NICE National Institute for Health and Care Excellence

Public Health England

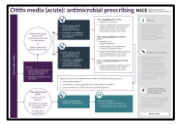
Summary of antimicrobial prescribing guidance – managing common infections

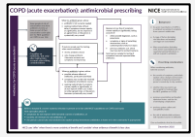
- For all PHE guidance, follow PHE's principles of treatment.
- See BNF for appropriate use and dosing in specific populations, for example, hepatic impairment, renal impairment, pregnancy and breastfeeding.

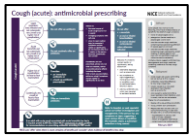
Key: Click to access doses for children Click to access NICE's printable visual summary

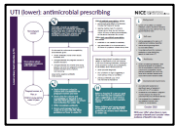
Jump to section on: Upper RTI | Lower RTI | UTI | Meningitis | GI | Genital | Skin | Eye | Dental

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ Upper respiratory tract infections						
Acute sore throat NICE 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. *For detailed information click the visual summary icon.*	**First choice**: phenoxymethylpenicillin	500mg QDS or 1000mg BD		5–10 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	

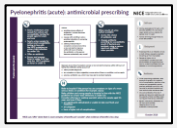
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Influenza Public Health England Last updated: Feb 2019	**Annual vaccination is essential for all those 'at risk' of influenza.**[1D] Antivirals are not recommended for healthy adults.[1D,2A+] Treat 'at risk' patients with 5 days 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] *Access supporting evidence and rationales on the PHE website.*					
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]	BNF for children	10 days[3A+,4A+,5A+]	*Not available. Access supporting evidence and rationales on the PHE website*
		Penicillin allergy: clarithromycin[2D]	250mg to 500mg BD[2D]	BNF for children	5 days[2D,5A+]	
		Optimise analgesia[2D] and give safety netting advice				
Acute otitis media NICE 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. *For detailed information click on the visual summary.*	**First choice**: amoxicillin			5–7 days	
		Penicillin allergy: clarithromycin **OR**			5–7 days	
		erythromycin (preferred if pregnant)			5–7 days	
		Second choice: co-amoxiclav			5–7 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**	1 spray TDS[5A-]	BNF for children	7 days[5A]	*Not available. Access supporting evidence and rationales on the PHE website*
		topical neomycin sulphate with corticosteroid[2D,5A-]	3 drops TDS[5A-]	BNF for children	7 days (min) to 14 days (max)[3A+]	
		If cellulitis: flucloxacillin[6B+]	250mg QDS[2D] If severe: 500mg QDS[2D]	BNF for children	7 days[2D]	

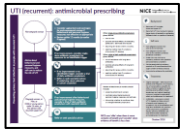
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Sinusitis NICE Last updated: Oct 2017	Advise paracetamol or ibuprofen for pain. Little evidence that nasal saline or nasal decongestants help, but people may want to try them. **Symptoms for 10 days or less**: no antibiotic. **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. *For detailed information click on the visual summary.*	**First choice**: phenoxymethylpenicillin	500mg QDS		5 days	
		Penicillin allergy: doxycycline (not in under 12s) **OR**	200mg on day 1, then 100mg OD		5 days	
		clarithromycin **OR**	500mg BD		5 days	
		erythromycin (preferred if pregnant)	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						
Note: Low doses of penicillins are more likely to select for resistance.[1D] Do not use fluoroquinolones (ciprofloxacin, ofloxacin) first line because they may have long-term side effects and there is poor pneumococcal activity.[2B--,3D-] Reserve all fluoroquinolones (including levofloxacin) for proven resistant organisms.[1D]						
Acute exacerbation of COPD NICE 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. *For detailed information click on the visual summary. See also the NICE guideline on COPD in over 16s.*	**First choice:** amoxicillin **OR**	500mg TDS (see BNF for severe infection)	-	5 days	
		doxycycline **OR**	200mg on day 1, then 100mg OD (see BNF for severe infection)	-		
		clarithromycin	500mg BD (see BNF for severe infection)	-		
		Second choice: use alternative first choice				
		Alternative choice (if person at higher risk of treatment failure): co-amoxiclav **OR**	500/125mg TDS	-	5 days	
		levofloxacin (consider safety issues) **OR**	500mg OD	-		
		co-trimoxazole (consider safety issues)	960mg BD	-		
		IV antibiotics *(click on visual summary)*				

