

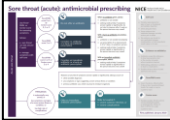

Summary of antimicrobial prescribing guidance – managing common infections




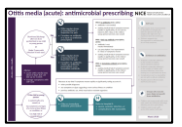



- For all PHE guidance, follow [PHE's principles of treatment](#).
- See BNF for appropriate use and dosing in specific populations, for example, hepatic impairment, renal impairment, pregnancy and breastfeeding.


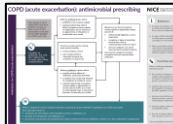
Key:  Click to access doses for children  Click to access NICE's printable visual summary



Jump to section on:

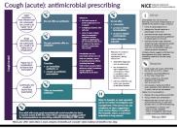

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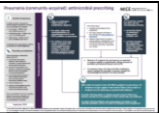


Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ Upper respiratory tract infections						
Acute sore throat NICE Public Health England Last updated: Jan 2018	Advise paracetamol, or if preferred and suitable, ibuprofen for pain. Medicated lozenges may help pain in adults. Use FeverPAIN or Centor to assess symptoms: FeverPAIN 0-1 or Centor 0-2: no antibiotic; FeverPAIN 2-3: no or back-up antibiotic; FeverPAIN 4-5 or Centor 3-4: immediate or back-up antibiotic. Systemically very unwell or high risk of complications: immediate antibiotic. *5 days of phenoxymethylpenicillin may be enough for symptomatic cure; but a 10-day course may increase the chance of microbiological cure. <i>For detailed information click the visual summary icon.</i>	First choice: phenoxymethylpenicillin	500mg QDS or 1000mg BD		5 to 10 days*	
		Penicillin allergy: clarithromycin OR	250mg to 500mg BD		5 days	
		erythromycin (preferred if pregnant)	250mg to 500mg QDS or 500mg to 1000mg BD		5 days	


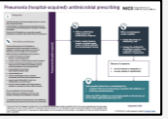

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Influenza Public Health England Last updated: Feb 2019	Annual vaccination is essential for all those 'at risk' of influenza. ^{1D} Antivirals are not recommended for healthy adults. ^{1D,2A+} Treat 'at risk' patients with 5 days oseltamivir 75mg BD, ^{1D} when influenza is circulating in the community, and ideally within 48 hours of onset (36 hours for zanamivir treatment in children), ^{1D,3D} or in a care home where influenza is likely. ^{1D,2A+} At risk: pregnant (and up to 2 weeks post-partum); children under 6 months; adults 65 years or older; chronic respiratory disease (including COPD and asthma); significant cardiovascular disease (not hypertension); severe immunosuppression; chronic neurological, renal or liver disease; diabetes mellitus; morbid obesity (BMI>40). ^{4D} See the PHE Influenza guidance for the treatment of patients under 13 years. ^{4D} In severe immunosuppression, or oseltamivir resistance, use zanamivir 10mg BD ^{5A+,6A+} (2 inhalations twice daily by diskhaler for up to 10 days) and seek advice. ^{4D} <i>Access supporting evidence and rationales on the PHE website.</i>					
Scarlet fever (GAS) Public Health England Last updated: Oct 2018	Prompt treatment with appropriate antibiotics significantly reduces the risk of complications. ^{1D} Vulnerable individuals (immunocompromised, the comorbid, or those with skin disease) are at increased risk of developing complications. ^{1D}	Phenoxymethylpenicillin ^{2D}	500mg QDS ^{2D}		10 days ^{3A+,4A+,5A+}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		Penicillin allergy: clarithromycin ^{2D}	250mg to 500mg BD ^{2D}		5 days ^{2D,5A+}	
		Optimise analgesia ^{2D} and give safety netting advice				
Acute otitis media NICE Public Health England Last updated: Feb 2018	Regular paracetamol or ibuprofen for pain (right dose for age or weight at the right time and maximum doses for severe pain). Otorrhoea or under 2 years with infection in both ears: no, back-up or immediate antibiotic. Otherwise: no or back-up antibiotic. Systemically very unwell or high risk of complications: immediate antibiotic. <i>For detailed information click on the visual summary.</i>	First choice: amoxicillin	-		5 to 7 days	
		Penicillin allergy: clarithromycin OR erythromycin (preferred if pregnant)	-		5 to 7 days	
		Second choice: co-amoxiclav	-		5 to 7 days	
Acute otitis externa Public Health England Last updated: Nov 2017	First line: analgesia for pain relief, ^{1D,2D} and apply localised heat (such as a warm flannel). ^{2D} Second line: topical acetic acid or topical antibiotic +/- steroid: similar cure at 7 days. ^{2D,3A+,4B-} If cellulitis or disease extends outside ear canal, or systemic signs of infection, start oral flucloxacillin and refer to exclude malignant otitis externa. ^{1D}	Second line: topical acetic acid 2% ^{2D,4B-} OR topical neomycin sulphate with corticosteroid ^{2D,5A-} (consider safety issues if perforated tympanic membrane) ^{6B-}	1 spray TDS ^{5A-}		7 days ^{5A}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
			3 drops TDS ^{5A-}		7 days (min) to 14 days (max) ^{3A+}	
		If cellulitis: flucloxacillin ^{7B+}	250mg QDS ^{2D} If severe: 500mg QDS ^{2D}		7 days ^{2D}	

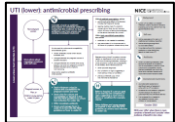
Infection	Key points	Medicine	Doses		Length	Visual summary		
			Adult	Child				
Sinusitis NICE Public Health England Last updated: Oct 2017	Advise paracetamol or ibuprofen for pain. Little evidence that nasal saline or nasal decongestants help, but people may want to try them. Symptoms for 10 days or less: no antibiotic. Symptoms with no improvement for more than 10 days: no antibiotic or back-up antibiotic depending on likelihood of bacterial cause. Consider high-dose nasal corticosteroid (if over 12 years). Systemically very unwell or high risk of complications: immediate antibiotic. <i>For detailed information click on the visual summary.</i>	First choice: phenoxymethylpenicillin	500mg QDS		5 days			
		Penicillin allergy: doxycycline (not in under 12s) OR clarithromycin OR erythromycin (preferred if pregnant)	200mg on day 1, then 100mg OD 500mg BD 250 to 500mg QDS or 500 to 1000mg BD				5 days	
		Second choice or first choice if systemically very unwell or high risk of complications: co-amoxiclav	500/125mg TDS		5 days			
▼ Lower respiratory tract infections								
Acute exacerbation of COPD NICE Public Health England Last updated: Dec 2018	Many exacerbations are not caused by bacterial infections so will not respond to antibiotics. Consider an antibiotic, but only after taking into account severity of symptoms (particularly sputum colour changes and increases in volume or thickness), need for hospitalisation, previous exacerbations, hospitalisations and risk of complications, previous sputum culture and susceptibility results, and risk of resistance with repeated courses. Some people at risk of exacerbations may have antibiotics to keep at home as part of their exacerbation action plan. <i>For detailed information click on the visual summary. See also the NICE guideline on COPD in over 16s.</i>	First choice: amoxicillin OR doxycycline OR clarithromycin	500mg TDS (see BNF for severe infection) 200mg on day 1, then 100mg OD (see BNF for severe infection) 500mg BD	- - -	5 days			
		Second choice: use alternative first choice						
		Alternative choice (if person at higher risk of treatment failure): co-amoxiclav OR co-trimoxazole OR levofloxacin (with specialist advice if co-amoxiclav or co-trimoxazole cannot be used; consider safety issues)	500/125mg TDS 960mg BD 500mg OD	- - -			5 days	
		IV antibiotics (click on visual summary)						



Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Acute exacerbation of bronchiectasis (non-cystic fibrosis) NICE Public Health England Last updated: Dec 2018	<p>Send a sputum sample for culture and susceptibility testing. Offer an antibiotic.</p> <p>When choosing an antibiotic, take account of severity of symptoms and risk of treatment failure. People who may be at higher risk of treatment failure include people who've had repeated courses of antibiotics, a previous sputum culture with resistant or atypical bacteria, or a higher risk of developing complications.</p> <p>Course length is based on severity of bronchiectasis, exacerbation history, severity of exacerbation symptoms, previous culture and susceptibility results, and response to treatment.</p> <p>Do not routinely offer antibiotic prophylaxis to prevent exacerbations.</p> <p>Seek specialist advice for preventing exacerbations in people with repeated acute exacerbations. This may include a trial of antibiotic prophylaxis after a discussion of the possible benefits and harms, and the need for regular review.</p> <p><i>For detailed information click on the visual summary.</i></p>	First choice empirical treatment: amoxicillin (preferred if pregnant) OR	500mg TDS		7 to 14 days	
		doxycycline (not in under 12s) OR	200mg on day 1, then 100mg OD			
		clarithromycin	500mg BD			
		Alternative choice (if person at higher risk of treatment failure) empirical treatment: co-amoxiclav OR	500/125mg TDS		7 to 14 days	
		levofloxacin (adults only: with specialist advice if co-amoxiclav cannot be used; consider safety issues) OR	500mg OD or BD			
		ciprofloxacin (children only: with specialist advice if co-amoxiclav cannot be used; consider safety issues)	-			
IV antibiotics (click on visual summary)						
When current susceptibility data available: choose antibiotics accordingly						


