

Organism susceptibility to antibacterials: penicillins

The following table provides a general guide to clinical antimicrobial susceptibilities. The table is intended to assist empirical selection of antimicrobials in the absence of laboratory confirmation of susceptibility; it is not a substitute for management advice from clinical microbiologists or infectious diseases specialists. Consider these data in conjunction with the clinical condition of the patient, site of infection, knowledge of local susceptibility patterns (which may vary) and evidence-based guidelines. Use the narrowest spectrum antibiotic that is effective to limit the development of antimicrobial resistance. When in doubt seek specialist advice.

The designation of susceptibility used in the table is 75% (an organism is deemed susceptible if at least 3 out of 4 cultures tested are susceptible to that antibiotic).

Organism	Penicillins					
	Narrow spectrum			Broad spectrum		
	benzylpenicillin	phenoxymethylpenicillin	flucloxacillin, dicloxacillin	amoxicillin, ampicillin	amoxicillin with clavulanic acid	piperacillin with tazobactam
Gram-negative						
<i>Acinetobacter</i> spp.						
<i>Aeromonas</i> spp.						
<i>Burkholderia cepacia</i>						
<i>Burkholderia pseudomallei</i>						
<i>Campylobacter jejuni</i> and <i>coli</i>						
<i>Citrobacter freundii</i>						1
<i>Enterobacter</i> spp.						1
<i>Escherichia coli</i>						
<i>Haemophilus influenzae</i>						
<i>Klebsiella</i> spp.						
<i>Moraxella catarrhalis</i>						
<i>Morganella</i> spp.					1	1
<i>Neisseria gonorrhoeae</i>	2					
<i>Neisseria meningitidis</i>						
<i>Pasteurella multocida</i>						
<i>Proteus mirabilis</i>						
<i>Proteus vulgaris</i>					v,1	
<i>Providencia</i> spp.					v,1	v,1
<i>Pseudomonas aeruginosa</i>						
<i>Salmonella</i> spp.				v	v	v
<i>Serratia</i> spp.						1
<i>Shigella</i> spp.						
<i>Stenotrophomonas maltophilia</i>						
<i>Yersinia</i> spp.						
¹ resistance may develop during treatment ² use only if susceptibility confirmed ³ MRSA: implies resistance to all beta-lactams						
Legend						
	susceptible					
v	variable					
	resistant					
	no data available or antibacterial not recommended					

Organism	Penicillins					
	Narrow spectrum			Broad spectrum		
	benzylpenicillin	phenoxymethyl-/penicillin	flucloxacillin, dicloxacillin	amoxicillin, ampicillin	amoxicillin with clavulanic acid	piperacillin with tazobactam
Gram-positive						
<i>Corynebacterium jeikeium</i>						
<i>Enterococcus faecalis</i>						
<i>Enterococcus faecium</i>						
<i>Listeria</i> spp.						
<i>Staphylococcus aureus</i>						
<i>Staphylococcus aureus</i> (MRSA) ³						
<i>Staphylococcus epidermidis</i>			2	2	2	2
<i>Staphylococcus lugdunensis</i>	v			v		
<i>Staphylococcus saprophyticus</i>						
<i>Streptococcus</i> - group A, B, C, G						
<i>Streptococcus anginosus</i>						
<i>Streptococcus pneumoniae</i>						
Viridans streptococcus group						
Anaerobes						
<i>Actinomyces</i>						
<i>Bacteroides fragilis</i> group						
<i>Clostridioides difficile</i>						
<i>Clostridium perfringens</i>						
<i>Cutibacterium (Propionibacterium) acnes</i>						
<i>Fusobacteria</i> spp.						
<i>Peptostreptococcus</i> spp.						
<i>Prevotella melaninogenica</i>						
Miscellaneous						
<i>Chlamydomphila, Chlamydia</i> spp.						
<i>Legionella</i> spp.						
<i>Mycobacterium tuberculosis</i>						
<i>Mycoplasma pneumoniae</i>						
<i>Nocardia</i> spp.					v	
¹ resistance may develop during treatment ² use only if susceptibility confirmed ³ MRSA: implies resistance to all beta-lactams						
Legend						
	susceptible					
v	variable					
	resistant					
	no data available or antibacterial not recommended					