

Support in choosing the correct antibiotic in Primary Care

Antibiotic Sensitivity Chart																		
Adapted from chart created by McCormack J and Lalji F, December 2015.																		
Bacteria	Antibiotic	Gram Positive Cocci					Gram Negative Bacilli				Gram Negative Coccobacilli		Anaerobes			Neither Gram-positive or Gram-negative (Atypicals)		
		Streptococci		Staphylococci			Escherichia coli, Klebsiella pneumoniae, Haemophilus influenzae	SPACE Serratia marcescens, Proteus mirabilis, Acinetobacter sp., Citrobacter sp., Enterobacter sp.	ESBL (Extended spectrum beta-lactamase producing Escherichia coli, Klebsiella pneumoniae)	Pseudomonas aeruginosa	Neisseria meningitidis	Neisseria gonorrhoea	Above the diaphragm (Peptostreptococcus)	Below the diaphragm (Bacteroides sp)	Clostridium difficile	Mycoplasma pneumoniae, Chlamydia spp	Legionella pneumophila	Chlamydia trachomatis
		Streptococci (pneumoniae/pyogenes/viridins)	Enterococci (Group D strep)	Staph epidermidis (coagulase negative)	Staph aureus Methicillin sensitive	Community acquired Methicillin resistant												
Location		Brain, oral, respiratory tract, heart, skin, e.g. cellulitis	Intraabdominal, urinary tract, e.g. UTI	Skin, prosthetics	Oral, respiratory tract, heart, skin, bones/ joint	Brain, respiratory tract, intraabdominal, urinary tract, e.g. UTI				Brain	Pelvic inflammatory disease/ STI	Oral, respiratory tract	Intraabdominal, pelvic inflammatory disease	Intraabdominal	Respiratory tract		Pelvic inflammatory disease/ STI	
Penicillins	Penicillin V		Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	
	Amoxicillin		Not effective	Not effective	Not effective	Not effective	BUT only when non beta lactamase producing	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	
	Co-amoxiclav		Not effective	Not effective		Not effective		Not effective	Not effective	Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	
	Fluclouxacin		Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	
Cephalosporins	Cefalexin		Not effective	Not effective		Not effective	BUT only when non-beta lactamase producing	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	
Macrolides	Erythromycin		Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective				
	Clarithromycin		Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective			Not effective	
	Azithromycin		Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective	Not effective				
Tetracyclines	Tetracycline		Not effective	Not effective		Not effective	BUT only for non-beta lactamase producing H. influenzae	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective				
	Doxycycline		Not effective	Not effective		Not effective	BUT only for non-beta lactamase producing H. influenzae	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective				
Fluoroquinolones	Ciprofloxacin	Not effective	Not effective	Not effective	Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	
	Norfloxacin	Not effective	Not effective	Not effective	Not effective	Not effective	JUST BLADDER infections	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	
	Levofloxacin		Not effective	Not effective	Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	
	Moxifloxacin		Not effective	Not effective	Not effective	Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	
Lincosamides	Clindamycin		Not effective			Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	
Metronidazole	Metronidazole	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	
Trimethoprim-Sulfamethoxazole	Trimethoprim-Sulfamethoxazole	Not effective	Not effective	Not effective				Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	
Nitrofurantoin/ fosfomycin (JUST BLADDER INFECTIONS)	Nitrofurantoin	Not effective	JUST E.faecalis	Not effective	Not effective	Not effective		Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	
	Fosfomycin	Not effective	JUST E.faecalis	Not effective	Not effective	Not effective		Not effective		Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	Not effective	

Key

	Antibiotic appears in guidance – generally as a 1 st line option
	Antibiotic not commonly recommended within guidance, or recommended as an option rather than 1 st line
	Antibiotic not routinely recommended and generally restricted use due to risk of C.diff and antimicrobial resistance

