NICE National Institute for Health and Care Excellence

Public Health England

NHS

Blackpool Clinical Commissioning Group
Fylde and Wyre Clinical Commissioning Group

Summary of Antimicrobial Prescribing Guidance – Managing Common Infections

For all PHE guidance, follow PHE's principles of treatment. It is important to use antimicrobials prudently to support the national 5 years plan on Tackling Antimicrobial Resistance (click for details)

Aims

- To provide a simple, effective, economical, and empirical approach to the treatment of common infections.
- To minimise the emergence of bacterial resistance in the community.

Principles of Treatment

- This guidance is based on the best available evidence however professional judgement should be used and patients should be involved in the decision.
- Prescribe an antibiotic only when there is likely to be a clear clinical benefit.
- It is important to initiate antibiotics as soon as possible in severe infection.
- Where an empirical therapy has failed or special circumstances exist, microbiological advice can be obtained via the BVH switchboard 01253 300000
- Consider a 'No' or 'Back-up/Delayed', antibiotic strategy for acute self-limiting upper respiratory tract infections and mild UTI symptoms.
- Limit prescribing over the telephone to exceptional cases.
- Use simple generic antibiotics if possible. Avoid broad-spectrum antibiotics (eg. co-amoxiclav, quinolones and cephalosporins) when narrow-spectrum antibiotics remain effective, as they increase the risk of Clostridium difficile, MRSA and resistant UTIs
- A dose and duration of treatment for adults is usually suggested but may need modification for age, weight and renal function. In severe or recurrent cases consider a higher dose or longer course.
- Lower threshold for antibiotics in immunocompromised or those with multiple morbidities; culture and seek advice.
- Avoid widespread use of topical antibiotics (especially those agents also available as systemic preparations, e.g. fusidic acid).

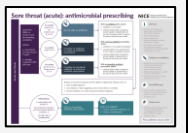
- In pregnancy take specimens to inform treatment, use this guidance alternative or seek expert advice. Penicillins, cephalosporins and erythromycin are not associated with increased risks. If possible avoid tetracyclines, aminoglycosides, quinolones, azithromycin, clarithromycin, high dose metronidazole (2 g stat) unless the benefit outweighs the risks. Short-term use of nitrofurantoin is not expected to cause foetal problems (theoretical risk of neonatal haemolysis). Trimethoprim is also unlikely to cause problems unless poor dietary folate intake or taking another folate antagonist e.g. antiepileptics.
- This guidance should not be used in isolation; it should be supported with patient information about back-up/delayed antibiotics, infection severity and usual duration, clinical staff education, and audits. Materials are available on the RCGP TARGET website.
- 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

  - Safety advice on quinolones - consider MHRA/CHM advice when prescribing fluoroquinolones: small increased risk of aortic aneurysm and dissection and tendon damage

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

Version Control	Amendments made
Version 1.1 July 2022	CDI treatment options updated to reflect NICE/PHE guidance from July 2021

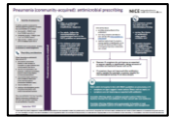
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ Upper respiratory tract infections						
Acute sore throat NICE Public Health England Last updated: Jan 2018	Advise paracetamol, or if preferred and suitable, ibuprofen for pain. Medicated lozenges may help with pain in adults.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

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Acute otitis media NICE Public Health England Last updated: Feb 2018	Regular paracetamol or ibuprofen for pain (right dose for age or weight at the right time and maximum doses for severe pain). **Otorrhoea or under 2 years with infection in both ears**: no, back-up or immediate antibiotic. **Otherwise**: no or back-up antibiotic. **Systemically very unwell or high risk of complications**: immediate antibiotic. *For detailed information click on the visual summary.*	**First choice**: amoxicillin	-		5 to 7 days	
		Penicillin allergy: clarithromycin **OR**	-		5 to 7 days	
		erythromycin (preferred if pregnant)	-			
		Second choice: co-amoxiclav	-		5 to 7 days	
Acute otitis externa Public Health England Last updated: Nov 2017	**First line**: analgesia for pain relief,[1D,2D] and apply localised heat (such as a warm flannel).[2D] **Second line**: topical acetic acid or topical antibiotic +/- steroid: similar cure at 7 days.[2D,3A+,4B-] **If cellulitis or disease extends outside the 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+]	250mg QDS[2D]			
			If severe: 500mg QDS[2D]	BNF for children	7 days[2D]	
Sinusitis NICE	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 the likelihood of bacterial cause.	**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)	250 to 500mg QDS or 500 to 1000mg BD			