Infection	Key points	Medicine	Doses		Length	Visual summary	
			Adult	Child			
Acute cough NICE Public Health England Last updated: Feb 2019	<p>Some people may wish to try honey (in over 1s), the herbal medicine pelargonium (in over 12s), cough medicines containing the expectorant guaifenesin (in over 12s) or cough medicines containing cough suppressants, except codeine, (in over 12s). These self-care treatments have limited evidence for the relief of cough symptoms.</p> <p>Acute cough with upper respiratory tract infection: no antibiotic.</p> <p>Acute bronchitis: no routine antibiotic.</p> <p>Acute cough and higher risk of complications (at face-to-face examination): immediate or back-up antibiotic.</p> <p>Acute cough and systemically very unwell (at face to face examination): immediate antibiotic.</p> <p>Higher risk of complications includes people with pre-existing comorbidity; young children born prematurely; people over 65 with 2 or more of, or over 80 with 1 or more of: hospitalisation in previous year, type 1 or 2 diabetes, history of congestive heart failure, current use of oral corticosteroids.</p> <p>Do not offer a mucolytic, an oral or inhaled bronchodilator, or an oral or inhaled corticosteroid unless otherwise indicated.</p> <p><i>For detailed information click on the visual summary. See also the NICE guideline on pneumonia for prescribing antibiotics in adults with acute bronchitis who have had a C-reactive protein (CRP) test (CRP<20mg/l: no routine antibiotic, CRP 20 to 100mg/l: back-up antibiotic, CRP>100mg/l: immediate antibiotic).</i></p>	Adults first choice: doxycycline	200mg on day 1, then 100mg OD	-	5 days		
		Adults alternative first choices: amoxicillin (preferred if pregnant) OR clarithromycin OR erythromycin (preferred if pregnant)	500mg TDS	-			-
		clarithromycin OR erythromycin (preferred if pregnant)	250mg to 500mg BD	-			-
		erythromycin (preferred if pregnant)	250mg to 500mg QDS or 500mg to 1000mg BD	-			-
		Children first choice: amoxicillin	-		5 days		
		Children alternative first choices: clarithromycin OR erythromycin OR doxycycline (not in under 12s)	-				
		clarithromycin OR erythromycin OR doxycycline (not in under 12s)	-				
		doxycycline (not in under 12s)	-				


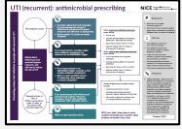



Infection	Key points	Medicine	Doses		Length	Visual summary		
			Adult	Child				
<p>Community-acquired pneumonia</p> <p>NICE</p> <p>Public Health England</p> <p>Last updated: Sept 2019</p>	<p>Assess severity in adults based on clinical judgement guided by mortality risk score (CRB65 or CURB65). See the NICE guideline on pneumonia for full details:</p> <p>low severity – CRB65 0 or CURB65 0 or 1 moderate severity – CRB65 1 or 2 or CURB65 2 high severity – CRB65 3 or 4 or CURB65 3 to 5.</p> <p>1 point for each parameter: confusion, (urea >7 mmol/l), respiratory rate ≥30/min, low systolic (<90 mm Hg) or diastolic (≤60 mm Hg) blood pressure, age ≥65.</p> <p>Assess severity in children based on clinical judgement.</p> <p>Offer an antibiotic. Start treatment as soon as possible after diagnosis, within 4 hours (within 1 hour if sepsis suspected and person meets any high risk criteria – see the NICE guideline on sepsis).</p> <p>When choosing an antibiotic, take account of severity, risk of complications, local antimicrobial resistance and surveillance data, recent antibiotic use and microbiological results.</p> <p>* Stop antibiotics after 5 days unless microbiological results suggest a longer course is needed or the person is not clinically stable.</p> <p><i>For detailed information click on the visual summary. See also the NICE guideline on pneumonia.</i></p>	<p>First choice (low severity in adults or non-severe in children): amoxicillin</p>	500mg TDS (higher doses can be used, see BNF)		5 days*			
		<p>Alternative first choice (low severity in adults or non-severe in children): doxycycline (not in under 12s) OR clarithromycin OR erythromycin (in pregnancy)</p>	200mg on day 1, then 100mg OD					
		<p>First choice (moderate severity in adults): amoxicillin AND (if atypical pathogens suspected) clarithromycin OR erythromycin (in pregnancy)</p>	500mg TDS (higher doses can be used, see BNF)	-				
		<p>Alternative first choice (moderate severity in adults): doxycycline OR clarithromycin</p>	200mg on day 1, then 100mg OD	-			5 days*	
		<p>First choice (high severity in adults or severe in children): co-amoxiclav AND (if atypical pathogens suspected) clarithromycin OR erythromycin (in pregnancy)</p>	500/125mg TDS					
		<p>Alternative first choice (high severity in adults): levofloxacin (consider safety issues)</p>	500mg BD	-				
				IV antibiotics (<i>click on visual summary</i>)				


Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Hospital-acquired pneumonia NICE Public Health England Last updated: Sept 2019	<p>If symptoms or signs of pneumonia start within 48 hours of hospital admission, see community acquired pneumonia.</p> <p>Offer an antibiotic. Start treatment as soon as possible after diagnosis, within 4 hours (within 1 hour if sepsis suspected and person meets any high risk criteria – see the NICE guideline on sepsis).</p> <p>When choosing an antibiotic, take account of severity of symptoms or signs, number of days in hospital before onset of symptoms, risk of developing complications, local hospital and ward-based antimicrobial resistance data, recent antibiotic use and microbiological results, recent contact with a health or social care setting before current admission, and risk of adverse effects with broad spectrum antibiotics.</p> <p>No validated severity assessment tools are available. Assess severity of symptoms or signs based on clinical judgement.</p> <p>Higher risk of resistance includes relevant comorbidity (such as severe lung disease or immunosuppression), recent use of broad spectrum antibiotics, colonisation with multi-drug resistant bacteria, and recent contact with health and social care settings before current admission.</p> <p>If symptoms or signs of pneumonia start within days 3 to 5 of hospital admission in people not at higher risk of resistance, consider following community acquired pneumonia for choice of antibiotic.</p> <p><i>For detailed information click on the visual summary. See also the NICE guideline on pneumonia.</i></p>	First choice (non-severe and not higher risk of resistance): co-amoxiclav	500/125 mg TDS		5 days then review	
		Adults alternative first choice (non-severe and not higher risk of resistance) Choice based on specialist microbiological advice and local resistance data Options include: doxycycline	200mg on day 1, then 100mg OD	-	5 days then review	
		cefalexin (caution in penicillin allergy)	500 mg BD or TDS (can increase to 1 to 1.5g TDS or QDS)	-		
		co-trimoxazole	960mg BD	-		
		levofloxacin (only if switching from IV levofloxacin with specialist advice; consider safety issues)	500mg OD or BD	-		
		Children alternative first choice (non-severe and not higher risk of resistance): clarithromycin Other options may be suitable based on specialist microbiological advice and local resistance data	-		-	
For first choice IV antibiotics (severe or higher risk of resistance) and antibiotics to be added if suspected or confirmed MRSA infection see visual summary						