Antibiotic class	Bacteriostatic/ Bactericidal	C.diff risk	Other risks/ warnings
Penicillin V/ Amoxicillin/ Flucloxacillin	Bactericidal	++	Allergy
Co-amoxiclav	Bactericidal	++/+++	Allergy/ Broad-spectrum
Cephalosporins	Bactericidal	+++	10% of penicillin allergy patients also allergic to cephalosporins
Macrolides	Bacteriostatic	++	Interactions with other medicines frequent as enzyme inhibitors
Tetracyclines	Bacteriostatic	+	Contra-indicated in children under 12
Flouroquinolones	Bactericidal	+++	Drug Safety Update warning: Disabling, long-lasting or potentially irreversible adverse reactions affecting musculoskeletal and nervous systems have been reported very rarely with fluoroquinolone antibiotics. Fluoroquinolone treatment should be discontinued at the first signs of a serious adverse reaction, including tendon pain or inflammation.
Clindamycin	Bacteriostatic	+++	
Metronidazole	Bactericidal	-	Interaction with alcohol
Trimethoprim- Sulfamethoxazole	Bacteriostatic	++	Significant interaction with methotrexate
Nitrofurantoin	Bactericidal	+	Contraindicated in patients with GFR<45mL/min
Trimethoprim	Bacteriostatic	++	High prevalence of resistance. Significant interaction with methotrexate
Fosfomycin	Bactericidal	+	

Condition	Potential pathogen
GI	
Diverticulitis	Enterobacteriaceae: e.g. <i>E. coli</i> , <i>Klebsiella sp</i> , other aerobic gram-negative bacilli <i>Bacteroides sp</i> and other anaerobic bacteria Enterococcus species: <i>E. faecalis</i> most common; <i>E. faecium</i> <i>P.aeruginosa</i> uncommon: 3-15%
Urinary	
UTI Uncomplicated female	Enterobacteriaceae (<i>E.coli</i> 75-95%, <i>Klebsiella sp</i>) <i>S. saprophyticus</i> Enterococci and/or <i>Streptococcus agalactiae</i> (Group B Strep) in midstream urine cultures often produce false positive results
UTI Uncomplicated male	<i>E.coli</i> (75-95%) Other Enterobacteriaceae
Respiratory	
Community acquired pneumonia	<i>Strep. Pneumoniae</i> Atypical pathogens: <i>Chlamydophila pneumoniae</i> , <i>C.psittaci</i> , Legionella sp., <i>M. pneumoniae</i> Viral
Acute infective exacerbation of COPD	Viruses (20-50%) <i>C. pneumoniae</i> (5%) <i>M. pneumoniae</i> (<1%) <i>Strep. Pneumoniae</i> , <i>H. influenza</i> and <i>M. catarrhalis</i>
Skin and soft tissue	
Cellulitis	<i>Streptococcus pyogenes</i> (Groups A, B, C, G) <i>Staphylococcus aureus</i> (rare)

Title	Antibiotic Sensitivity Chart
Document reference	AntibioticSensitivityGUI201908V1.0FINAL
Updated by	Medicines Optimisation Team, Mid Essex CCG
Consulted with	Acknowledgements: Adapted from version created by British Columbia University, Canada, 2015. Consulted with Dr Louise Teare, consultant Microbiologist for Mid Essex
References:	<ol style="list-style-type: none"> 1. Antibiotic Sensitivity Chart, Created by James McCormack, BSc(Pharm), Pharm D and Fawziah Lalji, BSc(Pharm), PharmD, FCSHP, Faculty of PharmaceuGcal Sciences, University of BriGsh Columbia, Vancouver, BC, December 2015 https://therapeuticseducation.org/sites/therapeuticseducation.org/files/Antibiotic_Sensitivity_December_2015.pdf 2. SPCs for various antibiotics listed within the document. All accessed via EMC website 15/8/19 https://www.medicines.org.uk/emc/
Document location – website	Medicines Optimisation > Clinical pathways and medications guidelines > Chapter 5 Infections
Document location - internal	Shared drive>Medicines guidance current> Chapter 5 Infections
Approved by	Medicines Optimisation Committee
Date approved	August 2019
Next review date	August 2022