

TABLE 155-4 ANTIBIOTIC TREATMENT FOR INFECTIVE ENDOCARDITIS CAUSED BY COMMON ORGANISMS^a

Organism	Drug (Dose, Duration)	Comments
Streptococci		
Penicillin-susceptible ^b streptococci, <i>S. gallolyticus</i>	<ul style="list-style-type: none"> • Penicillin G (2–3 mU IV q4h for 4 weeks) • Ceftriaxone (2 g/d IV as a single dose for 4 weeks) • Vancomycin^c (15 mg/kg IV q12h for 4 weeks) 	<p>—</p> <p>Can use ceftriaxone in patients with nonimmediate penicillin allergy.</p> <p>Use vancomycin in patients with severe or immediate β-lactam allergy.</p>
Relatively penicillin-resistant ^f	<ul style="list-style-type: none"> • Penicillin G (2–3 mU IV q4h) or ceftriaxone (2 g IV qd) for 2 weeks plus • Gentamicin^d (3 mg/kg qd IV or IM, as a single dose^e or divided into equal doses q8h for 2 weeks) 	Avoid 2-week regimen when risk of aminoglycoside toxicity is increased and in prosthetic valve or complicated endocarditis.
Moderately penicillin-resistant ^g streptococci, nutritionally variant organisms, or <i>Gemella</i> species	<ul style="list-style-type: none"> • Penicillin G (4 mU IV q4h) or ceftriaxone (2 g IV qd) for 4 weeks plus • Gentamicin^d (3 mg/kg qd IV or IM, as a single dose^e or divided into equal doses q8h for 2 weeks) • Vancomycin^c as noted above for 4 weeks 	—
	<ul style="list-style-type: none"> • Penicillin G (4–5 mU IV q4h) or ceftriaxone (2 g IV qd) for 6 weeks plus • Gentamicin^d (3 mg/kg qd IV or IM as a single dose^e or divided into equal doses q8h for 6 weeks) • Vancomycin^c as noted above for 4 weeks 	Preferred for prosthetic valve endocarditis caused by streptococci with penicillin MICs of >0.1 μg/mL.
		Regimen is preferred by some.
Enterococci^h		
	<ul style="list-style-type: none"> • Penicillin G (4–5 mU IV q4h) plus gentamicin^d (1 mg/kg IV q8h), both for 4–6 weeks • Ampicillin (2 g IV q4h) plus gentamicin^d (1 mg/kg IV q8h), both for 4–6 weeks • Vancomycin^c (15 mg/kg IV q12h) plus gentamicin^d (1 mg/kg IV q8h), both for 4–6 weeks • Ampicillin (2 g IV q4h) plus ceftriaxone (2 g IV q12h), both for 6 weeks 	<p>Can use streptomycin (7.5 mg/kg q12h) in lieu of gentamicin if there is not high-level resistance to streptomycin.</p> <p>—</p> <p>Use vancomycin plus gentamicin for penicillin-allergic patients (or desensitize to penicillin) and for isolates resistant to penicillin/ampicillin.</p> <p>Use for <i>E. faecalis</i> isolates with high-level resistance to gentamicin and streptomycin or for patients at high risk for aminoglycoside nephrotoxicity (see text).</p>
Staphylococci		
MSSA infecting native valves (no foreign devices)	<ul style="list-style-type: none"> • Nafcillin, oxacillin, or flucloxacillin (2 g IV q4h for 4–6 weeks) • Cefazolin (2 g IV q8h for 4–6 weeks) • Vancomycin^c (15 mg/kg IV q12h for 4–6 weeks) 	<p>Can use penicillin (4 mU q4h) if isolate is penicillin-susceptible (does not produce β-lactamase).</p> <p>Can use cefazolin regimen for patients with nonimmediate penicillin allergy.</p> <p>Use vancomycin for patients with immediate (urticarial) or severe penicillin allergy; see text regarding addition of gentamicin, fusidic acid, or rifampin.</p>
MRSA infecting native valves (no foreign devices)	<ul style="list-style-type: none"> • Vancomycin^c (15 mg/kg IV q8–12h for 4–6 weeks) 	No role for routine use of rifampin (see text). Consider alternative treatment (see text) for MRSA with vancomycin MIC >1.0 or persistent bacteremia during vancomycin therapy.
MSSA infecting prosthetic valves	<ul style="list-style-type: none"> • Nafcillin, oxacillin, or flucloxacillin (2 g IV q4h for 6–8 weeks) plus • Gentamicin^d (1 mg/kg IM or IV q8h for 2 weeks) plus • Rifampinⁱ (300 mg PO q8h for 6–8 weeks) 	Use gentamicin during initial 2 weeks; determine susceptibility to gentamicin before initiating rifampin (see text); if patient is highly allergic to penicillin, use regimen for MRSA; if β-lactam allergy is of the minor nonimmediate type, cefazolin can be substituted for oxacillin/nafcillin.
MRSA infecting prosthetic valves	<ul style="list-style-type: none"> • Vancomycin^c (15 mg/kg IV q12h for 6–8 weeks) plus • Gentamicin^d (1 mg/kg IM or IV q8h for 2 weeks) plus • Rifampinⁱ (300 mg PO q8h for 6–8 weeks) 	Use gentamicin during initial 2 weeks; determine gentamicin susceptibility before initiating rifampin (see text).
HACEK Organisms		
	<ul style="list-style-type: none"> • Ceftriaxone (2 g/d IV as a single dose for 4 weeks) • Ampicillin/sulbactam (3 g IV q6h for 4 weeks) 	<p>Can use another third-generation cephalosporin at comparable dosage.</p> <p>—</p>

(continued)