Infection	Key points	Medicine	Doses		Length	Visual summary		
			Adult	Child				
▼ Urinary tract infections								
Lower urinary tract infection NICE Public Health England Last updated: Oct 2018	<p>Advise paracetamol or ibuprofen for pain.</p> <p>Non-pregnant women: back up antibiotic (to use if no improvement in 48 hours or symptoms worsen at any time) or immediate antibiotic.</p> <p>Pregnant women, men, children or young people: immediate antibiotic.</p> <p>When considering antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data.</p> <p>If people have symptoms of pyelonephritis (such as fever) or a complicated UTI, see acute pyelonephritis (upper urinary tract infection) for antibiotic choices.</p> <p><i>For detailed information click on the visual summary. See also the NICE guideline on urinary tract infection in under 16s: diagnosis and management and the Public Health England urinary tract infection: diagnostic tools for primary care.</i></p>	Non-pregnant women first choice: nitrofurantoin (if eGFR ≥45 ml/minute) OR trimethoprim (if low risk of resistance)	100mg m/r BD (or if unavailable 50mg QDS) 200mg BD	-	-	3 days		
		Non-pregnant women second choice: nitrofurantoin (if eGFR ≥45 ml/minute) OR pivmecillinam (a penicillin) OR fosfomycin	100mg m/r BD (or if unavailable 50mg QDS) 400mg initial dose, then 200mg TDS 3g single dose sachet	-	-	3 days 3 days single dose		
		Pregnant women first choice: nitrofurantoin (avoid at term) – if eGFR ≥45 ml/minute	100mg m/r BD (or if unavailable 50mg QDS)	-	-	7 days		
		Pregnant women second choice: amoxicillin (only if culture results available and susceptible) OR cefalexin	500mg TDS 500mg BD	-	-	7 days		
		Treatment of asymptomatic bacteriuria in pregnant women: choose from nitrofurantoin (avoid at term), amoxicillin or cefalexin based on recent culture and susceptibility results						
		Men first choice: trimethoprim OR nitrofurantoin (if eGFR ≥45 ml/minute)	200mg BD 100mg m/r BD (or if unavailable 50mg QDS)	-	-	7 days		
		Men second choice: consider alternative diagnoses basing antibiotic choice on recent culture and susceptibility results						






Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
		<p>Children and young people (3 months and over) first choice: trimethoprim (if low risk of resistance) OR</p> <p>nitrofurantoin (if eGFR ≥45 ml/minute)</p>	-			
		<p>Children and young people (3 months and over) second choice: nitrofurantoin (if eGFR ≥45 ml/minute and not used as first choice) OR</p> <p>amoxicillin (only if culture results available and susceptible) OR</p> <p>cefalexin</p>	-		-	
<p>Acute prostatitis</p> <p>NICE</p> <p>Public Health England</p> <p>Last updated: Oct 2018</p>	<p>Advise paracetamol (+/- low-dose weak opioid) for pain, or ibuprofen if preferred and suitable. Offer antibiotic.</p> <p>Review antibiotic treatment after 14 days and either stop antibiotics or continue for a further 14 days if needed (based on assessment of history, symptoms, clinical examination, urine and blood tests).</p> <p><i>For detailed information click on the visual summary.</i></p>	<p>First choice (guided by susceptibilities when available): ciprofloxacin (consider safety issues) OR</p>	500mg BD	-	14 days then review	
		ofloxacin (consider safety issues) OR	200mg BD	-		
		trimethoprim (if fluoroquinolone not appropriate; seek specialist advice)	200mg BD	-		
		<p>Second choice (after discussion with specialist): levofloxacin (consider safety issues) OR</p> <p>co-trimoxazole</p>	500mg OD	-	14 days, then review	
			960mg BD	-		
		IV antibiotics (<i>click on visual summary</i>)				






Infection	Key points	Medicine	Doses		Length	Visual summary		
			Adult	Child				
Acute pyelonephritis (upper urinary tract) NICE Public Health England Last updated: Oct 2018	Advise paracetamol (+/- low-dose weak opioid) for pain for people over 12. Offer an antibiotic. When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data. Avoid antibiotics that don't achieve adequate levels in renal tissue, such as nitrofurantoin. <i>For detailed information click on the visual summary. See also the NICE guideline on urinary tract infection in under 16s: diagnosis and management and the Public Health England urinary tract infection: diagnostic tools for primary care.</i>	Non-pregnant women and men first choice: cefalexin OR	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	-	7 to 10 days			
		co-amoxiclav (only if culture results available and susceptible) OR	500/125mg TDS	-	7 to 10 days			
		trimethoprim (only if culture results available and susceptible) OR	200mg BD	-	14 days			
		ciprofloxacin (consider safety issues)	500mg BD	-	7 days			
		Non-pregnant women and men IV antibiotics (click on visual summary)						
		Pregnant women first choice: cefalexin	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	-	7 to 10 days			
		Pregnant women second choice or IV antibiotics (click on visual summary)						
		Children and young people (3 months and over) first choice: cefalexin OR	-	-	-			
		co-amoxiclav (only if culture results available and susceptible)	-	-	-			
		Children and young people (3 months and over) IV antibiotics (click on visual summary)						

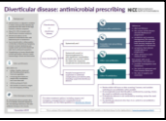

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Recurrent urinary tract infection NICE Public Health England Last updated Oct 2018	<p>First advise about behavioural and personal hygiene measures, and self-care (with D-mannose or cranberry products) to reduce the risk of UTI.</p> <p>For postmenopausal women, if no improvement, consider vaginal oestrogen (review within 12 months).</p> <p>For non-pregnant women, if no improvement, consider single-dose antibiotic prophylaxis for exposure to a trigger (review within 6 months).</p> <p>For non-pregnant women (if no improvement or no identifiable trigger) or with specialist advice for pregnant women, men, children or young people, consider a trial of daily antibiotic prophylaxis (review within 6 months).</p> <p>For detailed information click on the visual summary. See also the NICE guideline on urinary tract infection in under 16s: diagnosis and management and the Public Health England urinary tract infection: diagnostic tools for primary care.</p>	First choice antibiotic prophylaxis: trimethoprim (avoid in pregnancy) OR	200mg single dose when exposed to a trigger or 100mg at night		-	
		nitrofurantoin (avoid at term) - if eGFR ≥ 45 ml/minute	100mg single dose when exposed to a trigger or 50 to 100mg at night		-	
		Second choice antibiotic prophylaxis: amoxicillin OR	500mg single dose when exposed to a trigger or 250mg at night		-	
		cefalexin	500mg single dose when exposed to a trigger or 125mg at night		-	

Infection	Key points	Medicine	Doses		Length	Visual summary		
			Adult	Child				
Catheter-associated urinary tract infection NICE Public Health England Last updated: Nov 2018	<p>Antibiotic treatment is not routinely needed for asymptomatic bacteriuria in people with a urinary catheter.</p> <p>Consider removing or, if not possible, changing the catheter if it has been in place for more than 7 days. But do not delay antibiotic treatment.</p> <p>Advise paracetamol for pain.</p> <p>Advise drinking enough fluids to avoid dehydration.</p> <p>Offer an antibiotic for a symptomatic infection.</p> <p>When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data.</p> <p>Do not routinely offer antibiotic prophylaxis to people with a short-term or long-term catheter.</p> <p><i>For detailed information click on the visual summary. See also the Public Health England urinary tract infection: diagnostic tools for primary care.</i></p>	Non-pregnant women and men first choice if no upper UTI symptoms: nitrofurantoin (if eGFR ≥45 ml/minute) OR	100mg m/r BD (or if unavailable 50mg QDS)	-	7 days			
		trimethoprim (if low risk of resistance) OR	200mg BD	-				
		amoxicillin (only if culture results available and susceptible)	500mg TDS	-				
		Non-pregnant women and men second choice if no upper UTI symptoms: pivmecillinam (a penicillin)	400mg initial dose, then 200mg TDS	-	7 days			
		Non-pregnant women and men first choice if upper UTI symptoms: cefalexin OR	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	-	7 to 10 days			
		co-amoxiclav (only if culture results available and susceptible) OR	500/125mg TDS	-				
		trimethoprim (only if culture results available and susceptible) OR	200mg BD	-	14 days			
		ciprofloxacin (consider safety issues)	500mg BD	-	7 days			
		Non-pregnant women and men IV antibiotics (<i>click on visual summary</i>)						
		Pregnant women first choice: cefalexin	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	-	7 to 10 days			
Pregnant women second choice or IV antibiotics (<i>click on visual summary</i>)								

Infection	Key points	Medicine	Doses		Length	Visual summary	
			Adult	Child			
		Children and young people (3 months and over) first choice: trimethoprim (if low risk of resistance) OR amoxicillin (only if culture results available and susceptible) OR cefalexin OR co-amoxiclav (only if culture results available and susceptible)	-	-	-		
							
		Children and young people (3 months and over) IV antibiotics (<i>click on visual summary</i>)					
▼ Meningitis							
Suspected meningococcal disease Public Health England Last updated: Feb 2019	Transfer all patients to hospital immediately. ^{1D} If time before hospital admission, ^{2D,3A+} if suspected meningococcal septicaemia or non-blanching rash, ^{2D,4D} give IV benzylpenicillin ^{1D,2D,4D} as soon as possible. ^{2D} Do not give IV antibiotics if there is a definite history of anaphylaxis; ^{1D} rash is not a contraindication. ^{1D}	IV or IM benzylpenicillin ^{1D,2D}	Child <1 year: 300mg ^{5D} Child 1 to 9 years: 600mg ^{5D} Adult/child 10+ years: 1.2g ^{5D}	Stat dose; ^{1D} give IM, if vein cannot be accessed ^{1D}	<i>Not available. Access the supporting evidence and rationales on the PHE website</i>		
Prevention of secondary case of meningitis Public Health England Last updated: July 2019	Only prescribe following advice from your local health protection specialist/consultant: ☎ [INSERT PHONE NUMBER] Out of hours: contact on-call doctor: ☎ [INSERT PHONE NUMBER] Expert advice is available for managing clusters of meningitis. Please alert the appropriate organisation to any cluster situation. Public Health England, Colindale (tel: 0208 200 4400) AWARe (all Wales Acute Response team) (tel: 0300 003 0032) Access the supporting evidence and rationales on the PHE website .						