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Acute cough NICE Last updated: Feb 2019	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. **Acute cough with upper respiratory tract infection**: no antibiotic. **Acute bronchitis**: no routine antibiotic. **Acute cough and higher risk of complications (at face-to-face examination)**: immediate or back-up antibiotic. **Acute cough and systemically very unwell (at face to face examination)**: immediate antibiotic. 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. Do not offer a mucolytic, an oral or inhaled bronchodilator, or an oral or inhaled corticosteroid unless otherwise indicated. *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).*	**Adults first choice:** doxycycline	200mg on day 1, then 100mg OD	-	5 days	
		Adults alternative first choices: amoxicillin **OR**	500mg TDS	-		
		clarithromycin **OR**	250mg to 500mg BD	-		
		erythromycin (preferred if pregnant)	250mg to 500mg QDS or 500mg to 1000mg BD	-		
		Children first choice: amoxicillin	-			
		Children alternative first choices: clarithromycin **OR**	-			
		erythromycin **OR**	-			
		doxycycline (not in under 12s)	-			

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Community-acquired pneumonia Public Health England Last updated: Nov 2017	Use CRB65 score to guide mortality risk, place of care, and antibiotics.[1D] Each CRB65 parameter scores one: **C**onfusion (AMT<8 or new disorientation in person, place or time); **R**espiratory rate >30/minute; **B**P systolic <90, or diastolic <60; age >**65**. **Score 0**: low risk, consider home-based care; **1–2**: intermediate risk, consider hospital assessment; **3–4**: urgent hospital admission.[1D] **Give safety net advice**[1D] and likely duration of different symptoms, such as cough 6 weeks.[1D] Clinically assess need for dual therapy for atypicals. Mycoplasma infection is rare in over 65s.[2A+,3C]	**CRB65=0**: amoxicillin[1D,4D] **OR**	500mg TDS[5A+]	BNF for children	5 days (review at 3 days);[1D] 7–10 days if poor response[1D]	*Not available. Access supporting evidence and rationales on the PHE website*
		clarithromycin[2A+,4D,5A+] **OR**	500mg BD[5A+]	BNF for children		
		doxycycline[2A+,4D]	200mg stat then 100mg OD[6A-]	-		
		CRB65 = 1–2 and at home: Clinically assess need for dual therapy for atypicals: amoxicillin[1D, 4D] **AND**	500mg TDS[5A+]	BNF for children	7–10 days[1D]	
		clarithromycin[2A+,4D,5A+] **OR**	500mg BD[5A+]	BNF for children		
		doxycycline alone[4D]	200mg stat then 100mg OD[6A-]	-		
▼ Urinary tract infections						
Lower urinary tract infection NICE Last updated: Oct 2018	Advise paracetamol or ibuprofen for pain. **Non-pregnant women**: back up antibiotic (to use if no improvement in 48 hours or symptoms worsen at any time) or immediate antibiotic. **Pregnant women, men, children or young people**: immediate antibiotic. 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. *For detailed information click on the visual summary. See also the NICE guideline on urinary tract infection in under 16s: diagnosis and management.*	**Non-pregnant women first choice**: nitrofurantoin (if eGFR ≥45 ml/minute) **OR**	100mg m/r BD	-	3 days	
		trimethoprim (if low risk of resistance)	200mg BD	-	3 days	
		Non-pregnant women second choice: nitrofurantoin (if eGFR ≥45 ml/minute **OR**	100mg m/r BD	-	3 days	
		pivmecillinam (a penicillin) **OR**	400mg initial dose, then 200mg TDS	-	3 days	
		fosfomycin	3g single dose sachet	-	single dose	
		Pregnant women first choice: nitrofurantoin (avoid at term) – if eGFR ≥45 ml/minute	100mg m/r BD	-	7 days	
		Pregnant women second choice: amoxicillin (only if culture results available and susceptible) **OR**	500mg TDS	-	7 days	
		cefalexin	500mg BD	-	7 days	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
		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**	200mg BD	-	7 days	
		nitrofurantoin (if eGFR ≥45 ml/minute)	100mg m/r BD	-	7 days	
		Men second choice: consider alternative diagnoses basing antibiotic choice on recent culture and susceptibility results				
		Children and young people (3 months and over) first choice: trimethoprim (if low risk of resistance) **OR**	-		-	
		nitrofurantoin (if eGFR ≥45 ml/minute)	-			
		Children and young people (3 months and over) second choice: nitrofurantoin (if eGFR ≥45 ml/minute and not used as first choice) **OR**	-			
		amoxicillin (only if culture results available and susceptible) **OR**	-			
		cephalexin	-			

