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NICE National Institute for Health and Care Excellence

Public Health England

Summary of antimicrobial prescribing guidance – managing common infections

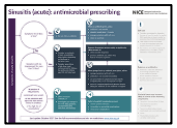
- For all PHE guidance, follow PHE's principles of treatment.
- See BNF for appropriate use and dosing in specific populations, for example, hepatic impairment, renal impairment, pregnancy and breastfeeding.
- Adapted by the Birmingham Antibiotic Advisory Group with consideration to local resistance patterns, cost effectivity and expert opinion.
- In this guideline dose ranges have been removed to eliminate dosage choice. This is favourable from an antimicrobial resistance perspective without compromising antimicrobial treatment efficacy. Recommendations have been reviewed by a microbiology specialist and are in keeping with the evidence available.

Key: BNF for children 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

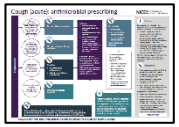
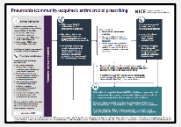
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ Upper respiratory tract infections						
Acute sore throat	Advise paracetamol, or if preferred and suitable, ibuprofen for pain. Medicated lozenges may help pain in adults.	**First choice**: phenoxymethylpenicillin	500mg QDS		5 days to review *	
		Penicillin allergy: clarithromycin **OR**	500mg BD		5 days	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
NICE Public Health England Last updated: Jan 2018	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. *For detailed information click the visual summary icon.*	erythromycin (preferred if pregnant)	500mg QDS		5 days	
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]	500mg BD[2D]	BNF for children	5 days[2D,5A+]	
		Optimise analgesia[2D] and give safety netting advice				
Acute otitis media	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.	**First choice**: amoxicillin	500mg TDS		7 days	
		Penicillin allergy: clarithromycin **OR**	500mg BD		7 days	
		erythromycin (preferred if pregnant)	500mg QDS			

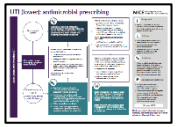
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
NICE Public Health England Last updated: Feb 2018	**Otherwise**: no or back-up antibiotic. **Systemically very unwell or high risk of complications**: immediate antibiotic. *For detailed information click on the visual summary.*	**Second choice**: co-amoxiclav	500/125mg TDS		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-] (consider safety issues if perforated tympanic membrane)[6B-]	3 drops TDS[5A-]	BNF for children	7 days (min) to 14 days (max)[3A+]	
		If cellulitis: flucloxacillin[7B+]	If severe: 500mg QDS[2D]	BNF for children	7 days[2D]	
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. *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			
		erythromycin (preferred if pregnant)	500mg QDS or			
		Second choice or first choice if systemically very unwell or high risk of complications: co-amoxiclav	500/125mg TDS		5 days	

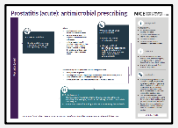
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ Lower respiratory tract infections						
Acute exacerbation of COPD NICE Public Health England Last updated: Dec 2018	Many exacerbations are not caused by bacterial infections so will not respond to antibiotics. Consider an 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. *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	-		
		Second choice: use alternative first choice				
		Alternative choice (if person at higher risk of treatment failure): co-amoxiclav **OR**	500/125mg TDS	-	5 days	
		co-trimoxazole **OR**	960mg BD	-		
		IV antibiotics *(click on visual summary)Seek specialist advice*				
Acute exacerbation of bronchiectasis (non-cystic fibrosis) NICE	Send a sputum sample for culture and susceptibility testing. Offer an antibiotic. 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.	**First choice empirical treatment:** amoxicillin (preferred if pregnant) **OR**	500mg TDS		7 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 days	