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ Gastrointestinal tract infections						
Oral candidiasis Public Health England Last updated: Oct 2018	Topical azoles are more effective than topical nystatin. ^{1A+} Oral candidiasis is rare in immunocompetent adults; ^{2D} consider undiagnosed risk factors, including HIV. ^{2D} Use 50mg fluconazole if extensive/severe candidiasis; ^{3D,4D} if HIV or immunocompromised, use 100mg fluconazole. ^{3D,4D}	Miconazole oral gel ^{1A+,4D,5A-}	2.5ml of 24mg/ml QDS (hold in mouth after food) ^{4D}		7 days; continue for 7 days after resolved ^{4D,6D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		If not tolerated: nystatin suspension ^{2D,6D,7A-}	1ml; 100,000units/ml QDS (half in each side) ^{2D,4D,7A-}		7 days; continue for 2 days after resolved ^{4D}	
		fluconazole capsules ^{6D,7A-}	50mg/100mg OD ^{3D,6D,8A-}		7 to 14 days ^{6D,7A-,8A-}	
Infectious diarrhoea Public Health England Last updated: Oct 2018	Refer previously healthy children with acute painful or bloody diarrhoea, to exclude <i>E. coli</i> O157 infection. ^{1D} Antibiotic therapy is not usually indicated unless patient is systemically unwell. ^{2D} If systemically unwell and campylobacter suspected (such as undercooked meat and abdominal pain), ^{3D} consider clarithromycin 250mg to 500mg BD for 5 to 7 days, if treated early (within 3 days). ^{3D,4A+} If giardia is confirmed or suspected – tinidazole 2g single dose is the treatment of choice. ^{5A+} <i>Access the supporting evidence and rationales on the PHE website.</i>					
Clostridium difficile Public Health England Last updated: Oct 2018	Review need for antibiotics, ^{1D,2D} PPIs, ^{3B-} and antiperistaltic agents and discontinue use where possible. ^{2D} Mild cases (<4 episodes of stool/day) may respond without metronidazole; ^{2D} 70% respond to metronidazole in 5 days; 92% respond to metronidazole in 14 days. ^{4B-} If severe (T>38.5, or WCC>15, rising creatinine, or signs/symptoms of severe colitis): ^{2D} treat with oral vancomycin, ^{1D,2D,5A-} review progress closely, ^{1D,2D} and consider hospital referral. ^{2D}	First episode: metronidazole ^{2D,4B-}	400mg TDS ^{1D,2D}		10 to 14 days ^{1D,4B-}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		Severe, type 027 or recurrent: oral vancomycin ^{1D,2D,5A-}	125mg QDS ^{1D,2D,5A-}		10 to 14 days, ^{1D,2D} then taper ^{2D}	
		Recurrent or second line: fidaxomicin ^{2D,5A-}	200mg BD ^{5A-}	-	10 days ^{5A-}	
Traveller's diarrhoea Public Health England Last updated: Oct 2018	Prophylaxis rarely, if ever, indicated. ^{1D} Consider standby antimicrobial only for patients at high risk of severe illness, ^{2D} or visiting high-risk areas. ^{1D,2D}	Standby: azithromycin	500mg OD ^{1D,3A+}	-	1 to 3 days ^{1D,2D,3A+}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		Prophylaxis/treatment: bismuth subsalicylate	2 tablets QDS ^{1D,2D}	-	2 days ^{1D,2D,4A-}	





Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
<p>Helicobacter pylori</p> <p>Public Health England</p> <p>See PHE quick reference guide for diagnostic advice: PHE H. pylori</p> <p>Last updated: Feb 2019</p>	<p>Always test for <i>H. pylori</i> before giving antibiotics. Treat all positives, if known DU, GU,^{1A+} or low-grade MALToma.^{2D,3D} NNT in non-ulcer dyspepsia: 14.^{4A+}</p> <p>Do not offer eradication for GORD.^{3D}</p> <p>Do not use clarithromycin, metronidazole or quinolone if used in the past year for any infection.^{5A+,6B+,7A+}</p> <p>Penicillin allergy: use PPI PLUS clarithromycin PLUS metronidazole.^{2D} If previous clarithromycin, use PPI PLUS bismuth salt PLUS metronidazole PLUS tetracycline hydrochloride.^{2D,8A-,9D}</p> <p>Relapse and no penicillin allergy use PPI PLUS amoxicillin PLUS clarithromycin or metronidazole (whichever was not used first line)^{2D}</p> <p>Relapse and previous metronidazole and clarithromycin: use PPI PLUS amoxicillin PLUS either tetracycline OR levofloxacin (if tetracycline not tolerated).^{2D,7A+}</p> <p>Relapse and penicillin allergy (no exposure to quinolone): use PPI PLUS metronidazole PLUS levofloxacin.^{2D}</p> <p>Relapse and penicillin allergy (with exposure to quinolone): use PPI PLUS bismuth salt PLUS metronidazole PLUS tetracycline.^{2D}</p> <p>Retest for <i>H. pylori</i>: post DU/GU, or relapse after second-line therapy,^{1A+} using UBT or SAT,^{10A+,11A+} consider referral for endoscopy and culture.^{2D}</p>	<p>Always use PPI^{2D,3D,5A+,12A+}</p> <p>First line and first relapse and no penicillin allergy</p> <p>PPI PLUS 2 antibiotics</p>	-		<p>7 days^{2D}</p> <p>MALToma</p> <p>14 days^{7A+,16A+}</p>	<p>Not available. Access supporting evidence and rationales on the PHE website</p>
		amoxicillin ^{2D,6B+} PLUS	1000mg BD ^{14A+}			
		clarithromycin ^{2D,6B+} OR	500mg BD ^{8A-}			
		metronidazole ^{2D,6B+}	400mg BD ^{2D}			
		Penicillin allergy and previous clarithromycin:	-	-		
		PPI WITH bismuth subsalicylate PLUS 2 antibiotics				
		bismuth subsalicylate ^{13A+} PLUS	525mg QDS ^{15D}			
		metronidazole ^{2D} PLUS	400mg BD ^{2D}			
		tetracycline ^{2D}	500mg QDS ^{15D}			
		Relapse and previous metronidazole and clarithromycin:	-	-		
		PPI PLUS 2 antibiotics				
		amoxicillin ^{2D,7A+} PLUS	1000mg BD ^{14A+}			
		tetracycline ^{2D,7A+} OR	500mg QDS ^{15D}			
		levofloxacin (if tetracycline cannot be used) ^{2D,7A+}	250mg BD ^{7A+}			
Third line on advice:	-	-				
PPI WITH						
bismuth subsalicylate PLUS	525mg QDS ^{15D}	-				
2 antibiotics as above not previously used OR	-	-				
rifabutin ^{14A+} OR	150mg BD	-				
furazolidone ^{17A+}	200mg BD	-				