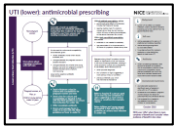
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Public Health England Last updated: Oct 2017	Consider high-dose nasal corticosteroid (if over 12 years). **Systemically very unwell or high risk of complications**: immediate antibiotic. *For detailed information click on the visual summary.*	**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 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.* *Please note - NICE recommendations adapted on local decisions*	**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 the person at higher risk of treatment failure): co-amoxiclav **OR**	500/125mg TDS	-	5 days	
		Non-serious penicillin allergy: Cefixime	200mg BD	-		

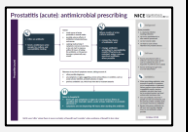
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
		Severe penicillin allergy: co-trimoxazole (consider safety issues)	960mg BD			
		levofloxacin **(with specialist advice)** if co-amoxiclav, cefixime or co-trimoxazole cannot be used; consider safety issues)	Refer to microbiologist	-		
		IV antibiotics- Refer to/Contact Community IV Team – 01253 951223				
Acute exacerbation of bronchiectasis (non-cystic fibrosis) NICE Public Health England Last updated: Dec 2018	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. 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.*	**First choice empirical treatment:** amoxicillin (preferred if pregnant) **OR**	500mg TDS		7 to 14 days	
		doxycycline (not in under 12s) **OR**	200mg on day 1, then 100mg OD			
		clarithromycin	500mg BD			
		Alternative choice (if person at higher risk of treatment failure) empirical treatment: co-amoxiclav **OR**	500/125mg TDS		7 to 14 days	
		Levofloxacin* (**adults only: with specialist advice** if co-amoxiclav cannot be used; consider safety issues) **OR**	**Refer to microbiologist**			
		ciprofloxacin **(children only: with specialist advice** if co-amoxiclav cannot be used; consider safety issues)	-			
		IV antibiotics – Refer to/Contact Community IV Team – 01253 951223				
		When current susceptibility data available: choose antibiotics accordingly				

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Acute cough NICE Public Health England Last updated: Feb 2019	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 inc 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:lude 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 (preferred if pregnant) **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	-		5 days	
		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 NICE Public Health England Last updated: Sept 2019	Assess severity in adults based on clinical judgement guided by mortality risk score (CRB65 or CURB65). See the NICE guideline on pneumonia for full details: **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, within 4 hours (within 1 hour if sepsis suspected and person meets any high-risk criteria – see the NICE guideline on sepsis). 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. See also the NICE guideline on pneumonia.*	**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			
		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			

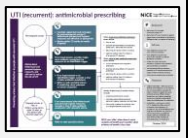
<table>
<tr><th>Infection</th><th>Key points</th><th>Medicine</th><th colspan="4">Doses</th><th>Length</th><th>Visual summary</th></tr>
<tr><th></th><th></th><th></th><th colspan="2">Adult</th><th>Child</th><th></th><th></th></tr>
<tr><td rowspan="5"></td><td rowspan="5">**Linezolid- for monitoring requirement see LSCMMG -if more than 14 days of treatment is required on the advice of Microbiology refer back to secondary care</td><td>Alternative first choice (high severity in adults): levofloxacin* (consider safety issues)</td><td colspan="2">Refer to microbiologist</td><td>-</td><td></td><td rowspan="5"></td></tr>
<tr><td colspan="5">IV antibiotics - Refer to/Contact Community IV Team – 01253 951223</td></tr>
<tr><td colspan="5">Specialist recommendation only: Treatment pneumonia on the recommendation of a microbiologist when used as a 10-14 day course</td></tr>
<tr><td>Linezolid tab</td><td>600mg BD (12 hourly)</td><td colspan="2">Monitoring requirement see LSCMMG</td><td>10-14 days**</td></tr>
<tr><td></td><td></td><td colspan="5"></td></tr>
<tr><td>Hospital-acquired pneumonia</td><td colspan="7">If symptoms or signs of pneumonia start within 48 hours of hospital discharge, refer to a microbiologist.</td></tr>
</table>

