

Drug / Bug Table

		Gram-positive							Gram-negative				Anaerobes			Atypicals				
		<i>S. pneumoniae</i>		<i>Strep</i>		<i>Staph</i>		<i>Enterococcus</i>												
		Other Strep		MSSA	MRSA	CoNS	<i>E. faecalis</i>	<i>E. faecium</i>	<i>H. influenzae</i>	<i>M. catarrhalis</i>	Proteus	<i>E. coli</i>	<i>Klebsiella</i>	"SPACE" bugs	<i>Pseudomonas</i>	Oral anaerobes	Gut anaerobes	<i>C. difficile</i>	<i>Mycoplasma</i>	<i>Chlamydia</i>
Penicillins	penicillin G, penicillin VK	✓	✓	✗	✗	✗	±	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗
	ampicillin, amoxicillin	✓	✓	✗	✗	✗	✓	✗	✓	±	✗	✗	✓	✓	✗	✗	✗	✗	✗	✗
	amoxicillin/clavulanate	✓	✓	✓	✗	✗	✓	✗	✓	✓	±	✗	✓	✓	✓	✓	✗	✗	✗	✗
	cloxacillin	✗	±	✓	✗	±	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
	piperacillin/tazobactam	✓	✓	✓	✗	✗	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗ ¹	✗	✗	✗
Cephalosporins	1 st cephalexin, cefazolin	±	✓	✓	✗	✗	✗	✗	±	±	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
	2 nd cefuroxime, cefprozil	✓	✓	✓	✗	✗	✗	✗	✓	±	✗	✗	✓	✓	✗	✗	✗	✗	✗	✗
	3 rd ceftriaxone, cefotaxime	✓	✓	✓	✗	✗	✗	✗	✓	✓	± ²	✗	✓	✓	✗	✗	✗ ¹	✗	✗	✗
	3 rd ceftazidime	±	±	✗	✗	✗	✗	✗	✓	✓	✓ ²	✓ ²	✗	✗	✗	✗	✗ ¹	✗	✗	✗
	4 th cefepime	✓	✓	✓	✗	✗	✗	✗	✓	✓	✓ ²	✓ ²	✓	✓	✓	✓	✗ ¹	✗	✗	✗
Carbapenems	ertapenem	✓	✓	✓	✗	✗	✗	✗	✓	✓	✓ ³	✗	✓	✓	✓	✓	✗ ¹	✗	✗	✗
	imipenem, meropenem	✓	✓	✓	✗	✗	✓ ⁴	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗ ¹	✗	✗	✗
Other "Gram-positive" agents	vancomycin	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓ ⁵	✗	✗	✗
	linezolid, daptomycin	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Quinolones	ciprofloxacin	✗	✗	± ⁶	✗	✗	±	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗ ¹	✓	✓	✓
	levofloxacin	✓	✓	✓	✗	✗	±	✗	✓	✓	✓	✗	✓	✓	✓	✗	✗ ¹	✓	✓	✓
	moxifloxacin	✓	✓	✓	✗	✗	±	✗	✓	✓	✓	✗	✓	✓	±	✗ ¹	✓	✓	✓	✓
Aminoglycosides	gentamicin, tobramycin	✗	✗	SYN	SYN	SYN	SYN	SYN	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
Polymyxins	colistin	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓ ⁷	✓	✓	✗	✗	✗	✗	✗	✗	✗
Sulfonamides	co-trimoxazole (TMP-SMX)	±	±	✓	CA(✓)	±	✗	✗	✓	✓	±	✗	✗	✗	✗	✗	✗	✗	✗	✗
Macrolides	erythromycin	±	±	±	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓
	clarithromycin, azithromycin	✓	±	✓	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓
Lincosamides	clindamycin	✓	✓	✓	CA(±)	✗	✗	✗	✗	✗	✗	✗	✓	±	✗ ¹	✗	✗	✗	✗	✗
Tetracyclines and derivatives	tetracycline, doxycycline	✓	±	✓	CA(✓)	✗	✗	✗	±	±	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓
	tigecycline	✓	✓	✓	✓	✓	✓	✓	✓	✓ ⁸	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓
Nitroimidazoles	metronidazole	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗

Legend and Acronyms:

CA: May be effective for community-associated MRSA

SYN: Synergy (combine with another agent)

CoNS: Coagulase-negative Staphylococcus

MSSA: Methicillin-sensitive *Staph aureus*

MRSA: Methicillin-resistant *Staph aureus*

"SPACE" bugs: *Serratia*, *P. vulgaris*, *Providencia*, *Morganella*,

Acinetobacter, *Citrobacter*, *Enterobacter*

Notes:

1. These antibiotic may be associated with increased risk for *C. difficile* infection.

2. Avoid using as monotherapy due to inducible resistance in these bacteria.

3. Ertapenem does not cover *Acinetobacter*.

4. The activity of meropenem against *E. faecalis* is variable; no formal susceptibility breakpoints are available.

5. Only enteral (PO or PR) vancomycin (not IV) is effective against *C. difficile* infection.

6. Requires double coverage with another agent, as resistance can develop rapidly.

7. Colistin does not cover *Proteus* or *Serratia*.

8. Tigecycline has variable activity against *Proteus*.

Disclaimer: This table is a teaching and learning tool and is not meant to be comprehensive. Please use clinical judgment and other references for clinical decision-making. Thanks to the following individuals for their input: Roxane Carr, Tila Pelletier, Cesilia Nishi, Tim Lau. Last updated April 2014 by Charles Au.