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Acute pyelonephritis (upper urinary tract) NICE 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. *For detailed information click on the visual summary. See also the NICE guideline on urinary tract infection in under 16s: diagnosis and management.*	**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)	-	7–10 days	
		co-amoxiclav (only if culture results available and susceptible) **OR**	500/125mg TDS	-	7–10 days	
		trimethoprim (only if culture results available and susceptible) **OR**	200mg BD	-	14 days	
		ciprofloxacin (consider safety issues)	500mg BD	-	7 days	
		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)	-	7–10 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)	-	-	-	
		IV antibiotics *(click on visual summary)*	-	-	-	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Recurrent urinary tract infection NICE Last updated: Oct 2018	First advise about behavioural and personal hygiene measures, and self-care (with D-mannose or cranberry products) to reduce the risk of UTI. For postmenopausal women, if no improvement, consider vaginal oestrogen (review within 12 months). For non-pregnant women, if no improvement, consider single-dose antibiotic prophylaxis for exposure to a trigger (review within 6 months). 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). *For detailed information click on the visual summary. See also the NICE guideline on urinary tract infection in under 16s: diagnosis and management.*	**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 Last updated: Nov 2018	Antibiotic treatment is not routinely needed for asymptomatic bacteriuria in people with a urinary catheter. 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. Advise paracetamol for pain. Advise drinking enough fluids to avoid dehydration. Offer an antibiotic for a symptomatic infection. 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. Do not routinely offer antibiotic prophylaxis to people with a short-term or long-term catheter. *For detailed information click on the visual summary.*	**Non-pregnant women and men first choice if no upper UTI symptoms:** nitrofurantoin (if eGFR ≥45 ml/minute) **OR**	100mg m/r BD	-	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)	-	7–10 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	
		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)	-	7–10 days	
		Pregnant women second choice or IV antibiotics *(click on visual summary)*	-	-	-	

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)	-			
		IV antibiotics *(click on visual summary)*	-	-	-	
Acute prostatitis NICE Last updated: Oct 2018	Advise paracetamol (+/- low-dose weak opioid) for pain, or ibuprofen if preferred and suitable. Offer antibiotic. 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). For detailed information click on the visual summary.	**First choice** (guided susceptibilities when available): ciprofloxacin **OR**	500mg BD	-	14 days then review	
		ofloxacin **OR**	200mg BD	-	14 days then review	
		trimethoprim (if unable to take quinolone)	200mg BD	-	14 days, then review	
		Second choice (after discussion with specialist): levofloxacin **OR**	500mg OD	-	14 days, then review	
		co-trimoxazole	960mg BD	-	14 days, then review	
		IV antibiotics *(click on visual summary)*	-	-	-	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ 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 1–9 years: 600mg[5D] Adult/child 10+ years: 1.2g[5D]		Stat dose;[1D] give IM, if vein cannot be accessed [1D]	*Not available. Access the supporting evidence and rationales on the PHE website*
Prevention of secondary case of meningitis Public Health England Last updated: Nov 2017	Only prescribe following advice from your local health protection specialist/consultant: ☎ [INSERT PHONE NUMBER] Out of hours: contact on-call doctor: ☎ [INSERT PHONE NUMBER] *Access the supporting evidence and rationales on the PHE website.*					
▼ 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]	BNF for children	7 days; continue for 7 days after resolved[4D,6D]	*Not available. Access supporting evidence and rationales on the PHE website*
		If not tolerated: nystatin suspension[2D,6D,7A-]	1ml; 100,000units/mL QDS (half in each side) [2D,4D,7A-]	BNF for children	7 days; continue for 2 days after resolved[4D]	
		fluconazole capsules[6D,7A-]	50mg/100mg OD[3D,6D,8A-]	BNF for children	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 *E. coli* 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 250–500mg BD for 5–7 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+] *Access the supporting evidence and rationales on the PHE website.*					