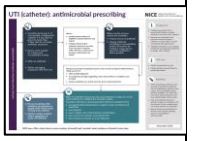
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ Urinary tract infections						
Lower urinary tract infection NICE Public Health England Last updated: Oct 2018	Advise paracetamol or ibuprofen for pain. **Non-pregnant women**: back up antibiotic (to use if no improvement in 48 hours or symptoms worsens at any time) or immediate antibiotic. **Pregnant women, men, children or young people**: immediate antibiotic. When considering antibiotics, take account of the 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 term) – if eGFR ≥45 ml/minute	100mg m/r BD (or if unavailable 50mg QDS)	-	7 days	
		Pregnant women second choice: amoxicillin (only if culture results available and susceptible) **OR**	500mg TDS	-	7 days	
		cefalexin	500mg BD	-		
		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 (or if unavailable 50mg QDS)	-		

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)	-			
		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**	-			
		cefalexin	-			
Acute prostatitis NICE Public Health England	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 by susceptibilities when available): ciprofloxacin* (consider safety advice on page 2) **OR**	500mg BD	-	14 days then review	
		ofloxacin (consider safety issues on page 2) **OR**	200mg BD	-		
		trimethoprim (if fluoroquinolone not appropriate; seek specialist advice)	200mg BD	-		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Last updated: Oct 2018		**Second choice (after discussion with specialist):** levofloxacin* (consider safety issues) **OR**	**Refer to microbiologist**	-		
		co-trimoxazole	960mg BD	-	14 days then review	
		IV antibiotics- Refer to/Contact Community IV Team – 01253 951223				

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Acute pyelonephritis (upper urinary tract) NICE Public Health England Last updated: Oct 2018	Advise paracetamol (+/- low-dose weak opioid) for pain for people over 12. Offer an antibiotic. When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data. Avoid antibiotics that don't achieve adequate levels in renal tissue, such as nitrofurantoin. *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**: cefalexin **OR**	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	-	7 to 10 days	
		co-amoxiclav (only if culture results available and susceptible) **OR**	500/125mg TDS	-	7 to 10 days	
		trimethoprim (only if culture results available and susceptible) **OR**	200mg BD	-	14 days	
		ciprofloxacin (consider safety issues) * on page 2	500mg BD	-	7 days	
		Non-pregnant women and men IV antibiotics - Contact specialist for advice				
		Pregnant women first choice: cefalexin	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	-	7 to 10 days	
		Pregnant women second choice or IV antibiotics - Contact specialist for 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 - Contact specialist for 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. Follow <u>LSCMMG Pathway</u>** **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 <u>urinary tract infection in under 16s: diagnosis and management</u> and the Public Health England <u>urinary tract infection: diagnostic tools for primary care</u>.** *Please note - NICE recommendations adapted on local decisions* Review with mid-stream urine	**First choice antibiotic prophylaxis**: trimethoprim (avoid in pregnancy) **OR**	200mg single dose when exposed to a trigger or 100mg at night		- Review if choice is still appropriate after 3 months- switch to alternative agent	
		nitrofurantoin (avoid at term) - if eGFR ≥45 ml/minute	100mg single dose when exposed to a trigger or 50 to 100mg at night		Review if choice is still appropriate after 3 months- switch to alternative agent	
		Second choice antibiotic prophylaxis: amoxicillin **OR**	500mg single dose when exposed to a trigger or 250mg at night		Review if choice is still appropriate after 3 months- switch to alternative agent	
		cefalexin	500mg single dose when exposed to a trigger or 125mg at night		Review if choice is still appropriate after 3 months- switch to alternative agent	