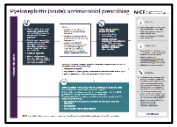
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Public Health England Last updated: Dec 2018	Course length is based on severity of bronchiectasis, exacerbation history, severity of exacerbation symptoms, previous culture and susceptibility results, and response to treatment. Do not routinely offer antibiotic prophylaxis to prevent exacerbations. 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. *For detailed information click on the visual summary.*	levofloxacin (adults only: with specialist advice if co-amoxiclav cannot be used; consider safety issues) **OR**	500mg OD			
		ciprofloxacin (children only: with specialist advice if co-amoxiclav cannot be used; consider safety issues)	500mg BD			
		IV antibiotics (click on visual summary) *Seek specialist advice*				
		When current susceptibility data available: choose antibiotics accordingly				
COVID-19 NICE Last updated: June 2021	Antibiotics should not be used for preventing or treating COVID-19 unless there is clinical suspicion of additional bacterial co-infection. Do not use azithromycin to treat COVID-19. Do not offer an antibiotic for preventing secondary bacterial pneumonia in people with COVID-19. If a person in the community has suspected or confirmed secondary bacterial pneumonia, start antibiotic treatment as soon as possible, see community-acquired pneumonia for choices. In hospital, start empirical antibiotics if there is clinical suspicion of a secondary bacterial infection in people with COVID-19, see hospital-acquired pneumonia for choices. Start antibiotics as soon as possible after establishing a diagnosis of secondary bacterial pneumonia. . *For detailed information, see the NICE guideline on managing COVID-19.*					
Acute cough NICE Public Health England	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	**Adults first choice:** doxycycline	200mg on day 1, then 100mg OD	-	5 days	
		Adults alternative first choices: amoxicillin (preferred if pregnant) **OR**	500mg TDS	-		
		clarithromycin **OR**	500mg BD	-		
		erythromycin (preferred if pregnant)	500mg QDS	-		
		Children first choice: amoxicillin	-		5 days	

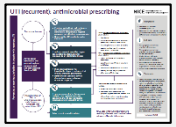
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Last updated: Feb 2019	limited evidence for the relief of cough symptoms. **Acute cough with upper respiratory tract infection**: no antibiotic. **Acute bronchitis**: no routine antibiotic. **Acute cough and higher risk of complications (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.*	**Children alternative first choices:** clarithromycin **OR**	-			
		erythromycin **OR**	-			
		doxycycline (not in under 12s)	-			
	Assess severity in adults based on clinical judgement and guided by a mortality risk score	**First choice (low severity in adults or non-severe in children):** amoxicillin	500mg TDS (higher doses can be used, see BNF)		5 days*	
		Alternative first choice (low severity in adults or non-severe in children): doxycycline (not in under 12s) **OR**	200mg on day 1, then 100mg OD			
		clarithromycin **OR**	500mg BD			

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Community-acquired pneumonia NICE Public Health England Last updated: Sept 2019	(CRB65 or CURB65) when these scores can be calculated: **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. 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. Assess severity in children based on clinical judgement. Offer an antibiotic. Start treatment as soon as possible after diagnosis. When choosing an antibiotic, take account of severity, risk of complications, local antimicrobial resistance and surveillance data, recent antibiotic use and microbiological results. * Stop antibiotics after 5 days unless microbiological results suggest a longer course is needed or the person is not clinically stable. *For detailed information click on the visual summary.*	erythromycin (in pregnancy)	500mg QDS			
		First choice (moderate severity in adults): amoxicillin **AND (if atypical pathogens suspected)**	500mg TDS (higher doses can be used, see BNF)	-	5 days*	
		clarithromycin **OR**	500mg BD	-		
		erythromycin (in pregnancy)	500mg QDS	-		
		Alternative first choice (moderate severity in adults): doxycycline **OR**	200mg on day 1, then 100mg OD	-		
		clarithromycin	500mg BD	-		
		First choice (high severity in adults or severe in children): co-amoxiclav **AND (if atypical pathogens suspected)**	500/125mg TDS		5 days*	
		clarithromycin **OR**	500mg BD			
		erythromycin (in pregnancy)	500mg QDS			
		Alternative first choice (high severity in adults): levofloxacin (consider safety issues)	500mg BD	-		
		IV antibiotics *(click on visual summary)See specialist advice.*				