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Helicobacter pylori Public Health England See PHE quick reference guide for diagnostic advice: PHE *H. pylori* Last updated: Feb 2019	Always test for *H.pylori* before giving antibiotics. Treat all positives, if known DU, GU,[1A+] or low-grade MALToma.[2D,3D] NNT in non-ulcer dyspepsia: 14.[4A+] Do not offer eradication for GORD.[3D] Do not use clarithromycin, metronidazole or quinolone if used in the past year for any infection.[5A+,6B+,7A+] **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] **Relapse and no penicillin allergy** use PPI **PLUS** amoxicillin **PLUS** clarithromycin or metronidazole (whichever was not used first line) [2D] **Relapse and previous metronidazole and clarithromycin**: use PPI **PLUS** amoxicillin **PLUS** either tetracycline **OR** levofloxacin (if tetracycline not tolerated).[2D,7A+] **Relapse and penicillin allergy (no exposure to quinolone)**: use PPI **PLUS** metronidazole **PLUS** levofloxacin.[2D] **Relapse and penicillin allergy (with exposure to quinolone)**: use PPI **PLUS** bismuth salt **PLUS** metronidazole **PLUS** tetracycline.[2D] **Retest for *H. pylori*:** post DU/GU, or relapse after second-line therapy,[1A+] using UBT or SAT,[10A+,11A+] consider referral for endoscopy and culture.[2D]	**Always use PPI**[2D,3D,5A+,12A+] **First line and first relapse and no penicillin allergy** PPI **PLUS** 2 antibiotics	-	BNF for children	7 days[2D] MALToma 14 days[7A+,16A+]	*Not available. Access supporting evidence and rationales on the PHE website*
		amoxicillin[2D,6B+] **PLUS**	1000mg BD[14A+]	BNF for children		
		clarithromycin[2D,6B+] **OR**	500mg BD[8A-]	BNF for children		
		metronidazole[2D,6B+]	400mg BD[2D]	BNF for children		
		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]	BNF for children		
		tetracycline[2D]	500mg QDS[15D]			
		Relapse **and previous metronidazole and clarithromycin**: PPI **PLUS** 2 antibiotics	-	-		
		amoxicillin[2D,7A+] **PLUS**	1000mg BD[14A+]	BNF for children		
		tetracycline[2D,7A+] **OR**	500mg QDS[15D]			
		levofloxacin[2D,7A+]	250mg BD[7A+]			
		Third line on advice: PPI **WITH**	-	-	10 days	
		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		
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]	BNF for children	10–14 days[1D,4B-]	*Not available. Access supporting evidence and rationales on the PHE website*
		Severe, type 027 or recurrent: oral vancomycin[1D,2D,5A-]	125mg QDS[1D,2D,5A-]	BNF for children	10–14 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+]	-	1–3 days[1D,2D,3A+]	*Not available. Access supporting evidence and rationales on the PHE website*
		Prophylaxis/treatment: bismuth subsalicylate	2 tablets QDS[1D,2D]	-	2 days[1D,2D,4A-]	
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-]	BNF for children	1 dose;[3B-] repeat in 2 weeks if persistent[3B-]	*Not available. Access supporting evidence and rationales on the PHE website*
		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-] *Access the supporting evidence and rationales on the PHE website.*					