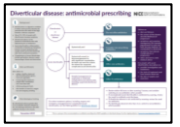
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Catheter-associated urinary tract infection NICE Public Health England Last updated: Nov 2018	Antibiotic treatment is not routinely needed for asymptomatic bacteriuria in people with a urinary catheter. Consider removing or, 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.* *Please note - NICE recommendations adapted on local decisions*	**Non-pregnant women and men first choice if no upper UTI symptoms:** nitrofurantoin (if eGFR ≥45 ml/minute) **OR**	100mg m/r BD (or if unavailable 50mg QDS)	-	7 days	
		trimethoprim (if low risk of resistance) **OR**	200mg BD	-		
		amoxicillin (only if culture results available and susceptible)	500mg TDS	-		
		Non-pregnant women and men second choice if no upper UTI symptoms: pivmecillinam (a penicillin)	400mg initial dose, then 200mg TDS	-	7 days	
		Non-pregnant women and men first choice if upper UTI symptoms: cefalexin **OR**	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	-	7 to 10 days	
		co-amoxiclav (only if culture results available and susceptible) **OR**	500/125mg TDS	-		
		trimethoprim (only if culture results available and susceptible) **OR**	200mg BD	-	14 days	
		Ciprofloxacin* (consider safety advice on page 2))	500mg BD	-	7 days	
		Non-pregnant women and men IV antibiotics – Refer to/Contact Community IV Team – 01253 951223				
		Pregnant women first choice: cefalexin	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	-	7 to 10 days	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
		Pregnant women second choice or IV antibiotics – Contact specialist for advice				
		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- Refer to specialist				
▼ Meningitis						
Suspected meningococcal disease Public Health England Last updated: Feb 2019	**Transfer all patients to the hospital immediately**.[1D] If time before hospital admission,[2D,3A+] if suspected meningococcal septicaemia or non-blanching rash,[2D,4D] give IM benzylpenicillin[1D,2D,4D] as soon as possible.[2D] Do not give IV/IM antibiotics if there is a definite history of anaphylaxis;[1D] rash is not a contraindication.[1D]	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- North West Team: ☎ [0344 225 0562] Out of hours: ☎ [0151 434 4819] Blackpool Teaching Hospitals, microbiologist secretary ☎ [01253 957141] Bleep - 774 Out of hours: contact on-call doctor: ☎ [01253 300000] 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) *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-]	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 250mg to 500mg BD for 5 to 7 days, if treated early (within 3 days).[3D,4A+] If giardia is confirmed or suspected – tinidazole 2g single dose is the treatment of choice.[5A+] *Access the supporting evidence and rationales on the PHE website.*					

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Clostridioides difficile infection NICE Public Health England Last updated: Jul 2021	For suspected or confirmed *C. difficile* infection, see Public Health England's guidance on diagnosis and reporting. **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.*	**First-line for first episode of mild, moderate or severe:** Vancomycin	125mg QDS	BNF for children	10 days	
		Second-line for first episode of mild, moderate or severe if vancomycin ineffective: Fidaxomicin (Amber0 seek microbiology advice before prescribing)	200mg BD	BNF for children		
		For further episode within 12 weeks of symptom resolution (relapse): Fidaxomicin (Amber0 seek microbiology advice before prescribing)	200mg BD	BNF for children		
		For further episode more than 12 weeks after symptom resolution (recurrence): Vancomycin If vancomycin fails discuss with microbiology	125mg QDS	BNF for children		
		For alternative antibiotics if first- and second-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. 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] *Please note - NICE recommendations adapted on local decisions*	**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+]			
		Third line- Seek specialist advice				

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Acute diverticulitis NICE Last updated: Nov 2019	**Acute diverticulitis and systemically well:** Consider no antibiotics, offer simple analgesia (for example paracetamol), advise to re-present if symptoms persist or worsen. **Acute diverticulitis and systemically unwell, immunosuppressed or significant comorbidity:** offer an antibiotic. Give oral antibiotics if person not referred to hospital for suspected complicated acute diverticulitis. Give IV antibiotics if admitted to hospital with suspected or confirmed complicated acute diverticulitis (including diverticular abscess). If CT-confirmed uncomplicated acute diverticulitis, review the need for antibiotics. ** A longer course may be needed based on clinical assessment. *Please note - NICE recommendations adapted on local decisions*	**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	-		
		trimethoprim AND metronidazole **OR**	trimethoprim: 200mg BD metronidazole: 400mg TDS	-		
		ciprofloxacin (only if switching from IV ciprofloxacin with **specialist advice**; consider safety issues) **AND** metronidazole	ciprofloxacin: 500mg BD metronidazole: 400mg TDS			
		For IV antibiotics in complicated acute diverticulitis (including diverticular abscess) – Refer to/Contact Community IV Team – 01253 951223				
Threadworm	**Treat all household contacts at the same time**.[1D]. For patients over 2 years old, refer to pharmacy.	**Child over 6 months and under 2 years**: 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] *Please note - NICE recommendations adapted on local decisions*	**Child <6 months or pregnant** (at least in first trimester): only hygiene measure for 6 weeks[1D]	-	-	-	*evidence and rationales on the PHE website*

