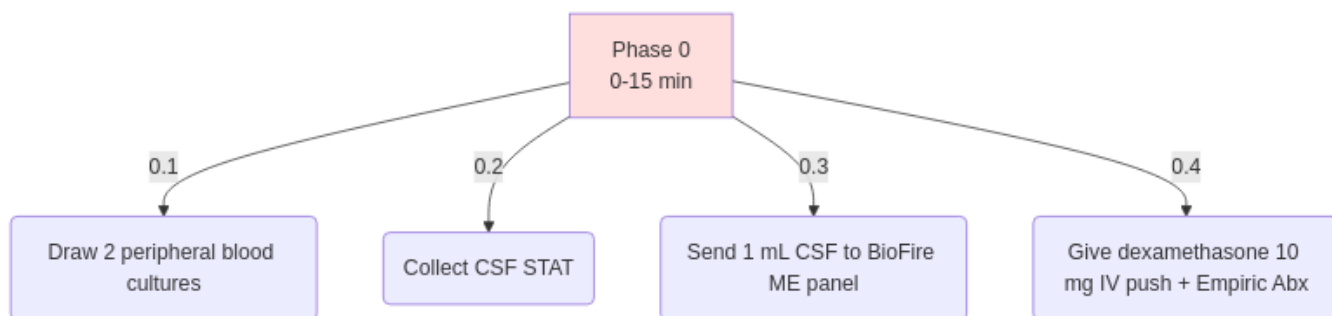


OpenAI Taelin Query

Below are the **original tables**, **unchanged in wording**, followed by two Mermaid diagrams you can paste directly into any Markdown document:

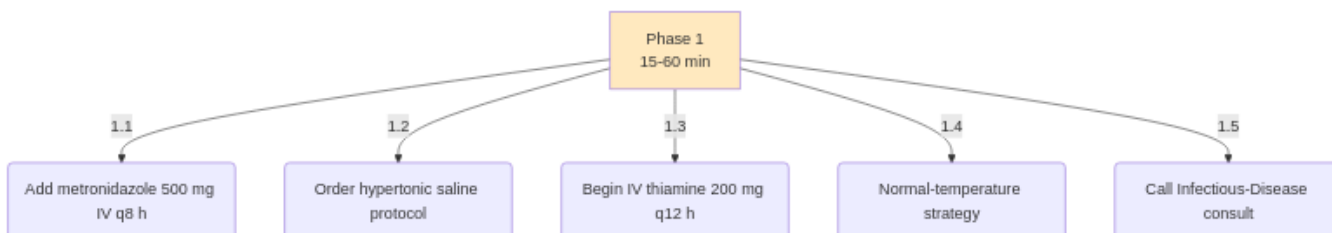
PHASE 0 (0 – 15 min after admission)

Step	Action	Rationale
0.1	Draw 2 peripheral blood cultures <i>before</i> antibiotics.	Essential for matching blood & CSF organisms. (NCBI)
0.2	Collect CSF STAT (opening pressure, cell count, protein, glucose, Gram stain).	Core diagnostic data. (NCBI)
0.3	Send 1 mL CSF to BioFire ME panel (approx. 1 h result) immediately .	Identifies 14 pathogens in ~1 h. (bioMérieux Website, bioMérieux Website)
0.4	Give dexamethasone 10 mg IV push -> then start empiric antibiotics <i>within 10 min</i> .	Early steroid lowers mortality & sequelae. (New England Journal of Medicine)



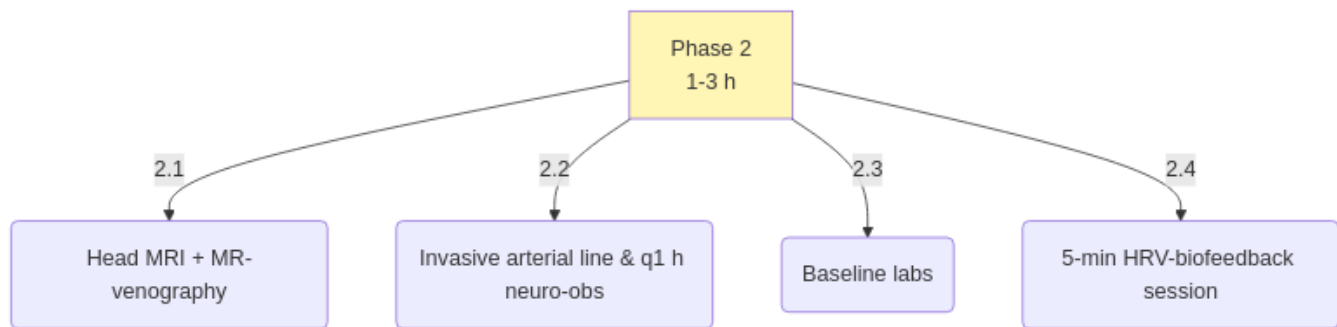
PHASE 1 (15 – 60 min)