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Chlamydia trachomatis/ urethritis Public Health England Last updated: Feb 2019	Opportunistically screen all sexually active patients aged 15 to 24 years for chlamydia annually and on change of sexual partner.[1B-] If positive, treat index case, refer to GUM and initiate partner notification, testing and treatment.[2D,3A+] As single dose azithromycin has led to increased resistance in GU infections, doxycycline should be used first line for chlamydia and urethritis.[4A+] Advise patient to abstain from sexual intercourse for 7 days after treatment.[3A+,4A+] Test positives for reinfection at 3 months following treatment.[1B-,5B-] **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+] Consider referring all patients with symptomatic urethritis to GUM as testing should include *Mycoplasma genitalium* and *Gonorrhoea*.[11A-] If *M.genitalium* is proven, use doxycycline followed by azithromycin using the same dosing regimen.[11A-,12A+]	**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)	
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]	*Not available. Access supporting evidence and rationales on the PHE website*
		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+]	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
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+]	*Not available. Access supporting evidence and rationales on the PHE website*
		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]	*Not available. Access supporting evidence and rationales on the PHE website*
		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+]	-	5 days[1A+]	*Not available. Access supporting evidence and rationales on the PHE website*
			800mg TDS (if recurrent)[1A+]		2 days[1A+]	
		valaciclovir[1A+,3A+,4A+] **OR**	500mg BD[1A+]		5 days[1A+]	
		famciclovir[1A+,4A+]	250mg TD[1A+]		5 days[1A+]	
			1000mg BD (if recurrent)[1A+]		1 day[1A+]	
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]	*Not available. Access supporting evidence and rationales on the PHE website*
		ciprofloxacin[2D] (only if known to be sensitive)	500mg[2D]		Stat[2D]	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Trichomoniasis Public Health England Last updated: Nov 2017	Oral treatment needed as extravaginal 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+]	-	5–7 day[1A+] Stat[1A+,6A+]	*Not available. 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 *M. genitalium* .[1A+] *If M. genitalium* tests positive use moxifloxacin.[1A+]	**First line therapy**: Ceftriaxone[1A+,3C,4C] **PLUS**	1000mg IM[1A+,3C]	-	Stat[1A+,3C]	*Not available. 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 *M. genitalium associated PID*)	400mg OD[1A+]		14 days[1A+]	
▼ Skin and soft tissue infections						
Note: Refer to RCGP Skin Infections online training.[1D] For MRSA, discuss therapy with microbiologist.[1D]						
Impetigo Public Health England Last updated: Nov 2017	Reserve topical antibiotics for very localised lesions to reduce risk of bacteria becoming resistant.[1D,2B+] Only use mupirocin if caused by MRSA.[1D,3A+] **Extensive, severe, or bullous**: oral antibiotics.[4D]	Topical fusidic acid[2D,3A+]	Thinly TDS[4D]	BNF for children	5 days[1D,2D]	*Not available. Access supporting evidence and rationales on the PHE website*
		If MRSA: topical mupirocin [3A+]	2% ointment TDS[3A+]	BNF for children	5 days[1D,2D,3A+]	
		More severe: oral flucloxacillin[1D,3A+] **OR**	250 to 500mg QDS[3A+]	BNF for children	7 days[3A+]	
		oral clarithromycin[1D,4D]	250 to 500mg BD[1D,4D]	BNF for children	7 days[4D]	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
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*					
PVL-SA Public Health England Last updated: Nov 2017	Panton-Valentine leukocidin (PVL) is a toxin produced by 20.8 to 46% of *S. aureus* 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.*					
Leg ulcer Public Health England Last updated: Feb 2019	Ulcers are always colonised.[1C,2A+] Antibiotics do not improve healing unless active infection[2A+] (only consider if purulent exudate/odour; increased pain; cellulitis; pyrexia).[3D]	Flucloxacillin[5D] **OR**	500mg QDS[5D]	BNF for children	7 days If slow response continue for another 7 days[5D]	*Not available. Access supporting evidence and rationales on the PHE website*
		clarithromycin[5D]	500mg BD[5D]	BNF for children		
		Non-healing ulcers: antimicrobial-reactive oxygen gel may reduce bacterial load.[6D,7B-]				