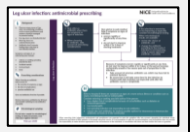
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ **Genital tract infections** **For referrals to the GUM clinic between 9am to 5pm ☎ [01253 956850] or ☎ [01253 956931]** **Out of hours: contact on-call doctor: ☎ [01253 300000]**						
STI screening Public Health England Last 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.*					

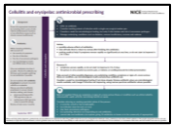
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Chlamydia trachomatis/ urethritis Public Health England Last updated: July 2019	Opportunistically screen all sexually active patients aged 15 to 24 years for chlamydia annually and on change of sexual partner.[1B-] If positive, 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+]	**First line:** doxycycline[4A+,11A-,12A+]	100mg BD[4A+,11A-,12A+]	-	7 days[4A+,11A-,12A+]	*Not available. Access supporting evidence and rationales on the PHE website*
		Second line/ pregnant/breastfeeding/ allergy/intolerance: azithromycin[4A+,11A-,12A+]	1000mg[4A+,11A-,12A+] then 500mg OD[4A+,11A-,12A+]		Stat[4A+,11A-,12A+] 2 days[4A+,11A-,12A+] (total 3 days)	

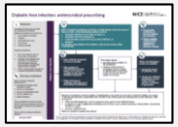
Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Epididymitis Public Health England Last updated: Nov 2017	Usually due to Gram-negative enteric bacteria in men over 35 years with low risk of STI.[1A+,2D] If under 35 years or STI risk, refer to GUM.[1A+,2D]	Doxycycline[1A+,2D] **OR**	100mg BD[1A+,2D]		10 to 14 days[1A+,2D]	*Not available. Access supporting evidence and rationales on the PHE website*
		ofloxacin[1A+,2D] **OR**	200mg BD[1A+,2D]		14 days[1A+,2D]	
		ciprofloxacin *(Consider safety advice on page 2) [1A+,2D]	500mg BD[1A+,2D,3A+]	-	10 days[1A+,2D,3A+]	
Vaginal candidiasis Public Health England Last updated: Oct 2018	All topical and oral azoles give over 80% cure.[1A+,2A+] **Pregnant**: avoid oral azoles, the 7 day courses are more effective than shorter ones.[1A+,3D,4A+] **Recurrent (>4 episodes per year):**[1A+] 150mg oral fluconazole every 72 hours for 3 doses induction,[1A+] followed by 1 dose once a week for 6 months maintenance.[1A+]	Clotrimazole[1A+,5D] **OR**	500mg pessary[1A+]	-	Stat[1A+]	*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+]	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Gonorrhoea Public Health England Last updated: Feb 2019	Refer to GUM.[3B-] Test of cure is essential.[2D] Antibiotic resistance is now very high.[1D,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] For sensitivity to other antibiotics refer to GUM	Refer to GUM		-		*Not available. Access supporting evidence and rationales on the PHE website*
		Ciprofloxacin[2D] (only if known to be sensitive) **consider safety advice on page 2*	500mg[2D]		Stat[2D]	
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 to 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)	Refer to GUM			

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ Skin and soft tissue infections						
Note: Refer to RCGP Skin Infections online training.[1D] For MRSA, discuss therapy with microbiologist.[1D]						
***Note: Linezolid Specialist recommendation only**: Treatment of complicated skin & soft tissue infection on the recommendation of a microbiologist when used as a 10-14 day course** **Linezolid- for monitoring requirement see LSCMMG -if more than 14 days of treatment is required with any extra days on the advice of Microbiology refer back to secondary care*						
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.					