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	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. If people have symptoms of pyelonephritis (such as fever) or a complicated UTI, see acute pyelonephritis (upper urinary tract infection) for antibiotic choices. *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.*	**Non-pregnant women first choice**: nitrofurantoin (if eGFR ≥45 ml/minute) **OR**	100mg m/r BD (or if unavailable 50mg QDS)	-	3 days	
		trimethoprim (if low risk of resistance)	200mg BD	-		
		Non-pregnant women second choice: nitrofurantoin (if eGFR ≥45 ml/minute) **OR**	100mg m/r BD (or if unavailable 50mg QDS)	-	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 third trimester) – 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**	500mg TDS	-	7 days	
		cefalexin	500mg BD	-		
		Treatment of asymptomatic bacteriuria in pregnant women: choose from nitrofurantoin (avoid at third trimester), amoxicillin or cefalexin based on recent culture and susceptibility results				
		Men first choice: nitrofurantoin (if eGFR ≥45 ml/minute) OR	100mg m/r BD (or if unavailable 50mg QDS)	-	7 days	
		trimethoprim	200mg BD	-		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
		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) For liquid consider cost issues. Capsules preferable where appropriate.	-			
		Children and young people (3 months and over) second choice: nitrofurantoin (if eGFR ≥45 ml/minute and not used as first choice) For liquid consider cost issues. Capsules preferable where appropriate.**OR**	-		-	
		amoxicillin (only if culture results available and susceptible) **OR**	-			
		cefalexin	-			
Acute prostatitis NICE	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).	**First choice** (guided by susceptibilities when available): ciprofloxacin (consider safety issues)	500mg BD	-	14 days then review	
		Second choice (after discussion with specialist): levofloxacin (consider safety issues) **OR**	500mg OD	-	14 days, then review	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Public Health England Last updated: Oct 2018	*For detailed information click on the visual summary.*	co-trimoxazole	960mg BD	-		
		IV antibiotics *(click on visual summary) See specialist advice*				
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. *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.*	**Non-pregnant women and men first choice**:		-		
		co-amoxiclav (only if culture results available and susceptible) **OR**	500/125mg TDS	-	7 days	
		ciprofloxacin (consider safety issues)	500mg BD	-	7 days	
		Non-pregnant women and men IV antibiotics *(click on visual summary)See specialist advice*				
		Pregnant women first choice: Refer to secondary care - BAAG opinion				
		Pregnant women second choice or IV antibiotics *(click on visual summary)Seek specialist advice*				
		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)Seek specialist advice*				

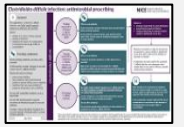
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Recurrent urinary tract infection NICE Public Health England Last updated Oct 2018	First advise about behavioural and personal hygiene measures, and self-care (with D-mannose or cranberry products) to reduce the risk of UTI. 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 and the Public Health England urinary tract infection: diagnostic tools for primary care.*	**First choice antibiotic prophylaxis**: trimethoprim (avoid in pregnancy) **OR**	200mg single dose when exposed to a trigger or 100mg at night		Review in 3 months (BAAG opinion)	
		nitrofurantoin (avoid at term) - if eGFR ≥45 ml/minute	100mg single dose when exposed to a trigger or 50 to 100mg at night		Review in 3 months (BAAG opinion)	
		Second choice antibiotic prophylaxis: amoxicillin **OR**	500mg single dose when exposed to a trigger or 250mg at night		Review in 3 months (BAAG opinion)	
		cefalexin	500mg single dose when exposed to a trigger or 125mg at night		Review in 3 months (BAAG opinion)	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Catheter-associated urinary tract infection NICE Public Health England 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. See also the Public Health England urinary tract infection: diagnostic tools for primary care.*	**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 TDS (1.5g TDS severe infections)	-	10 days (non - severe) 7 days (severe)	
		co-amoxiclav (only if culture results available and susceptible) **OR**	500/125mg TDS	-	7 days	
		ciprofloxacin (consider safety issues)	500mg BD	-	7 days	
		Non-pregnant women and men IV antibiotics *(click on visual summary)* Seek specialist advice				
		Pregnant women first choice: cefalexin	500mg TDS (1.5g TDS severe infections)	-	10 days (non - severe) 7 days (severe)	
		Pregnant women second choice or IV antibiotics *(click on visual summary)* Seek specialist advice				