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+]	BNF for children	6–8 weeks[1D]	*Not available. Access supporting evidence and rationales on the PHE website*
		benzoyl peroxide[1A-,2D,3A+,4A-]	5% cream OD-BD[3A+]	BNF for children	6–8 weeks[1D]	
		Third-line: topical clindamycin[3A+]	1% cream, thinly BD[3A+]	BNF for children	12 weeks[1A-,2D]	
		If treatment failure/severe: oral tetracycline[1A-,3A+] **OR**	500mg BD[3A+]	BNF for children	6–12 weeks[3A+]	
		oral doxycycline[3A+,4A-]	100mg OD[3A+]	BNF for children	6–12 weeks[3A+]	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Cellulitis and erysipelas Public Health England Last updated: Oct 2018	**Class I**: patient afebrile and healthy other than cellulitis, use oral flucloxacillin alone.[1D,2D,3A+] **If river or sea water exposure**: seek advice.[1D] **Class II**: patient febrile and ill, or comorbidity, admit for IV treatment,[1D] or use outpatient parenteral antimicrobial therapy.[1D] **Class III**: if toxic appearance, admit.[1D] Adding clindamycin does not improve outcomes[4B+] **Erysipelas**: often facial and unilateral.[5B+] Use flucloxacillin for non-facial erysipelas.[1D,2D,3A+]	Flucloxacillin[1D,2D,3A+]	500mg QDS[1D,2D]	BNF for children	7 days;[1D] if slow response, continue for a further 7 days[1D]	*Not available. Access supporting evidence and rationales on the PHE website*
		Penicillin allergy: clarithromycin[1D,2D,3A+,6A+]	500mg BD[1D,2D]	BNF for children		
		Penicillin allergy and taking statins: doxycycline[2D]	200mg stat then 100mg OD[2D]	BNF for children		
		Facial (non-dental): co-amoxiclav[7B-]	500/125mg TDS[1D]	BNF for children		
Bites Public Health England Last updated: Oct 2018	**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]	375–625mg TDS[3D]	BNF for children	7 days3D	*Not available. Access supporting evidence and rationales on the PHE website*
		Human penicillin allergy: metronidazole[3D,4A+] **AND** clarithromycin[3D,4A+]	400mg TDS[2D] 250mg–500mg BD[2D]	BNF for children BNF for children	7 days[3D]	
		Animal penicillin allergy: metronidazole[3D,4A+] **AND** doxycycline[3D]	400mg TDS[2D] 100mg BD[2D]	BNF for children BNF for children	7 days[3D]	
		If pregnant, and rash after penicillin: ceftriaxone[5C]	1–2g OD IV or IM[5C]	-	NA	
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]	BNF for children	2 applications, 1 week apart[1D]	*Not available. Access supporting evidence and rationales on the PHE website*
		Permethrin allergy: malathion[1D]	0.5% aqueous liquid[1D]	BNF for children		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Mastitis Public Health England Last updated: Nov 2017	*S. aureus* 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] **Breastfeeding**: oral antibiotics are appropriate, where indicated.[2D,3A+] Women should continue feeding,[1D,2D] including from the affected breast.[2D]	Flucloxacillin[2D]	500mg QDS[2D]	-	10–14 days[2D]	*Not available. Access supporting evidence and rationales on the PHE website*
		Penicillin allergy: erythromycin[2D] **OR**	250–500mg QDS[2D]			
		clarithromycin[2D]	500mg BD[2D]			
Dermatophyte infection: skin Public Health England Last updated: Feb 2019	**Most cases**: use terbinafine as fungicidal, treatment time shorter and more effective than with fungistatic imidazoles or undecenoates.[1D,2A+,] If candida possible, use imidazole.[4D] **If intractable, or scalp**: send skin scrapings,[1D] and if infection confirmed: use oral terbinafine[1D,3A+,4D] or itraconazole.[2A+,3A+,5D] **Scalp**: oral therapy,[6D] and discuss with specialist.[1D]	Topical terbinafine[3A+,4D] **OR**	1% OD to BD[2A+]	BNF for children	1–4 weeks[3A+]	*Not available. Access supporting evidence and rationales on the PHE website*
		topical imidazole[2A+,3A+]	1% OD to BD[2A+]	BNF for children	4–6 weeks[2A+,3A+]	
		Alternative in athlete's foot: topical undecenoates2A+ (such as Mycota®)2A+	OD to BD[2A+]	BNF for children		
Dermatophyte infection: nail Public Health England Last updated: Oct 2018	**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] **To prevent recurrence**: apply weekly 1% topical antifungal cream to entire toe area.[6D] **Children**: seek specialist advice.[4D]	**First line**: terbinafine[1D,2A+,3A+,4D,6D]	250mg OD[1D,2A+,6D]	BNF for children	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]	BNF for children	1 week a month[1D] Fingers: 2 courses[1D] Toes: 3 courses[1D]	
		Stop treatment when continual, new, healthy, proximal nail growth.[6D]				