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Impetigo NICE Public Health England Last updated: Feb 2020	**Localised non-bullous impetigo:** Hydrogen peroxide 1% cream (other topical antiseptics are available but no evidence for impetigo). If hydrogen peroxide unsuitable or ineffective, short-course topical antibiotic. **Widespread non-bullous impetigo:** Short-course topical or oral antibiotic. Take account of person's preferences, practicalities of administration, previous use of topical antibiotics because antimicrobial resistance can develop rapidly with extended or repeated use, and local antimicrobial resistance data. **Bullous impetigo, systemically unwell, or high risk of complications:** Short-course oral antibiotic. Do not offer combination treatment with a topical and oral antibiotic to treat impetigo. *5 days is appropriate for most, can be increased to 7 days based on clinical judgement. *For detailed information click on the visual summary.*	**Topical antiseptic:**				
		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**	250mg BD			
		erythromycin (in pregnancy)	250 to 500mg QDS			
		If MRSA suspected or confirmed – consult local microbiologist				
Leg ulcer infection NICE Public Health England	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.	**First-choice:**				
		flucloxacillin	500mg to 1g QDS	-	7 days	
		Penicillin allergy or if flucloxacillin unsuitable:				
		doxycycline **OR**	200mg on day 1, then 100mg OD (can be increased to 200mg daily)	-	7 days	
		clarithromycin **OR**	500mg BD			
		erythromycin (in pregnancy)	500mg QDS			

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Last updated: Feb 2020 Local Update April 2021	When prescribing antibiotics, take account of severity, risk of complications and previous antibiotic use. *For detailed information click on the visual summary.* **Linezolid- for monitoring requirement see LSCMMG -if more than 14 days of treatment is required on the advice of Microbiology refer back to secondary care	**Second choice:**				
		co-amoxiclav **OR**	500/125mg TDS	-	7 days	
		co-trimoxazole (in penicillin allergy)	960mg BD			
		Specialist recommendation only: Treatment of complicated skin & soft tissue infection on the recommendation of a microbiologist when used as a 10-14 days course				
		Linezolid tab	600mg BD (12 hourly)	Monitoring requirement see LSCMMG	10-14 days**	
		For antibiotic choices if severely unwell or MRSA suspected or confirmed, click on the visual summary				
Cellulitis and erysipelas NICE Public Health England Last updated: Sept 2019 Local update March 2021	Exclude other causes of skin redness (inflammatory reactions or non-infectious causes). Consider marking extent of infection with a single-use surgical marker pen. Offer an antibiotic. Take account of severity, site of infection, risk of uncommon pathogens, any microbiological results and MRSA status. Infection around eyes or nose is more concerning because of serious intracranial complications. *A longer course (up to 14 days in total) may be needed but skin takes time to return to normal, and full resolution at 5 to 7 days is not expected. Do not routinely offer antibiotics to prevent recurrent cellulitis or erysipelas. *For detailed information click on the visual summary.* **Linezolid- for monitoring requirement see LSCMMG – if more than 14 days of treatment is	**First choice:**				
		flucloxacillin	500mg to 1g QDS		5 to 7 days*	
		Penicillin allergy or if flucloxacillin unsuitable:				
		clarithromycin **OR**	500mg BD		5 to 7 days*	
		erythromycin (in pregnancy) **OR**	500mg QDS			
		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		7 days*	
		metronidazole (only add in children if anaerobes suspected)	400mg TDS			
		Specialist recommendation only: Treatment of complicated skin & soft tissue infection on the recommendation of a microbiologist when used as a 10-14 day course				