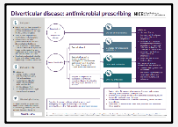
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
		Children and young people (3 months and over) first choice: trimethoprim (if low risk of resistance) **OR**	-			
		amoxicillin (only if culture results available and susceptible) **OR**	-		-	
		cefalexin **OR**	-			
		co-amoxiclav (only if culture results available and susceptible)	-			
		Children and young people (3 months and over) IV antibiotics *(click on visual summary)* Seek specialist advice				
▼ 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]	*Not available. Access the supporting evidence and rationales on the PHE website*
Prevention of secondary case of meningitis Public Health England Last updated: July 2019	Only prescribe following advice from your local health protection specialist/consultant: ☎ 0344 2253560 (option 2) Out of hours: contact on-call doctor: ☎01384 679 031 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]	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-]	100mg OD[3D,6D,8A-]	BNF for children	7 14 days (HIV/immunocompromised)	
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 500mg BD for 5, if treated early (within 3 days).[3D,4A+] If giardia is confirmed or suspected – tinidazole 2g single dose is the treatment of choice,[5A+] seek specialist advice. *Access the supporting evidence and rationales on the PHE website.*					
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:** Private prescription azithromycin	500mg OD[1D,3A+]	-	1 to 3 days[1D,2D,3A+]	*Not available. Access supporting evidence and rationales on the PHE website*
		Prophylaxis/treatment: Private prescription / OTC bismuth subsalicylate	2 tablets QDS[1D,2D]	-	2 days[1D,2D,4A-]	
Threadworm	**Treat all household contacts at the same time**.[1D]	**Adult/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*

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Public Health England Last updated: Nov 2017	**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] *See UKTIS advice for use of mebendazole in pregnancy.*	**Child <6 months or pregnant woman** (at least in first trimester): only hygiene measure for 6 weeks[1D]	-	-	-	*evidence and rationales on the PHE website*
***Clostridioides difficile* infection**	For suspected or confirmed *C. difficile* infection, see Public Health England's guidance on diagnosis and reporting.	**First-line for first episode of mild, moderate or severe:** vancomycin	125mg QDS	BNF for children	10 days	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
NICE Public Health England Last updated: Jul 2021	**Assess**: whether it is a first or further episode, severity of infection, individual risk factors for complications or recurrence (such as age, frailty or comorbidities). **Existing antibiotics**: review and stop unless essential. If still essential, consider changing to one with a lower risk of *C. difficile* infection. Review the need to continue: proton pump inhibitors, other medicines with gastrointestinal activity or adverse effects (such as laxatives), medicines that may cause problems if people are dehydrated (such as NSAIDs). Do not offer antimotility medicines such as loperamide. Offer an oral antibiotic to treat suspected or confirmed *C. difficile* infection. For adults, consider seeking prompt specialist advice from a microbiologist or infectious diseases specialist before starting treatment. For children and young people, treatment should be started by, or after advice from, a microbiologist, paediatric infectious diseases specialist or paediatric gastroenterologist. If antibiotics have been started for suspected *C. difficile* infection, and subsequent stool sample tests do not confirm infection, consider stopping these antibiotics. *For detailed information click on the visual summary.*	**For alternative antibiotics if first- -line antibiotics are ineffective or for life-threatening infection seek specialist advice (see visual summary)**				

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	**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 (if tetracycline cannot be used)[2D,7A+] Consider safety issues	250mg BD[7A+]			

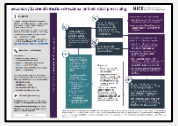
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
	SAT,[10A+,11A+] consider referral for endoscopy and culture.[2D]	**Third line: Consider specialist advice** :				
Acute diverticulitis NICE Last updated: Nov 2019	**Acute diverticulitis and systemically well:** Consider no antibiotics, 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 or QDS for severe infections) metronidazole: 400mg TDS	-		
		For IV antibiotics in complicated acute diverticulitis (including diverticular abscess) see visual summary Seek specialist advice				
▼ 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		
		First line: doxycycline[4A+,11A-,12A+]	100mg BD[4A+,11A-,12A+]	-	7 days[4A+,11A-,12A+]	*Not available. Access*

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Chlamydia trachomatis/ urethritis Public Health England Last updated: July 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 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+] 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-] **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 and advise to avoid sex for 14 days after start of treatment and until symptoms have resolved.[11A-,12A+]	**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)	*supporting evidence and rationales on the PHE website*

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]	-	14 days[1A+,2D]	*Not available. Access supporting evidence and rationales on the PHE website*
		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 3 months maintenanc[e] (BAAG opinion)	Clotrimazole[1A+,5D] **OR**	500mg pessary[1A+]	-	Stat[1A+]	*Not available. Access supporting evidence and rationales on the PHE website*
		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 3 months (BAAG opinion) and refer to specialist is still symptomatic	
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*
		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+]	