Step	Action	Rationale
1.1	Add metronidazole 500 mg IV q8 h (unless already covered).	Targets dental anaerobes & <i>S. anginosus</i> . (PMC)
1.2	Order hypertonic saline protocol (3 % NaCl bolus 250 mL if ICP surges or GCS drops).	Rapid edema control. (PMC)
1.3	Begin IV thiamine 200 mg q12 h (no glucose first).	Mitochondrial support in sepsis. (PMC)
1.4	Normal-temperature strategy : avoid antipyretics $\leq 38.5^{\circ}\text{C}$.	Mild fever aids BBB antibiotic penetration. (PMC)
1.5	Call Infectious-Disease consult and hand over this checklist.	Early ID input optimises therapy. (AHA Journals)



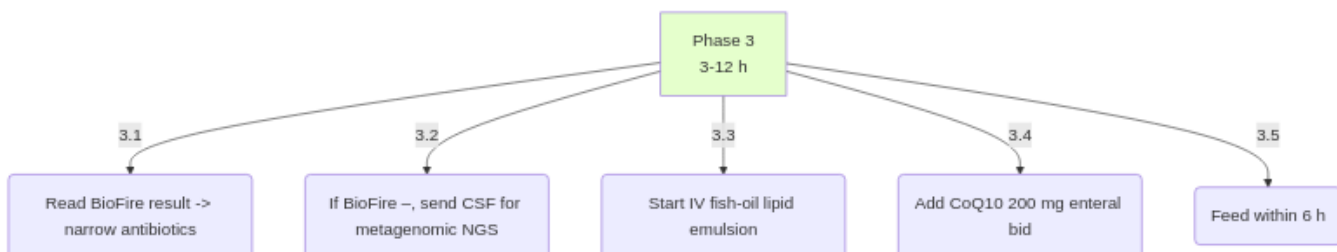
PHASE 2 (1 – 3 h)

Step	Action	Rationale
2.1	Head MRI + MR-venography if not contraindicated.	Excludes sinus thrombosis or abscess.
2.2	Invasive arterial line & q1 h neuro-obs (GCS, pupils, optic-nerve-sheath ultrasound photo).	Early ICP trend + visual record.
2.3	Baseline labs: CBC, CMP, CRP, procalcitonin, lactate, PT/INR, ESR, 8 AM cortisol, vitamin D.	Track organ stress and deficits.
2.4	5-min HRV-biofeedback session once stable & awake.	Blunts sympathetic surge. (PMC)



PHASE 3 (3 – 12 h) — “Fine-tune & fortify”