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
	required with any extra days on the advice of Microbiology refer back to secondary care	Linezolid tab	600mg BD (12 hourly)	Monitoring requirement see LSCMMG	10-14 days**	
		For alternative choice antibiotics for severe infection, suspected or confirmed MRSA infection and IV antibiotics contact local microbiologist				
Diabetic foot infection NICE Public Health England Last updated: Oct 2019	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 as abscess, osteomyelitis, septic arthritis or fasciitis) **Severe**: local infection with signs of a systemic inflammatory response. Start antibiotic treatment as soon as possible.	**Mild infection: first choice**				
		flucloxacillin	500mg to 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)			
		Specialist recommendation only: Treatment of complicated skin & soft tissue infection on the recommendation of a microbiologist when used as a 10-14 day course				
		Linezolid tab	600mg BD (12 hourly)	Monitoring requirement see LSCMMG	10-14 days**	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
	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.* **Linezolid- for monitoring requirement see LSCMMG -if more than 14 days of treatment is required with any extra days on the advice of Microbiology	**For antibiotic choices for moderate or severe infection, infections where *Pseudomonas aeruginosa* or MRSA is suspected or confirmed, and IV antibiotics contact local microbiologist**				
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 Public Health England	**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]	**Second line**: topical retinoid[1D,2D,3A+] **OR**	Thinly OD[3A+]	BNF for children	6 to 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 to 8 weeks[1D]	
		Third-line: topical clindamycin[3A+]	1% cream, thinly BD[3A+]	BNF for children	12 weeks[1A-,2D]	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
Last updated: Nov 2017	**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]	**If treatment failure/severe**: oral tetracycline[1A-,3A+] **OR**	500mg BD[3A+]	BNF for children	6 to 12 weeks[3A+]	
		oral doxycycline[3A+,4A-]	100mg OD[3A+]	BNF for children	6 to 12 weeks[3A+]	
Scabies Public Health England Last updated: Oct 2018	**First choice permethrin**: Treat whole body from ear/chin downwards,[1D,2D] and under nails.[1D,2D] **If using permethrin** and patient is under 2 years, elderly or immunosuppressed, or **if treating with malathion**: also treat face and scalp.[1D,2D] **Home/sexual contacts**: treat within 24 hours.[1D]	permethrin[1D,2D,3A+]	5% cream[1D,2D]	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		
Bites Public Health England Last updated: July 2019	**Human**: thorough irrigation is important.[1A+,2D] Antibiotic prophylaxis is advised.[1A+,2D,3D] Assess risk of tetanus, rabies,[1A+] HIV, and hepatitis B and C.[3D] **Cat**: always give prophylaxis.[1A+,3D] **Dog**: give prophylaxis if: puncture wound;[1A+,3D] bite to hand, foot, face, joint, tendon, or ligament;[1A+] immunocompromised; cirrhotic; asplenic; or presence of prosthetic valve/joint.[2D,4A+]	**Prophylaxis/treatment all**: co-amoxiclav[2D,3D]	375mg to 625mg TDS[3D]	BNF for children	7 days[3D]	*Not available. Access supporting evidence and rationales on the PHE website*
		Human + penicillin allergy: metronidazole[3D,4A+] **AND**	400mg TDS[2D]	BNF for children	7 days[3D]	
		clarithromycin[3D,4A+]	250mg to 500mg BD[2D]	BNF for children		
		Animal + penicillin allergy: metronidazole[3D,4A+] **AND**	400mg TDS[2D]	BNF for children	7 days[3D]	

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
	Penicillin allergy: Review all at 24 and 48 hours,[3D] as not all pathogens are covered.[2D,3]	doxycycline[3D]	100mg BD[2D]			
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 to 14 days[2D]	*Not available. Access supporting evidence and rationales on the PHE website*
		Penicillin allergy: erythromycin[2D] **OR**	250mg to 500mg QDS[2D]			
		clarithromycin[2D]	500mg BD[2D]			
Dermatophyte infection: skin Public Health England Last updated: Feb 2019	**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 to 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 to 6 weeks[2A+,3A+]	
		Alternative in athlete's foot: topical undecenoates2A+ (such as Mycota®)2A+	OD to BD[2A+]	BNF for children		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
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]				
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**	250mg to 500mg TDS[15A+] **OR** 750mg BD[15A+]	-		
		valaciclovir[8D,10A+,14A-]	1g TDS[14A-]	BNF for children		

Infection	Key points	Medicine	Doses		Length	Visual summary
			Adult	Child		
▼ 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*
		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]						
▼ 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.						