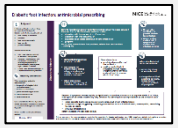
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Gonorrhoea Public Health England Last updated: Feb 2019	Antibiotic resistance is now very high.[1D,2D] Use IM ceftriaxone if susceptibility not known prior to treatment[2D]. Refer to GUM.[3B-] Test of cure is essential.[2D]	ceftriaxone[2D] **where possible REFER to GUM**	1000mg IM[2D]	-	Stat[2D]	*Not available. Access supporting evidence and rationales on the PHE website*
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+]	-	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+] Consider safety issues **OR**	400mg BD[1A+,2A-]		14 days[1A+]	
▼ Skin and soft tissue infections						
Note: Refer to RCGP Skin Infections online training.[1D] For MRSA, discuss therapy with microbiologist.[1D]						
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 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 *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 (bacterial infection) NICE Public Health England Last updated: Mar 2021	Manage underlying eczema and flares with treatments such as emollients and topical corticosteroids, whether antibiotics are given or not. Symptoms and signs of secondary bacterial infection can include: weeping, pustules, crusts, no response to treatment, rapidly worsening eczema, fever and malaise. Not all flares are caused by a bacterial infection, so will not respond to antibiotics. Eczema is often colonised with bacteria but may not be clinically infected. Do not routinely take a skin swab. **Not systemically unwell:**	**If not systemically unwell, do not routinely offer either a topical or oral antibiotic**				
		Topical antibiotic (if a topical is appropriate). For localised infections only:				
		First choice: fusidic acid 2%	TDS		5 days	
		Oral antibiotic:				
		First choice: flucloxacillin	500mg QDS		7 days	
		Penicillin allergy or flucloxacillin unsuitable: clarithromycin **OR**	500mg BD			
		erythromycin (in pregnancy)	500mg QDS			

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
	Do not routinely offer either a topical or oral antibiotic. If an antibiotic is offered, when choosing between a topical or oral antibiotic, take account of patient preferences, extent and severity of symptoms or signs, possible adverse effects, and previous use of topical antibiotics because antimicrobial resistance can develop rapidly with extended or repeated use. **Systemically unwell:** Offer an oral antibiotic. If there are symptoms or signs of cellulitis, see cellulitis and erysipelas. *For detailed information click on the visual summary.*	**If MRSA suspected or confirmed – consult local microbiologist**				
Impetigo	**Localised non-bullous impetigo:**	**Topical antiseptic:**				

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
NICE Public Health England Last updated: Feb 2020	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. *For detailed information click on the visual summary.*	hydrogen peroxide 1%	BD or TDS		5 days*	
		Topical antibiotic:				
		First choice: fusidic acid 2%	TDS		5 days*	
		Fusidic acid resistance suspected or confirmed: mupirocin 2%	TDS			
		Oral antibiotic:				
		First choice: flucloxacillin	500mg QDS		5 days*	
		Penicillin allergy or flucloxacillin unsuitable: clarithromycin **OR**	500mg BD			
		erythromycin (in pregnancy)	500mg QDS			
		If MRSA suspected or confirmed – consult local microbiologist				
Mastitis		flucloxacillin[2D]	500mg QDS[2D]	-	10 days[2D]	

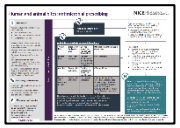
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Public Health England Last updated: Nov 2017	*S. aureus* is the most common infecting pathogen.[1D] Suspect if woman has: a painful breast;[2D] fever and/or general malaise;[2D] a tender, red breast.[2D] **Breastfeeding**: oral antibiotics are appropriate, where indicated.[2D,3A+] Women should continue feeding,[1D,2D] including from the affected breast.[2D]	**Penicillin allergy**: erythromycin[2D] **OR**	500mg QDS[2D]			Not available. Access supporting evidence and rationales on the PHE website
		clarithromycin[2D]	500mg BD[2D]			
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. *For detailed information click on the visual summary.*	**First-choice:**				
		flucloxacillin	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	Exclude other causes of skin redness (inflammatory reactions or non-infectious causes). Consider marking extent of infection with a single-use surgical marker pen.	**First choice:**				
		flucloxacillin	1g QDS		7 days*	
		Penicillin allergy or if flucloxacillin unsuitable:				
		clarithromycin **OR**	500mg BD		7 days*	
		erythromycin (in pregnancy) **OR**	500mg QDS			

