Infection – Management and Treatment in Primary Care SWL (Antimicrobial Guidelines)

For use in NHS Sutton, Merton, Wandsworth, Kingston & Richmond boroughs

This guidance is based on the best available evidence but use professional judgement and involve patients

PRINCIPLES OF TREATMENT

1. This guidance should not be used in isolation; it should be supported with patient information about safety netting, delayed/back-up antibiotics, self-care, infection severity and usual duration, clinical staff education, and audits. Materials are available on the RCGP TARGET website.
2. Prescribe an antibiotic only when there is likely to be a clear clinical benefit, giving alternative, non-antibiotic self-care advice, where appropriate. Limit telephone prescribing to exceptional cases.
3. Always check for antibiotic allergies. Confirm true allergy (i.e. rash, swelling of lips, tongue or face, anaphylaxis, etc.) to recommended antibiotic before prescribing an alternative to ensure appropriate antibiotics are not excluded from the options.
4. Consider a no, or delayed/back up, antibiotic strategy for acute self-limiting upper respiratory tract infections and mild UTI symptoms.
5. In severe infection, or immunocompromised, it is important to initiate antibiotics as soon as possible, particularly if sepsis is suspected. If the patient is not at moderate to high risk for sepsis, give information about symptom monitoring, and how to access medical care if they are concerned.
6. Where an empirical therapy has failed or special circumstances exist, microbiological advice can be obtained from St George's Hospital on ☎ 0208 725 5693, Kingston Hospital on ☎ 020 8934 2052 or St Helier Hospital on ☎ 020 8296 2468.
7. Use simple generic antibiotics first if possible. Avoid broad spectrum antibiotics (e.g. co-amoxiclav, quinolones and cephalosporins) when narrow spectrum antibiotics remain effective, as they increase the risk of *Clostridium difficile*, MRSA and resistant UTIs.
8. Modify suggested adult doses/duration for age, weight and renal function. Consider a larger dose or longer course in severe or recurrent cases. Doses are for guidance only, are oral and for adults unless otherwise stated. Children's doses are provided when appropriate and can be accessed through the BNFc symbol. Refer to the BNF for further dosing and interaction information (e.g. interaction between macrolides and statins, clozapine and ciprofloxacin, etc) if needed. Check for hypersensitivity.
9. The use of new and more expensive antibiotics (e.g. quinolones and cephalosporins) is inappropriate when standard and less expensive antibiotics remain effective.
10. Lower threshold for antibiotics in immunocompromised or those with multiple morbidities; consider culture/specimens and seek advice.
11. Avoid widespread use of topical antibiotics, especially those agents also available systemically; in most cases, topical use should be limited.
12. In pregnancy take specimens to inform treatment. Where possible AVOID tetracyclines, aminoglycosides, quinolones, azithromycin (except in chlamydial infection), clarithromycin, and high dose metronidazole (2g STAT), unless benefits outweigh the risks. Penicillins, cephalosporins and erythromycin are safe in pregnancy. 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. Seek further advice from the UK Teratology Information Service on ☎ 0344 892 0909 if needed.
13. Avoid all tetracyclines in children under 12 years due to deposition in growing bone and teeth, by binding to calcium, causing staining and occasionally dental hypoplasia.
14. Where there are two clinically appropriate options consider adherence and cost effectiveness.
15. Disabling, long-lasting or potentially irreversible adverse reactions affecting musculoskeletal and nervous systems have been reported very rarely with fluoroquinolone antibiotics. Fluoroquinolone treatment should be discontinued at the first signs of a serious adverse reaction, including tendon pain or inflammation. For further information click here.

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by BNFc) for further information.

