

Bacterial Meningitis — Therapy & Dosing

Empirical and organism-directed antimicrobial therapy for bacterial meningitis, with the meningitis-dose antibiotic schedule. Verify doses and adjust for renal function.

Therapy by organism

Organism	Standard therapy	Alternative
Neisseria meningitidis	Ceftriaxone or Cefotaxime	—
Streptococcus pneumoniae	Vancomycin + Ceftriaxone or Cefotaxime	Chloramphenicol
H. influenzae	Ceftriaxone or Cefotaxime	—
Enterobacterales	Ceftriaxone or Cefotaxime (if susceptible)	Meropenem (ESBL / cephalosporin-resistant); Aztreonam
Pseudomonas aeruginosa	Cefepime, Ceftazidime, or Meropenem	Aztreonam or ciprofloxacin; add aminoglycoside if severe
Streptococcus agalactiae	Ampicillin + aminoglycoside	Ceftriaxone or Cefotaxime
Listeria monocytogenes	Ampicillin + aminoglycoside	Cotrimoxazole
S. aureus (MSSA)	Nafcillin or Oxacillin	Vancomycin
S. aureus (MRSA)	Vancomycin	Linezolid, Daptomycin, or TMP-SMX; add Rifampin if hardware
S. epidermidis	Vancomycin + Rifampin	Linezolid

Empirical therapy by age & comorbidity

Group	Likely organisms	Empirical therapy
<1 month	S. agalactiae, E. coli, Listeria, Klebsiella	Ampicillin + Cefotaxime (avoid ceftriaxone in neonates) ± aminoglycoside
1–23 months	S. pneumoniae, N. meningitidis, H. influenzae	Vancomycin + 3rd-gen cephalosporin
2–50 years	N. meningitidis, S. pneumoniae	Vancomycin + 3rd-gen cephalosporin
>50 years	S. pneumoniae, N. meningitidis, Listeria	Vancomycin + 3rd-gen cephalosporin + Ampicillin
Basilar skull fracture	S. pneumoniae, H. influenzae, group A strep	Vancomycin + 3rd-gen cephalosporin

Adjunctive dexamethasone: give the first dose **10–20 min before, or with, the first antibiotic** — best benefit in adults with suspected/proven **pneumococcal** meningitis and children with **H. influenzae type b**.

- **Dose:** adults 10 mg IV q6h; children 0.15 mg/kg IV q6h — for **4 days**.
- **Stop** if not pneumococcus (adults) or Hib (children); little benefit if started after antibiotics.

Meningitis-dose antibiotic schedule

Antibiotic	Adult (total/day)	Child (total/day)	Interval
Amikacin	15 mg/kg	30 mg/kg	q8h
Ampicillin	12 g	300 mg/kg	q4h
Aztreonam	6–8 g	—	q6–8h
Cefepime	6 g	150 mg/kg	q8h
Cefotaxime	8–12 g	200 mg/kg	q4–6h
Ceftazidime	6 g	150 mg/kg	q8h
Ceftriaxone	4 g	100 mg/kg	q12h
Chloramphenicol	4–6 g	100 mg/kg	q6h
Ciprofloxacin	800–1200 mg	Not used	q8–12h
Gentamicin	5 mg/kg	7.5 mg/kg	q8h
Linezolid	1200 mg	—	q12h
Meropenem	6 g	120 mg/kg	q8h
Moxifloxacin	400 mg	—	q24h
Nafcillin / Oxacillin	12 g	—	q4h
Penicillin G	24 MU	24 MU	q4h
Rifampin	600 mg	20 mg/kg	q24h
Tobramycin	5 mg/kg	7.5 mg/kg	q8h
TMP-SMZ	10–20 mg/kg	—	q6–12h
Vancomycin	30–60 mg/kg	60 mg/kg	q8–12h