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
NICE Public Health England Last updated: Sept 2019	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. *For detailed information click on the visual summary.*	doxycycline (adults only) **OR**	200mg on day 1, then 100mg OD	-		
		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 Seek specialist advice				
Diabetic foot infection NICE Public Health England	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. Severity is classified as: **Mild**: local infection with 0.5 to less than 2cm erythema **Moderate**: local infection with more than 2cm erythema or involving deeper structures (such	**Mild infection: first choice**				
		flucloxacillin	1g QDS	-	7 days*	
		Mild infection (penicillin allergy):				
		clarithromycin **OR**	500mg BD	-	7 days*	
		erythromycin (in pregnancy) **OR**	500mg QDS			
		doxycycline	200mg on day 1, then 100mg OD (can be increased to 200mg daily)			

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Last updated: Oct 2019	as abscess, osteomyelitis, septic arthritis or fasciitis) **Severe**: local infection with signs of a systemic inflammatory response. Start antibiotic treatment as soon as possible. Take samples for microbiological testing before, or as close as possible to, the start of treatment When choosing an antibiotic, take account of severity, risk of complications, previous microbiological results and antibiotic use, and patient preference. *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. Do not offer antibiotics to prevent diabetic foot infection. *For detailed information click on the visual summary.*	**For antibiotic choices for moderate or severe infection, infections where *Pseudomonas aeruginosa* or MRSA is suspected or confirmed, and IV antibiotics click on the visual summary. Seek specialist advice**				
Tick bites (Lyme disease) Public Health England Last updated: Feb 2020	**Treatment**: Treat erythema migrans **empirically**; serology is often negative early in infection.[1D] For other suspected Lyme disease such as neuroborreliosis (CN palsy, radiculopathy) seek advice.[1D]	**Treatment:** doxycycline[1D]	100mg BD[1D]	BNF for children	21 days[1D]	*Not available. Access supporting evidence and rationales on the PHE website*
		Alternative: amoxicillin[1D]	1,000mg TDS[1D]	BNF for children		
Acne vulgaris NICE	**First-line treatment options**: offer a course of 1 of the options, taking account of severity, preferences, and advantages/disadvantages of each option. Completing the course is important because positive effects can take 6 to 8 weeks. Consider topical benzoyl peroxide monotherapy as an alternative if first-line treatment options	**First line**: fixed combination of topical adapalene with topical benzoyl peroxide (for any acne severity, not in under 9s) **OR**	0.1% adapalene/ 2.5% benzoyl peroxide **OR** 0.3% adapalene/2.5% benzoyl peroxide OD (thinly in the evening)	BNF for children	12 weeks	*Not available. See the NICE guideline on acne vulgaris.*

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Last updated: Jun 2021	are contraindicated, or to avoid topical retinoids or an antibiotic (topical or oral). **Do not use**: monotherapy with a topical antibiotic, monotherapy with an oral antibiotic, or a combination of a topical antibiotic and an oral antibiotic. Review first-line treatment at 12 weeks. Only continue a topical or oral antibiotic for more than 6 months in exceptional circumstances. Review at 3 monthly intervals, and stop the antibiotic as soon as possible. *For detailed information see the NICE guideline on acne vulgaris.*	fixed combination of topical tretinoin with topical clindamycin (for any acne severity, not in under 12s) **OR**	0.025% tretinoin/ 1% clindamycin OD (thinly in the evening)	BNF for children		
		fixed combination of topical benzoyl peroxide with topical clindamycin (for mild to moderate acne, not in under 12s) **OR**	3% benzoyl peroxide/1% clindamycin **OR** 5% benzoyl peroxide/1% clindamycin OD (in the evening)	BNF for children		
		fixed combination of topical adapalene with topical benzoyl peroxide **AND** either oral lymecycline or oral doxycycline (for moderate to severe acne, not in under 12s) **OR**	0.1% adapalene/ 2.5% benzoyl peroxide **OR** 0.3% adapalene/2.5% benzoyl peroxide OD (in the evening) **AND** lymecycline 408mg OD **OR** doxycycline 100mg OD	BNF for children BNF for children		
		topical azelaic acid **AND** either oral lymecycline or oral doxycycline (for	15% or 20% azelaic acid BD **AND**	BNF for children		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
		moderate to severe acne, not in under 12s)	lymecycline 408mg OD **OR** doxycycline 100mg OD	BNF for children		
		Alternative: topical benzoyl peroxide	5% benzoyl peroxide OD to BD	BNF for children		
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		
Insect bites and stings NICE Public Health England Last updated: Sep 2020	Most insect bites or stings will not need antibiotics. Do not offer an antibiotic if there are no symptoms or signs of infection. If there are symptoms or signs of infection, see cellulitis and erysipelas.					
		First choice:				

