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	phenoxymethyl-penicillin	flucloxacillin, dicloxacillin	amoxicillin, ampicillin	amoxicillin with clavulanic acid	piperacillin with tazobactam
Gram-negative						
Acinetobacter spp.						
Aeromonas spp.						
Burkholderia cepacia						
Burkholderia pseudomallei						
Campylobacter jejuni and *coli*						
Citrobacter freundii						1
Enterobacter spp.						1
Escherichia coli						
Haemophilus influenzae						
Klebsiella spp.						
Moraxella catarrhalis						
Morganella spp.					1	1
Neisseria gonorrhoeae	2					
Neisseria meningitidis						
Pasteurella multocida						
Proteus mirabilis						
Proteus vulgaris					v,1	
Providencia spp.					v,1	v,1
Pseudomonas aeruginosa						
Salmonella spp.				v	v	v
Serratia spp.						1
Shigella spp.						
Stenotrophomonas maltophilia						
Yersinia 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

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Organism	Penicillins					
	Narrow spectrum			Broad spectrum		
	benzylpenicillin	phenoxymethylpenicillin	flucloxacillin, dicloxacillin	amoxicillin, ampicillin	amoxicillin with clavulanic acid	piperacillin with tazobactam
Gram-positive						
Corynebacterium jeikeium						
Enterococcus faecalis						
Enterococcus faecium						
Listeria spp.						
Staphylococcus aureus						
Staphylococcus aureus (MRSA)[3]						
Staphylococcus epidermidis			2	2	2	2
Staphylococcus lugdunensis	v			v		
Staphylococcus saprophyticus						
Streptococcus - group A, B, C, G						
Streptococcus anginosus						
Streptococcus pneumoniae						
Viridans streptococcus group						
Anaerobes						
Actinomyces						
Bacteroides fragilis group						
Clostridioides difficile						
Clostridium perfringens						
Cutibacterium (Propionibacterium) acnes						
Fusobacteria spp.						
Peptostreptococcus spp.						
Prevotella melaninogenica						
Miscellaneous						
Chlamydophila, *Chlamydia* spp.						
Legionella spp.						
Mycobacterium tuberculosis						
Mycoplasma pneumoniae						
Nocardia spp.					v	

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