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
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+]	800mg 5 times daily[16A-]	BNF for children	7 days[14A-,16A-]	*Not available. Access supporting evidence and rationales on the PHE website*
		Second line for shingles if poor compliance: *not for children:* famciclovir[8D,14A-, 16A-] **OR**	250–500mg TDS[15A+] **OR** 750mg BD[15A+]	-		
		valaciclovir[8D,10A+,14A-]	1g TDS[14A-]	BNF for children		
Tick bites (Lyme disease) Public Health England Last updated: Oct 2018	**Prophylaxis**:[1A+] not routinely recommended in Europe.[2D] **In pregnancy**, consider amoxicillin.[2D] **If immunocompromised**, consider prophylactic doxycycline.[2D] Risk increased if high prevalence area and the longer tick is attached to the skin.[3D] Only give prophylaxis within 72 hours of tick removal.[1A+,2D,4A-] Give safety net advice about erythema migrans[2D] and other possible symptoms[2D] that may occur within 1 month of tick removal.[2D]	**Prophylaxis**:[1A+] doxycycline[2D,4A-,5D]	200mg[2D,4A,5D]	BNF for children	Stat[2D,4A-,5D]	*Not available. Access supporting evidence and rationales on the PHE website*
	Treatment: Treat erythema migrans **empirically**; serology is often negative early in infection.[3D] For other suspected Lyme disease such as neuroborreliosis (CN palsy, radiculopathy) seek advice.[3D]	**Treatment**: doxycycline[2D,3D,5D]	100mg BD[2D,3D,5D]	BNF for children	21 days[2D,3D,5D]	
		First alternative: amoxicillin[2D,3D,5D]	1,000mg TDS[2D,3D,5D]	BNF for children		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ Eye infections						
Conjunctivitis Public Health England Last updated: Oct 2018	**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+]	2 hourly for 2 days,[1D,2A+] then reduce frequency[1D] to 3–4 times daily,[1D] or just at night if using eye ointment[1D]	BNF for children	48 hours after resolution[2A+,7D]	*Not available. Access supporting evidence and rationales on the PHE website*
		Third line: fusidic acid 1% gel[2A+,5A+,6A-]	BD[1D,7D]	BNF for children		
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]	BNF for children	6-week trial[3D]	*Not available. Access supporting evidence and rationales on the PHE website*
		Third line: oral oxytetracycline[1D,3D] **OR**	500mg BD[3D] 250mg BD[3D]	BNF for children	4 weeks (initial)[3D] 8 weeks (maint)[3D]	
		oral doxycycline[1D,2A+,3D]	100mg OD[3D] 50mg OD[3D]	BNF for children	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 provided details of how to access emergency dental care.						
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]						
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]	BNF for children BNF for children	Always spit out after use.[1D] Use until lesions resolve[1D] or less pain allows for oral hygiene[1D]	*Not available. Access supporting evidence and rationales on the PHE website*
		hydrogen peroxide 6%[5A- 1D]	2 to 3 minutes BD/TDS with 15ml in ½ glass warm water[1D]	BNF for children		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
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]	BNF for children	Until pain allows for oral hygiene[6D]	*Not available. Access supporting evidence and rationales on the PHE website*
		hydrogen peroxide 6%[1D]	2 to 3 minutes BD/TDS with 15ml in ½ glass warm water	BNF for children		
		metronidazole[1D,3B-,4B+,5A-]	400mg TDS[1D,2D]	BNF for children	3 days[1D,2D]	
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]	BNF for children	3 days[1D,2A+]	*Not available. Access supporting evidence and rationales on the PHE website*
		amoxicillin[1D,3B+]	500mg TDS[1D]	BNF for children	3 days[1D]	
		chlorhexidine 0.2% (do not use within 30 minutes of toothpaste)[1D] **OR**	1 minute BD with 10ml[1D]	BNF for children	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]	BNF for children		
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 drainage3A+ 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]	BNF for children	Up to 5 days; [6D,10B+] review at 3 days[9C,10B+]	*Not available. Access supporting evidence and rationales on the PHE website*
		phenoxymethylpenicillin[11B-]	500mg to 1000mg QDS[6D]	BNF for children		
		metronidazole[6D,8B+,9C]	400mg TDS[6D]	BNF for children		
		Penicillin allergy: clarithromycin[6D]	500mg BD[6D]	BNF for children		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ **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 *Staphylococcus aureus*; MSM, men who have sex with men; stat, given immediately; OD, once daily; TDS, 3 times a day; QDS, 4 times a day.						