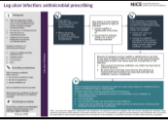






Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Acute diverticulitis NICE Last updated: Nov 2019	Acute diverticulitis and systemically well: Consider no antibiotics, offer simple analgesia (for example paracetamol), advise to re-present if symptoms persist or worsen. Acute diverticulitis and systemically unwell, immunosuppressed or significant comorbidity: offer an antibiotic. Give oral antibiotics if person not referred to hospital for suspected complicated acute diverticulitis. Give IV antibiotics if admitted to hospital with suspected or confirmed complicated acute diverticulitis (including diverticular abscess). If CT-confirmed uncomplicated acute diverticulitis, review the need for antibiotics. * A longer course may be needed based on clinical assessment.	First-choice (uncomplicated acute diverticulitis): co-amoxiclav	500/125mg TDS	-	5 days*	
		Penicillin allergy or co-amoxiclav unsuitable: cefalexin (caution in penicillin allergy) AND metronidazole OR	cefalexin: 500mg BD or TDS (up to 1g to 1.5g TDS for severe infections) metronidazole: 400mg TDS	-		
		trimethoprim AND metronidazole OR	trimethoprim: 200mg BD metronidazole: 400mg TDS	-		
		ciprofloxacin (only if switching from IV ciprofloxacin with specialist advice; consider safety issues) AND metronidazole	ciprofloxacin: 500mg BD metronidazole: 400mg TDS	-		
		For IV antibiotics in complicated acute diverticulitis (including diverticular abscess) see visual summary				
Threadworm Public Health England Last updated: Nov 2017	Treat all household contacts at the same time. ^{1D} Advise hygiene measures for 2 weeks ^{1D} (hand hygiene; ^{2D} pants at night; morning shower, including perianal area). ^{1D,2D} Wash sleepwear, bed linen, and dust and vacuum. ^{1D} Child <6 months , add perianal wet wiping or washes 3 hourly. ^{1D}	Child >6 months: mebendazole ^{1D,3B-}	100mg stat ^{3B-}		1 dose; ^{3B-} repeat in 2 weeks if persistent ^{3B-}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		Child <6 months or pregnant (at least in first trimester): only hygiene measure for 6 weeks ^{1D}	-	-	-	
▼ Genital tract infections						
STI screening Public Health England Last updated: Nov 2017	People with risk factors should be screened for chlamydia, gonorrhoea, HIV and syphilis. ^{1D} Refer individual and partners to GUM. ^{1D} Risk factors: <25 years; no condom use; recent/frequent change of partner; symptomatic or infected partner; area of high HIV. ^{2B-} <i>Access the supporting evidence and rationales on the PHE website.</i>					

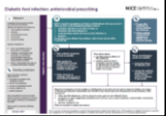


Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Chlamydia trachomatis/ urethritis Public Health England Last updated: July 2019	<p>Opportunistically screen all sexually active patients aged 15 to 24 years for chlamydia annually and on change of sexual partner.^{1B-}</p> <p>If positive, treat index case, refer to GUM and initiate partner notification, testing and treatment.^{2D,3A+}</p> <p>As single dose azithromycin has led to increased resistance in GU infections, doxycycline should be used first line for chlamydia and urethritis.^{4A+}</p> <p>Advise patient with chlamydia to abstain from sexual intercourse until doxycycline is completed or for 7 days after treatment with azithromycin (14 days after azithromycin started and until symptoms resolved if urethritis).^{3A+,4A+}</p> <p>If chlamydia, test for reinfection at 3 to 6 months following treatment if under 25 years; or consider if over 25 years and high risk of re-infection.^{1B-,3B+, 5B-}</p> <p>Second line, pregnant, breastfeeding, allergy, or intolerance: azithromycin is most effective.^{6A+,7D,8A+,9A+,10D} As lower cure rate in pregnancy, test for cure at least 3 weeks after end of treatment.^{3A+}</p> <p>Consider referring all patients with symptomatic urethritis to GUM as testing should include <i>Mycoplasma genitalium</i> and <i>Gonorrhoea</i>.^{11A-}</p> <p>If <i>M.genitalium</i> is proven, use doxycycline followed by azithromycin using the same dosing regimen and advise to avoid sex for 14 days after start of treatment and until symptoms have resolved.^{11A-,12A+}</p>	First line: doxycycline ^{4A+,11A-,12A+}	100mg BD ^{4A+,11A-,12A+}		7 days ^{4A+,11A-,12A+}	Not available. Access supporting evidence and rationales on the PHE website
		Second line/ pregnant/breastfeeding/ allergy/intolerance: azithromycin ^{4A+,11A-,12A+}	1000mg ^{4A+,11A-,12A+} then 500mg OD ^{4A+,11A-,12A+}		Stat ^{4A+,11A-,12A+} 2 days ^{4A+,11A-,12A+} (total 3 days)	












Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Epididymitis Public Health England Last updated: Nov 2017	Usually due to Gram-negative enteric bacteria in men over 35 years with low risk of STI. ^{1A+,2D} If under 35 years or STI risk, refer to GUM. ^{1A+,2D}	Doxycycline ^{1A+,2D} OR	100mg BD ^{1A+,2D}	-	10 to 14 days ^{1A+,2D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		ofloxacin ^{1A+,2D} OR	200mg BD ^{1A+,2D}		14 days ^{1A+,2D}	
		ciprofloxacin ^{1A+,2D}	500mg BD ^{1A+,2D,3A+}		10 days ^{1A+,2D,3A+}	
Vaginal candidiasis Public Health England Last updated: Oct 2018	All topical and oral azoles give over 80% cure. ^{1A+,2A+} Pregnant: avoid oral azoles, the 7 day courses are more effective than shorter ones. ^{1A+,3D,4A+} Recurrent (>4 episodes per year): ^{1A+} 150mg oral fluconazole every 72 hours for 3 doses induction, ^{1A+} followed by 1 dose once a week for 6 months maintenance. ^{1A+}	Clotrimazole ^{1A+,5D} OR	500mg pessary ^{1A+}	-	Stat ^{1A+}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		fenticonazole ^{1A+} OR	600mg pessary ^{1A+}		Stat ^{1A+}	
		clotrimazole ^{1A+} OR	100mg pessary ^{1A+}		6 nights ^{1A+}	
		oral fluconazole ^{1A+,3D}	150mg ^{1A+,3D}		Stat ^{1A+}	
		If recurrent: fluconazole (induction/maintenance) ^{1A+}	150mg every 72 hours THEN 150mg once a week ^{1A+,3D}		3 doses 6 months ^{1A+}	
Bacterial vaginosis Public Health England Last updated: Nov 2017	Oral metronidazole is as effective as topical treatment, ^{1A+} and is cheaper. ^{2D} 7 days results in fewer relapses than 2g stat at 4 weeks. ^{1A+,2D} Pregnant/breastfeeding: avoid 2g dose. ^{3A+,4D} Treating partners does not reduce relapse. ^{5A+}	oral metronidazole ^{1A+,3A+} OR	400mg BD ^{1A+,3A+} OR 2000mg ^{1A+,2D}	-	7 days ^{1A+} OR Stat ^{2D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		metronidazole 0.75% vaginal gel ^{1A+,2D,3A+} OR	5g applicator at night ^{1A+,2D,3A+}		5 nights ^{1A+,2D,3A+}	
		clindamycin 2% cream ^{1A+,2D}	5g applicator at night ^{1A+,2D}		7 nights ^{1A+,2D,3A+}	
Genital herpes Public Health England Last updated: Nov 2017	Advise: saline bathing, ^{1A+} analgesia, ^{1A+} or topical lidocaine for pain, ^{1A+} and discuss transmission. ^{1A+} First episode: treat within 5 days if new lesions or systemic symptoms, ^{1A+,2D} and refer to GUM. ^{2D} Recurrent: self-care if mild, ^{2D} or immediate short course antiviral treatment, ^{1A+,2D} or suppressive therapy if more than 6 episodes per year. ^{1A+,2D}	oral aciclovir ^{1A+,2D,3A+,4A+} OR	400mg TDS ^{1A+,3A+} OR 800mg TDS (if recurrent) ^{1A+}	-	5 days ^{1A+} OR 2 days ^{1A+}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		valaciclovir ^{1A+,3A+,4A+} OR	500mg BD ^{1A+}		5 days ^{1A+}	
		famciclovir ^{1A+,4A+}	250mg TD ^{1A+} OR 1000mg BD (if recurrent) ^{1A+}		5 days ^{1A+}	
					1 day ^{1A+}	






Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Gonorrhoea Public Health England Last updated: Feb 2019	Antibiotic resistance is now very high. ^{1D,2D} Use IM ceftriaxone if susceptibility not known prior to treatment ^{2D} . Use Ciprofloxacin only If susceptibility is known prior to treatment and the isolate is sensitive to ciprofloxacin at all sites of infection ^{1D,2D} Refer to GUM. ^{3B-} Test of cure is essential. ^{2D}	ceftriaxone ^{2D} OR	1000mg IM ^{2D}		Stat ^{2D}	<i>Not available.</i> Access supporting evidence and rationales on the PHE website
		ciprofloxacin ^{2D} (only if known to be sensitive)	500mg ^{2D}	-	Stat ^{2D}	
Trichomoniasis Public Health England Last updated: Nov 2017	Oral treatment needed as extrvaginal infection common. ^{1D} Treat partners, ^{1D} and refer to GUM for other STIs. ^{1D} Pregnant/breastfeeding: avoid 2g single dose metronidazole, ^{2A+,3D} clotrimazole for symptom relief (not cure) if metronidazole declined. ^{2A+,4A-,5D}	metronidazole ^{1A+,2A+,3D,6A+}	400mg BD ^{1A+,6A+} 2g (more adverse effects) ^{6A+}		5 to 7 day ^{1A+} Stat ^{1A+,6A+}	<i>Not available.</i> Access supporting evidence and rationales on the PHE website
		Pregnancy to treat symptoms: clotrimazole ^{2A+,4A-,5D}	100mg pessary at night ^{5D}	-	6 nights ^{5D}	
Pelvic inflammatory disease Public Health England Last updated: Feb 2019	Refer women and sexual contacts to GUM. ^{1A+} Raised CRP supports diagnosis, absent pus cells in HVS smear good negative predictive value. ^{1A+} Exclude: ectopic pregnancy, appendicitis, endometriosis, UTI, irritable bowel, complicated ovarian cyst, functional pain. Moxifloxacin has greater activity against likely pathogens, but always test for gonorrhoea, chlamydia, and <i>M. genitalium</i> . ^{1A+} If <i>M. genitalium</i> tests positive use moxifloxacin. ^{1A+}	First line therapy: ceftriaxone ^{1A+,3C,4C} PLUS	1000mg IM ^{1A+,3C}		Stat ^{1A+,3C}	<i>Not available.</i> Access supporting evidence and rationales on the PHE website
		metronidazole ^{1A+,5A+} PLUS	400mg BD ^{1A+}		14 days ^{1A+}	
		doxycycline ^{1A+,5A+}	100mg BD ^{1A+}		14 days ^{1A+}	
		Second line therapy: metronidazole ^{1A+,5A+} PLUS	400mg BD ^{1A+}		14 days ^{1A+}	
		ofloxacin ^{1A+,2A-,5A+} OR	400mg BD ^{1A+,2A-}		14 days ^{1A+}	
		moxifloxacin alone ^{1A+} (first line for <i>M. genitalium</i> associated PID)	400mg OD ^{1A+}		14 days ^{1A+}	
▼ Skin and soft tissue infections						
<i>Note: Refer to RCGP Skin Infections online training.^{1D} For MRSA, discuss therapy with microbiologist.^{1D}</i>						
Cold sores Public Health England Last updated: Nov 2017	Most resolve after 5 days without treatment. ^{1A-,2A-} Topical antivirals applied prodromally can reduce duration by 12 to 18 hours. ^{1A-,2A-,3A-} If frequent, severe, and predictable triggers: consider oral prophylaxis: ^{4D,5A+} aciclovir 400mg, twice daily, for 5 to 7 days. ^{5A+,6A+} Access supporting evidence and rationales on the PHE website					





Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
PVL-SA Public Health England Last updated: Nov 2017	Panton-Valentine leukocidin (PVL) is a toxin produced by 20.8 to 46% of <i>S. aureus</i> from boils/abscesses. ^{1B+,2B+,3B-} PVL strains are rare in healthy people, but severe. ^{2B+} Suppression therapy should only be started after primary infection has resolved, as ineffective if lesions are still leaking. ^{4D} Risk factors for PVL: recurrent skin infections; ^{2B+} invasive infections; ^{2B+} MSM; ^{3B-} if there is more than one case in a home or close community ^{2B+,3B-} (school children; ^{3B-} military personnel; ^{3B-} nursing home residents; ^{3B-} household contacts). ^{3B-} Access the supporting evidence and rationales on the PHE website .					
Eczema Public Health England Last updated: Nov 2017	No visible signs of infection: antibiotic use (alone or with steroids) ^{1A+} encourages resistance and does not improve healing. ^{1A+} With visible signs of infection: use oral flucloxacillin ^{2D} or clarithromycin, ^{2D} or topical treatment (as in impetigo). ^{2D} Access the supporting evidence and rationales on the PHE website .					
Impetigo NICE Public Health England Last updated: Feb 2020	Localised non-bullous impetigo: Hydrogen peroxide 1% cream (other topical antiseptics are available but no evidence for impetigo). If hydrogen peroxide unsuitable or ineffective, short-course topical antibiotic. Widespread non-bullous impetigo: Short-course topical or oral antibiotic. Take account of person's preferences, practicalities of administration, previous use of topical antibiotics because antimicrobial resistance can develop rapidly with extended or repeated use, and local antimicrobial resistance data. Bullous impetigo, systemically unwell, or high risk of complications: Short-course oral antibiotic. Do not offer combination treatment with a topical and oral antibiotic to treat impetigo. *5 days is appropriate for most, can be increased to 7 days based on clinical judgement. <i>For detailed information click on the visual summary.</i>	Topical antiseptic: hydrogen peroxide 1% BD or TDS  5 days* Topical antibiotic: First choice: fusidic acid 2% TDS Fusidic acid resistance suspected or confirmed: mupirocin 2%  5 days* Oral antibiotic: First choice: flucloxacillin 500mg QDS Penicillin allergy or flucloxacillin unsuitable: clarithromycin OR erythromycin (in pregnancy) 250mg BD / 250 to 500mg QDS  5 days* If MRSA suspected or confirmed – consult local microbiologist				










Infection	Key points	Medicine	Doses		Length	Visual summary	
			Adult	Child			
Leg ulcer infection NICE Public Health England Last updated: Feb 2020	Manage any underlying conditions to promote ulcer healing. Only offer an antibiotic when there are symptoms or signs of infection (such as redness or swelling spreading beyond the ulcer, localised warmth, increased pain or fever). Few leg ulcers are clinically infected but most are colonised by bacteria. When prescribing antibiotics, take account of severity, risk of complications and previous antibiotic use. <i>For detailed information click on the visual summary.</i>	First-choice:					
		flucloxacillin	500mg to 1g QDS	-	7 days		
		Penicillin allergy or if flucloxacillin unsuitable:					
		doxycycline OR	200mg on day 1, then 100mg OD (can be increased to 200mg daily)	-	7 days		
		clarithromycin OR	500mg BD				
		erythromycin (in pregnancy)	500mg QDS				
		Second choice:					
		co-amoxiclav OR	500/125mg TDS	-	7 days		
co-trimoxazole (in penicillin allergy)	960mg BD						
For antibiotic choices if severely unwell or MRSA suspected or confirmed, click on the visual summary							
Cellulitis and erysipelas NICE Public Health England Last updated: Sept 2019	Exclude other causes of skin redness (inflammatory reactions or non-infectious causes). Consider marking extent of infection with a single-use surgical marker pen. Offer an antibiotic. Take account of severity, site of infection, risk of uncommon pathogens, any microbiological results and MRSA status. Infection around eyes or nose is more concerning because of serious intracranial complications. *A longer course (up to 14 days in total) may be needed but skin takes time to return to normal, and full resolution at 5 to 7 days is not expected. Do not routinely offer antibiotics to prevent recurrent cellulitis or erysipelas. <i>For detailed information click on the visual summary.</i>	First choice:					
		flucloxacillin	500mg to 1g QDS		5 to 7 days*		
		Penicillin allergy or if flucloxacillin unsuitable:					
		clarithromycin OR	500mg BD				
		erythromycin (in pregnancy) OR	500mg QDS				
		doxycycline (adults only) OR	200mg on day 1, then 100mg OD	-	5 to 7 days*		
		co-amoxiclav (children only: not in penicillin allergy)	-				
		If infection near eyes or nose:					
		co-amoxiclav	500/125mg TDS		7 days*		
		If infection near eyes or nose (penicillin allergy):					
clarithromycin AND	500mg BD						
metronidazole (only add in children if anaerobes suspected)	400mg TDS		7 days*				
For alternative choice antibiotics for severe infection, suspected or confirmed MRSA infection and IV antibiotics click on the visual summary							









Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Diabetic foot infection NICE Public Health England Last updated: Oct 2019	<p>In diabetes, all foot wounds are likely to be colonised with bacteria. Diabetic foot infection has at least 2 of: local swelling or induration; erythema; local tenderness or pain; local warmth; purulent discharge.</p> <p>Severity is classified as:</p> <p>Mild: local infection with 0.5 to less than 2cm erythema</p> <p>Moderate: local infection with more than 2cm erythema or involving deeper structures (such as abscess, osteomyelitis, septic arthritis or fasciitis)</p> <p>Severe: local infection with signs of a systemic inflammatory response.</p> <p>Start antibiotic treatment as soon as possible.</p> <p>Take samples for microbiological testing before, or as close as possible to, the start of treatment</p> <p>When choosing an antibiotic, take account of severity, risk of complications, previous microbiological results and antibiotic use, and patient preference.</p> <p>*A longer course (up to a further 7 days) may be needed based on clinical assessment. However, skin does take time to return to normal, and full resolution at 7 days is not expected.</p> <p>Do not offer antibiotics to prevent diabetic foot infection.</p> <p><i>For detailed information click on the visual summary.</i></p>	Mild infection: first choice				
		flucloxacillin	500mg to 1g QDS	-	7 days*	
		Mild infection (penicillin allergy):				
		clarithromycin OR erythromycin (in pregnancy) OR doxycycline	500mg BD 500mg QDS 200mg on day 1, then 100mg OD (can be increased to 200mg daily)	-	7 days*	
<p>For antibiotic choices for moderate or severe infection, infections where <i>Pseudomonas aeruginosa</i> or MRSA is suspected or confirmed, and IV antibiotics click on the visual summary</p>						
Tick bites (Lyme disease) Public Health England Last updated: Feb 2020	<p>Treatment: Treat erythema migrans empirically; serology is often negative early in infection.^{1D}</p> <p>For other suspected Lyme disease such as neuroborreliosis (CN palsy, radiculopathy) seek advice.^{1D}</p>	Treatment: doxycycline ^{1D}	100mg BD ^{1D}		21 days ^{1D}	Not available. Access supporting evidence and rationales on the PHE website
		Alternative: amoxicillin ^{1D}	1,000mg TDS ^{1D}			

