
- **Treat the pain** — neuropathic pain is common, severe, and routinely under-recognized in a patient who may be unable to communicate well.
- **Give VTE prophylaxis** — these are immobile patients with a high thrombotic risk, and it is easily overlooked amid the neurology.

References: Randomized trials of IVIG versus plasma exchange in GBS · systematic reviews of spirometry for predicting ventilation in GBS · reviews of intensive care management of severe Guillain-Barré syndrome.

Educational aid; verify doses against local neurology protocol and patient factors.

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