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Human and animal bites NICE Public Health England	Offer an antibiotic for a human or animal bite if there are symptoms or signs of infection, such as increased pain, inflammation, fever, discharge or an unpleasant smell. Take a swab for microbiological testing if there is discharge (purulent or non-purulent) from the wound. Do not offer antibiotic prophylaxis if a human or animal bite has not broken the skin. **Human bite:**	co-amoxiclav	500/125mg TDS		3 days for prophylaxis 5 days for treatment*	
		Penicillin allergy or co-amoxiclav unsuitable:				
		doxycycline **AND**	200mg on day 1, then 100mg or 200mg daily		3 days for prophylaxis 5 days for treatment*	
		metronidazole	400mg TDS			
		seek specialist advice in pregnancy				

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Last updated: Nov 2020	Offer antibiotic prophylaxis if the human bite has broken the skin and drawn blood. Consider antibiotic prophylaxis if the human bite has broken the skin but not drawn blood if it is in a high-risk area or person at high risk. **Cat bite:** Offer antibiotic prophylaxis if the cat bite has broken the skin and drawn blood. Consider antibiotic prophylaxis if the cat bite has broken the skin but not drawn blood if the wound could be deep. **Dog or other traditional pet bite (excluding cat bite)** Do not offer antibiotic prophylaxis if the bite has broken the skin but not drawn blood. Offer antibiotic prophylaxis if the bite has broken the skin and drawn blood if it has caused considerable, deep tissue damage or is visibly contaminated (for example, with dirt or a tooth). Consider antibiotic prophylaxis if the bite has broken the skin and drawn blood if it is in a high-risk area or person at high risk. *course length can be increased to 7 days (with review) based on clinical assessment of the wound.	**IV antibiotics** *(click on visual summary)* **Seek specialist advice**				
	Most cases: use terbinafine as fungicidal, treatment time shorter and more effective than with fungistatic imidazoles or	topical terbinafine[3A+,4D] **OR**	1% OD to BD[2A+]	BNF for children	1 to 4 weeks[3A+]	*Not available. Access supporting evidence and*
		topical imidazole[2A+,3A+]	1% OD to BD[2A+]	BNF for children	4 to 6 weeks[2A+,3A+]	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Dermatophyte infection: skin Public Health England Last updated: Feb 2019	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]	**Alternative in athlete's foot**: topical undecenoates2A+ (such as Mycota®)2A+	OD to BD[2A+]	BNF for children		*rationales on the PHE website*
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:*	250mg to 500mg TDS[15A+] **OR**	-		
		valaciclovir[8D,10A+,14A-]	1g TDS[14A-]	BNF for children		
▼ 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+]	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]	BNF for children	48 hours after resolution[2A+,7D]	*Not available. Access supporting evidence and rationales on the PHE website*

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
		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 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		
Acute necrotising ulcerative gingivitis	Refer to dentist for scaling and hygiene advice.[1D,2D]	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*

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Public Health England Last updated: Nov 2017	Antiseptic mouthwash if pain limits oral hygiene.[1D] Commence metronidazole if systemic signs and symptoms.[1D,2D,3B-,4B+,5A-]	hydrogen peroxide 6%[1D]	2 to 3 minutes BD/TDS with 15ml in ½ glass warm water	BNF for children		*rationales on the PHE website*
		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	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]					
Last updated: Oct 2018	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+]	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		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
	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]	**Penicillin allergy**: clarithromycin[6D]	500mg BD[6D]	BNF for children		

▼ 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.