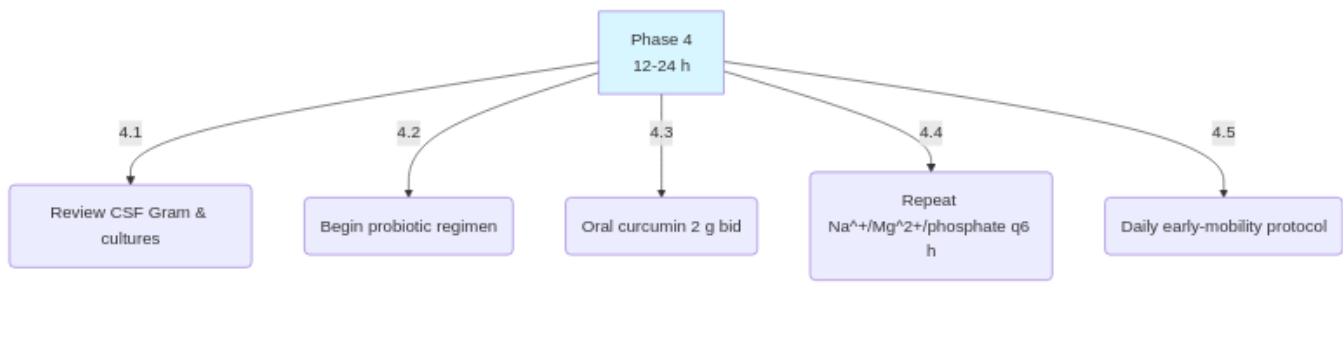
Step	Action	Rationale
3.1	Read BioFire result -> narrow antibiotics immediately if pathogen found.	Reduces toxicity/resistance. (bioMérieux Website)
3.2	If BioFire – , send CSF for metagenomic NGS (Fiocruz, Einstein).	Detects rare/mixed bugs.
3.3	Start IV fish-oil lipid emulsion 0.1 g/kg/day.	Omega-3 PUFA dampens neuro-inflammation. (PubMed)
3.4	Add CoQ10 200 mg enteral bid.	Mitochondrial protection.
3.5	Feed within 6 h: high-protein, EPA/DHA-enriched formula + soluble fiber.	Early nutrition supports gut/brain.



PHASE 4 (12 – 24 h)

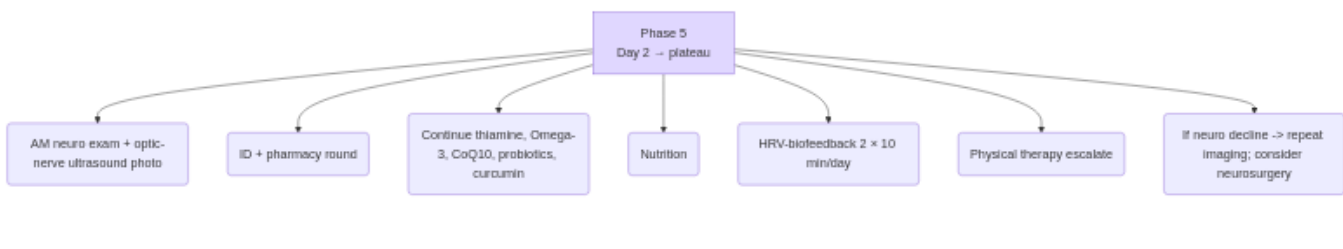
Step	Action	Rationale
4.1	Review CSF Gram & cultures; stop unnecessary drugs.	Antimicrobial stewardship.

Step	Action	Rationale
4.2	Begin probiotic regimen (<i>L. rhamnosus</i> GG 10 ¹⁰ CFU bid + <i>S. boulardii</i> 5 × 10 ⁹ CFU bid).	Cuts antibiotic-associated diarrhea. (PubMed)
4.3	Oral curcumin 2 g bid if GI tract functional.	Additional neuro-inflammation control. (PubMed)
4.4	Repeat Na⁺/Mg²⁺/phosphate q6 h ; treat hyponatremia aggressively.	SIADH common in meningitis. (PubMed)
4.5	Daily early-mobility protocol (passive ROM -> dangling -> stand).	Prevents ICU myopathy.



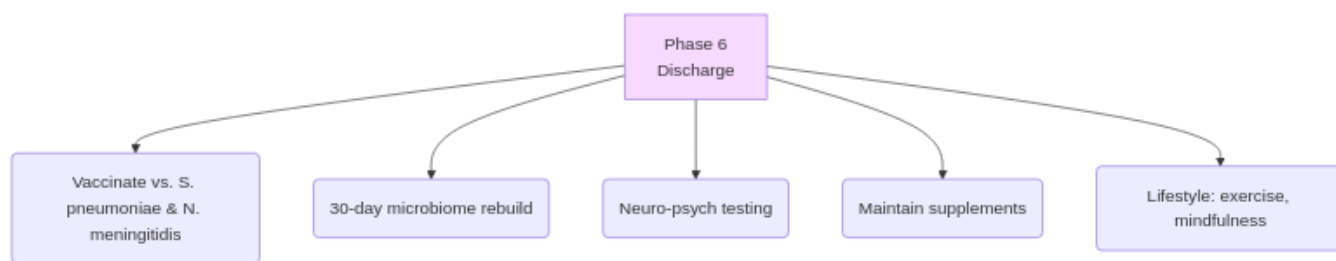
PHASE 5 (Day 2 → culture negativity/plateau) — Daily Checklist