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Acne Public Health England Last updated: Nov 2017	Mild (open and closed comedones) ^{1D} or moderate (inflammatory lesions): ^{1D} First line: self-care ^{1D} (wash with mild soap; do not scrub; avoid make-up). ^{1D} Second line: topical retinoid or benzoyl peroxide. ^{2D} Third-line: add topical antibiotic, ^{1D,3A+} or consider addition of oral antibiotic. ^{1D} Severe (nodules and cysts): ^{1D} add oral antibiotic (for 3 months max) ^{1D,3A+} and refer. ^{1D,2D}	Second line: topical retinoid ^{1D,2D,3A+} OR	Thinly OD ^{3A+}		6 to 8 weeks ^{1D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		benzoyl peroxide ^{1A-,2D,3A+,4A-}	5% cream OD-BD ^{3A+}		6 to 8 weeks ^{1D}	
		Third-line: topical clindamycin ^{3A+}	1% cream, thinly BD ^{3A+}		12 weeks ^{1A-,2D}	
		If treatment failure/severe: oral tetracycline ^{1A-,3A+} OR	500mg BD ^{3A+}		6 to 12 weeks ^{3A+}	
		oral doxycycline ^{3A+,4A-}	100mg OD ^{3A+}		6 to 12 weeks ^{3A+}	
Scabies Public Health England Last updated: Oct 2018	First choice permethrin: Treat whole body from ear/chin downwards, ^{1D,2D} and under nails. ^{1D,2D} If using permethrin and patient is under 2 years, elderly or immunosuppressed, or if treating with malathion: also treat face and scalp. ^{1D,2D} Home/sexual contacts: treat within 24 hours. ^{1D}	permethrin ^{1D,2D,3A+}	5% cream ^{1D,2D}		2 applications, 1 week apart ^{1D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		Permethrin allergy: malathion ^{1D}	0.5% aqueous liquid ^{1D}			
Bites Public Health England Last updated: July 2019	Human: thorough irrigation is important. ^{1A+,2D} Antibiotic prophylaxis is advised. ^{1A+,2D,3D} Assess risk of tetanus, rabies, ^{1A+} HIV, and hepatitis B and C. ^{3D} Cat: always give prophylaxis. ^{1A+,3D} Dog: give prophylaxis if: puncture wound; ^{1A+,3D} bite to hand, foot, face, joint, tendon, or ligament; ^{1A+} immunocompromised; cirrhotic; asplenic; or presence of prosthetic valve/joint. ^{2D,4A+} Penicillin allergy: Review all at 24 and 48 hours, ^{3D} as not all pathogens are covered. ^{2D,3}	Prophylaxis/treatment all: co-amoxiclav ^{2D,3D}	375mg to 625mg TDS ^{3D}		7 days ^{3D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		Human + penicillin allergy: metronidazole ^{3D,4A+} AND	400mg TDS ^{2D}		7 days ^{3D}	
		clarithromycin ^{3D,4A+}	250mg to 500mg BD ^{2D}		7 days ^{3D}	
		Animal + penicillin allergy: metronidazole ^{3D,4A+} AND	400mg TDS ^{2D}		7 days ^{3D}	
		doxycycline ^{3D}	100mg BD ^{2D}			

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Mastitis Public Health England Last updated: Nov 2017	<p><i>S. aureus</i> is the most common infecting pathogen.^{1D} Suspect if woman has: a painful breast;^{2D} fever and/or general malaise;^{2D} a tender, red breast.^{2D}</p> <p>Breastfeeding: oral antibiotics are appropriate, where indicated.^{2D,3A+} Women should continue feeding,^{1D,2D} including from the affected breast.^{2D}</p>	flucloxacillin ^{2D}	500mg QDS ^{2D}	-	10 to 14 days ^{2D}	Not available. Access supporting evidence and rationales on the PHE website
		Penicillin allergy: erythromycin ^{2D} OR	250mg to 500mg QDS ^{2D}			
		clarithromycin ^{2D}	500mg BD ^{2D}			
Dermatophyte infection: skin Public Health England Last updated: Feb 2019	<p>Most cases: use terbinafine as fungicidal, treatment time shorter and more effective than with fungistatic imidazoles or undecenoates.^{1D,2A+,4D} If candida possible, use imidazole.^{4D}</p> <p>If intractable, or scalp: send skin scrapings,^{1D} and if infection confirmed: use oral terbinafine^{1D,3A+,4D} or itraconazole.^{2A+,3A+,5D}</p> <p>Scalp: oral therapy,^{6D} and discuss with specialist.^{1D}</p>	topical terbinafine ^{3A+,4D} OR	1% OD to BD ^{2A+}		1 to 4 weeks ^{3A+}	Not available. Access supporting evidence and rationales on the PHE website
		topical imidazole ^{2A+,3A+}	1% OD to BD ^{2A+}		4 to 6 weeks ^{2A+,3A+}	
		Alternative in athlete's foot: topical undecenoates ^{2A+} (such as Mycota®) ^{2A+}	OD to BD ^{2A+}			
Dermatophyte infection: nail Public Health England Last updated: Oct 2018	<p>Take nail clippings;^{1D} start therapy only if infection is confirmed.^{1D} Oral terbinafine is more effective than oral azole.^{1D,2A+,3A+,4D} Liver reactions 0.1 to 1% with oral antifungals.^{3A+} If candida or non-dermatophyte infection is confirmed, use oral itraconazole.^{1D,3A+,4D} Topical nail lacquer is not as effective.^{1D,5A+,6D}</p> <p>To prevent recurrence: apply weekly 1% topical antifungal cream to entire toe area.^{6D}</p> <p>Children: seek specialist advice.^{4D}</p>	First line: terbinafine ^{1D,2A+,3A+,4D,6D}	250mg OD ^{1D,2A+,6D}		Fingers: 6 weeks ^{1D,6D} Toes: 12 weeks ^{1D,6D}	Not available. Access supporting evidence and rationales on the PHE website
		Second line: itraconazole ^{1D,3A+,4D,6D}	200mg BD ^{1D,4D}		1 week a month ^{1D} Fingers: 2 courses ^{1D} Toes: 3 courses ^{1D}	
		Stop treatment when continual, new, healthy, proximal nail growth. ^{6D}				

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Varicella zoster/ chickenpox Herpes zoster/ shingles Public Health England Last updated: Oct 2018	Pregnant/immunocompromised/ neonate: seek urgent specialist advice. ^{1D} Chickenpox: consider aciclovir ^{2A+,3A+,4D} if: onset of rash <24 hours, ^{3A+} and 1 of the following: >14 years of age; ^{4D} severe pain; ^{4D} dense/oral rash; ^{4D,5B+} taking steroids; ^{4D} smoker. ^{4D,5B+} Give paracetamol for pain relief. ^{6C} Shingles: treat if >50 years ^{7A+,8D} (PHN rare if <50 years) ^{9B+} and within 72 hours of rash, ^{10A+} or if 1 of the following: active ophthalmic; ^{11D} Ramsey Hunt; ^{4D} eczema; ^{4D} non-truncal involvement; ^{8D} moderate or severe pain; ^{8D} moderate or severe rash. ^{5B+,8D} Shingles treatment if not within 72 hours: consider starting antiviral drug up to 1 week after rash onset, ^{12B+} if high risk of severe shingles ^{12B+} or continued vesicle formation; ^{4D} older age; ^{7A+,8D,12B+} immunocompromised; ^{4D} or severe pain. ^{7D,11B+}	First line for chicken pox and shingles: aciclovir ^{3A+,7A+,10A+,13B+,14A-,15A+} Second line for shingles if poor compliance: not for children: famciclovir ^{8D,14A-,16A-} OR valaciclovir ^{8D,10A+,14A-}	800mg 5 times daily ^{16A-} 250mg to 500mg TDS ^{15A+} OR 750mg BD ^{15A+} 1g TDS ^{14A-}	 - 	7 days ^{14A-,16A-}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
▼ Eye infections						
Conjunctivitis Public Health England Last updated: July 2019	First line: bath/clean eyelids with cotton wool dipped in sterile saline or boiled (cooled) water, to remove crusting. ^{1D} Treat only if severe, ^{2A+} as most cases are viral ^{3D} or self-limiting. ^{2A+} Bacterial conjunctivitis: usually unilateral and also self-limiting. ^{2A+,3D} It is characterised by red eye with mucopurulent, not watery discharge. ^{3D} 65% and 74% resolve on placebo by days 5 and 7. ^{4A-,5A+} Third line: fusidic acid as it has less Gram-negative activity. ^{6A-,7D}	Second line: chloramphenicol ^{1D,2A+,4A-,5A+} 0.5% eye drop ^{1D,2A+} OR 1% ointment ^{1D,5A+} Third line: fusidic acid 1% gel ^{2A+,5A+,6A-}	Eye drops: 2 hourly for 2 days, ^{1D,2A+} then reduce frequency ^{1D} to 3 to 4 times daily. ^{1D} Eye ointment: 3 to 4 times daily or once daily at night if using antibiotic eye drops during the day. ^{1D} BD ^{1D,7D}	 	48 hours after resolution ^{2A+,7D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>

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Blepharitis Public Health England Last updated: Nov 2017	First line: lid hygiene ^{1D,2A+} for symptom control, ^{1D} including: warm compresses; ^{1D,2A+} lid massage and scrubs; ^{1D} gentle washing; ^{1D} avoiding cosmetics. ^{1D} Second line: topical antibiotics if hygiene measures are ineffective after 2 weeks. ^{1D,3A+} Signs of meibomian gland dysfunction,^{3D} or acne rosacea:^{3D} consider oral antibiotics.^{1D}	Second line: topical chloramphenicol ^{1D,2A+,3A-}	1% ointment BD ^{2A+,3D}		6-week trial ^{3D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		Third line: oral oxytetracycline ^{1D,3D} OR	500mg BD ^{3D} 250mg BD ^{3D}		4 weeks (initial) ^{3D} 8 weeks (maint) ^{3D}	
		oral doxycycline ^{1D,2A+,3D}	100mg OD ^{3D} 50mg OD ^{3D}		4 weeks (initial) ^{3D} 8 weeks (maint) ^{3D}	
▼ Suspected dental infections in primary care (outside dental settings)						
Derived from the Scottish Dental Clinical Effectiveness Programme (SDCEP) 2013 Guidelines. This guidance is not designed to be a definitive guide to oral conditions, as GPs should not be involved in dental treatment. Patients presenting to non-dental primary care services with dental problems should be directed to their regular dentist, or if this is not possible, to the NHS 111 service (in England), who will be able to provide details of how to access emergency dental care.						
<i>Note: Antibiotics do not cure toothache.^{1D} First-line treatment is with paracetamol^{1D} and/or ibuprofen;^{1D} codeine is not effective for toothache.^{1D}</i>						
Mucosal ulceration and inflammation (simple gingivitis) Public Health England Last updated: Nov 2017	Temporary pain and swelling relief can be attained with saline mouthwash (½ tsp salt in warm water) ^{1D} . Use antiseptic mouthwash if more severe, ^{1D} and if pain limits oral hygiene to treat or prevent secondary infection. ^{1D,2A-} The primary cause for mucosal ulceration or inflammation (aphthous ulcers; ^{1D} oral lichen planus; ^{1D} herpes simplex infection; ^{1D} oral cancer) ^{1D} needs to be evaluated and treated. ^{1D}	Chlorhexidine 0.12 to 0.2% ^{1D, 2A-,3A+,4A+} (do not use within 30 minutes of toothpaste) ^{1D} OR	1 minute BD with 10 ml ^{1D}	 	Always spit out after use. ^{1D} Use until lesions resolve ^{1D} or less pain allows for oral hygiene ^{1D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		hydrogen peroxide 6% ^{5A-1D}	2 to 3 minutes BD/TDS with 15ml in ½ glass warm water ^{1D}			
Acute necrotising ulcerative gingivitis Public Health England Last updated: Nov 2017	Refer to dentist for scaling and hygiene advice. ^{1D,2D} Antiseptic mouthwash if pain limits oral hygiene. ^{1D} Commence metronidazole if systemic signs and symptoms. ^{1D,2D,3B-,4B+,5A-}	chlorhexidine 0.12 to 0.2% (do not use within 30 minutes of toothpaste) ^{1D} OR	1 minute BD with 10ml ^{1D}		Until pain allows for oral hygiene ^{6D}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		hydrogen peroxide 6% ^{1D}	2 to 3 minutes BD/TDS with 15ml in ½ glass warm water			
		metronidazole ^{1D,3B-,4B+,5A-}	400mg TDS ^{1D,2D}		3 days ^{1D,2D}	

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Pericoronitis Public Health England Last updated: Nov 2017	Refer to dentist for irrigation and debridement. ^{1D} If persistent swelling or systemic symptoms, ^{1D} use metronidazole ^{1D,2A+,3B+} or amoxicillin. ^{1D,3B+} Use antiseptic mouthwash if pain and trismus limit oral hygiene. ^{1D}	metronidazole ^{1D,2A+,3B+} OR	400mg TDS ^{1D}		3 days ^{1D,2A+}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>	
		amoxicillin ^{1D,3B+}	500mg TDS ^{1D}		3 days ^{1D}		
		chlorhexidine 0.2% (do not use within 30 minutes of toothpaste) ^{1D} OR	1 minute BD with 10ml ^{1D}		Until less pain allows for oral hygiene ^{1D}		
		hydrogen peroxide 6% ^{1D}	2 to 3 minutes BD/TDS with 15ml in ½ glass warm water ^{1D}				
Dental abscess Public Health England Last updated: Oct 2018	Regular analgesia should be the first option ^{1A+} until a dentist can be seen for urgent drainage, ^{1A+,2B-,3A+} as repeated courses of antibiotics for abscesses are not appropriate. ^{1A+,4A+} Repeated antibiotics alone, without drainage, are ineffective in preventing the spread of infection. ^{1A+,5C} Antibiotics are only recommended if there are signs of severe infection, ^{3A+} systemic symptoms, ^{1A+,2B-,4A+} or a high risk of complications. ^{1A+} Patients with severe odontogenic infections (cellulitis, ^{1A+,3A+} plus signs of sepsis; ^{3A+,4A+} difficulty in swallowing; ^{6D} impending airway obstruction) ^{6D} should be referred urgently for hospital admission to protect airway, ^{6D} for surgical drainage ^{3A+} and for IV antibiotics. ^{3A+} The empirical use of cephalosporins, ^{6D} co-amoxiclav, ^{6D} clarithromycin, ^{6D} and clindamycin ^{6D} do not offer any advantage for most dental patients, ^{6D} and should only be used if there is no response to first-line drugs. ^{6D}	If pus is present, refer for drainage, ^{1A+,2B-} tooth extraction, ^{2B-} or root canal. ^{2B-} Send pus for investigation. ^{1A+} If spreading infection ^{1A+} (lymph node involvement ^{1A+,4A+} or systemic signs, ^{1A+,2B-,4A+} that is, fever ^{1A+} or malaise) ^{4A+} ADD metronidazole. ^{6D,7B+} Use clarithromycin in true penicillin allergy ^{6D} and, if severe, refer to hospital. ^{3A+,6D}	amoxicillin ^{6D,8B+,9C,10B+} OR	500mg to 1000mg TDS ^{6D}		Up to 5 days; ^{6D,10B+} review at 3 days ^{9C,10B+}	<i>Not available. Access supporting evidence and rationales on the PHE website</i>
		phenoxymethylpenicillin ^{11B-}	500mg to 1000mg QDS ^{6D}				
		metronidazole ^{6D,8B+,9C}	400mg TDS ^{6D}				
		Penicillin allergy: clarithromycin ^{6D}	500mg BD ^{6D}				
▼ Abbreviations BD, twice a day; eGFR, estimated glomerular filtration rate; IM, intramuscular; IV, intravenous; MALToma, mucosa-associated lymphoid tissue lymphoma; m/r, modified release; MRSA, methicillin-resistant <i>Staphylococcus aureus</i> ; MSM, men who have sex with men; stat, given immediately; OD, once daily; TDS, 3 times a day; QDS, 4 times a day.							