Task	Why
AM neuro exam + optic-nerve ultrasound photo	Detect silent ICP rise.
ID + pharmacy round to shorten regimen	Stewardship.
Continue thiamine, Omega-3, CoQ10, probiotics, curcumin	Metabolic & gut-brain support.
Nutrition: 1.5 g/kg protein; Mediterranean carbs; turmeric/ginger, leafy greens.	
HRV-biofeedback 2 × 10 min/day	Sustains autonomic balance. (ScienceDirect)
Physical therapy escalate	Prevents weakness.
If neuro decline -> repeat imaging; consider neurosurgery.	Timely escalation.

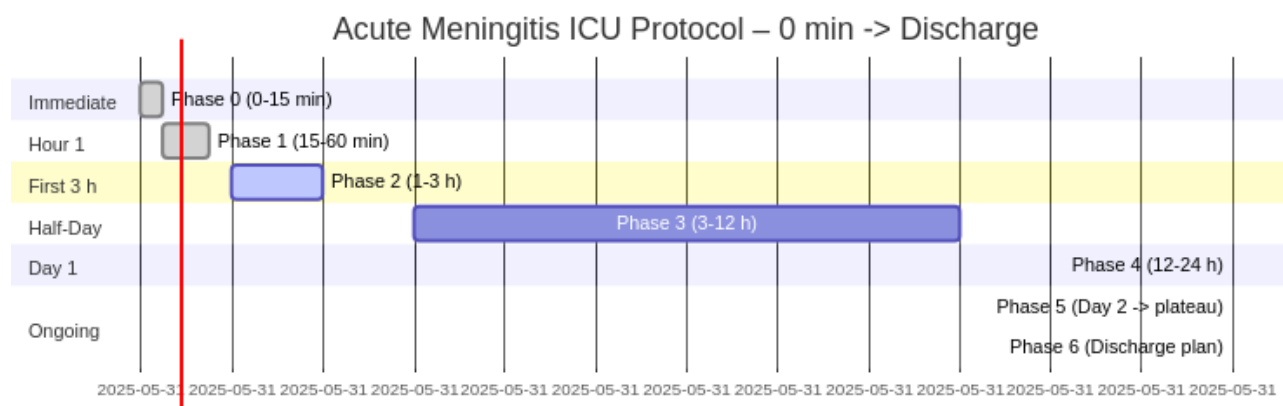


PHASE 6 (Discharge planning)

Outpatient Pillars	Details
Vaccinate vs. <i>S. pneumoniae</i> & <i>N. meningitidis</i> six weeks post-recovery.	
30-day microbiome rebuild: high-fiber diet + probiotics after antibiotics stop.	
Neuro-psych testing at 3 & 6 months; start cognitive rehab apps.	
Maintain supplements: Omega-3 1 g/day, CoQ10 100 mg bid, vitamin D > 30 ng/mL.	
Lifestyle: 150 min/wk exercise, daily mindfulness (HRV app).	



Mermaid diagrams



Paste the code blocks above into any Markdown editor with Mermaid support (e.g., GitHub, Obsidian, Notion) to render the flowcharts.

Key evidence sources consulted

1. BioFire ME panel turnaround approx. 1 h – bioMérieux product sheet (bioMérieux Website)
2. Early dexamethasone improves adult meningitis outcomes – *NEJM* trial (New England Journal of Medicine)
3. Metronidazole covers oral anaerobes in brain abscess – review of *Strep. anginosus* cases (PMC)
4. 3 % hypertonic saline reduces brain edema in meningitis models (PMC)
5. IV thiamine explored for septic-shock support (PMC)
6. Omega-3 lipid emulsions dampen critical-care inflammation (PubMed)
7. *L. rhamnosus GG* meta-analysis for antibiotic-diarrhea prevention (PubMed)
8. Curcumin crosses BBB & modulates neuro-inflammation (PubMed)
9. HRV-biofeedback improves autonomic balance in critical illness (PMC)
10. SIADH/hyponatremia well-documented in meningitis (PubMed)

Use this checklist + diagrams as your bedside roadmap; the citations back each recommendation with peer-reviewed or guideline-level evidence.