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ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
UPPER RESPIRATORY TRACT INFECTIONS ***NICE NG63*: Consider delayed antibiotic prescriptions.** ***Do not prescribe antibiotics for viral sore throat, simple coughs & colds.***				
Influenza treatment & prophylaxis NICE TA168 Influenza UKHSA Influenza	Oseltamivir	***Prophylaxis:** Aged 13 years & over & adults unless weight <40kg:* 75mg OD [BNFc]	10 days	• **Annual vaccination is essential for all those "at risk" of influenza.** • Antivirals are not recommended for healthy adults. • **Treat "at risk" patients** when influenza is circulating in the community, and ideally within 48 hours of onset (36 hours for zanamivir treatment in children), or in a care home where influenza is likely. • **At risk**: ➢ pregnant (including up to two weeks post-partum); ➢ children under six months; ➢ adults 65 years or older; ➢ chronic respiratory disease (including COPD and asthma); ➢ significant cardiovascular disease (not hypertension); ➢ severe immunosuppression; ➢ diabetes mellitus; ➢ chronic neurological, ➢ renal or liver disease; ➢ morbid obesity (BMI>40). • **For pregnant women:** ➢ Discuss risk benefit with patient before prescribing oseltamivir. ➢ Decision to prescribe zanamivir should be discussed with local infection specialist. See the UKHSA Influenza guidance for the treatment of patients under 13 years of age.
		***Treatment:** Aged 13 years & over & adults unless weight <40kg:* 75mg BD [BNFc]	5 days	
	Severe immunosuppression & complicated influenza or oseltamivir resistance (plus seek advice):			
	Zanamivir	***Prophylaxis:** Aged 13 years & over & adults unless weight <40kg:* 10mg OD (two inhalations by diskhaler) [BNFc]	10 days	
		***Treatment:** Aged 13 years & over & adults:* 10mg BD (two inhalations by diskhaler) [BNFc]	5 days	
Acute sore throat NICE: Sore throat (acute) NG84 NG84 Visual summary	• **No antibiotic.** **Give self-care advice – see comments section.**			**Self-care advice:** • Paracetamol/ibuprofen for pain. • Medicated lozenges may help pain in adults and can be bought OTC. • Drink adequate fluids. • Explain soreness will take about 7 days to resolve and safety net. • Self Care Forum Factsheet • **Avoid antibiotics** as 82% of cases resolve in 7 days, and pain is only reduced by 16 hours. • Use **FeverPAIN** or **Centor** to assess symptoms. • **FeverPAIN 0-1 or Centor 0-2:** No antibiotic **FeverPAIN 2-3:** No antibiotic 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 • Complications are rare: antibiotics to prevent quinsy NNT>4000; otitis media NNT200. • 10 days penicillin has lower relapse than 5 days in patients under 18 years of age.
	1. Penicillin V	500mg QDS/1g BD [BNFc]	5-10 days	
	Penicillin allergy:			
	Clarithromycin ***OR*** Erythromycin (preferred if pregnant)	250-500mg BD [BNFc] 250-500mg QDS/500mg-1g BD [BNFc]	5 days 5 days	
Scarlet fever (Group A Streptococcus) PHE Scarlet fever	*Optimise analgesia, give safety netting advice* ***AND:***			**Self-care advice:** • Paracetamol/ibuprofen for pain. • Drink adequate fluids. • **Prompt treatment** with appropriate antibiotics significantly reduces the risk of complications. • **Vulnerable individuals** (immunocompromised, the comorbid, or those with skin disease) are at increased risk of developing complications. • CKS: Offer paracetamol or ibuprofen, encourage rest and to drink adequate fluids. • CKS: Scarlet fever is a notifiable disease. If there is any suspicion of infection because of clinical features, a notification form should be completed and sent to the local UK Health Security Agency (UKHSA) centre within 3 days.
	Penicillin V	500mg QDS [BNFc]	10 days	
	Penicillin allergy:			
	Clarithromycin	250-500mg BD [BNFc]	5 days	

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by [BNFc]) for further information.

ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
Acute sinusitis NICE: Sinusitis (acute) NG79 NG79 Visual summary	• **No antibiotic.** Give self-care advice – see comments section.			**Self-care advice:** • Paracetamol/ibuprofen for pain/fever. • Little evidence that nasal decongestants or nasal saline help, but people may want to try them. • **Symptoms <10 days:** do not offer antibiotics as most resolve in 14 days without, and antibiotics only offer marginal benefit after 7 days (NNT15). • **Symptoms with no improvement >10 days:** no antibiotic, or **delayed antibiotic** if several of: ➢ purulent nasal discharge; ➢ severe localised unilateral pain; ➢ fever; ➢ marked deterioration after initial milder phase. • Consider high-dose nasal steroid if >12 years. • **Systemically very unwell, or high risk of complications:** immediate antibiotic. • **Suspected complications:** e.g. sepsis, intraorbital or intracranial, refer to secondary care. • CKS: Explain that acute sinusitis is caused by a virus in more than 98% of people, takes on average 2.5 weeks to resolve, and that antibiotics are only likely to help when there are features indicative of bacterial infection.
	1. Penicillin V	500mg QDS BNFc	5 days	
	Penicillin allergy:			
	Doxycycline (not in under 12yrs) ***OR*** Clarithromycin ***OR*** Erythromycin (preferred if pregnant)	200mg STAT then 100mg OD BNFc 500mg BD BNFc 250-500mg QDS BNFc ***OR*** 500-1000mg BD	5 days 5 days 5 days	
	Third choice or very unwell or worsening:			
	Co-amoxiclav	500/125mg TDS BNFc	5 days	
Acute Otitis Externa CKS Otitis externa	• **No antibiotic.** Give self-care advice – see comments section.			**Self-care advice:** • Analgesia for pain relief and apply localised heat (e.g. a warm flannel). • *EarCalm® available over the counter • Second line: topical acetic acid or topical antibiotic +/- steroid: similar cure at 7 days. • If cellulitis or disease extends outside ear canal or systemic signs of infection, start oral flucloxacillin and refer to exclude malignant otitis externa.
	1. Acetic acid 2% (over 12 years only)*	1 spray TDS BNFc	7 days	
	2. Neomycin sulphate with corticosteroid	3 drops TDS BNFc	7 days (min) to 14 days (max)	
	If cellulitis:			
	Flucloxacillin	250mg QDS BNFc If severe: 500mg QDS	7 days 7 days	
Acute Otitis Media NICE: Otitis media (acute) NG91 NG91 Visual summary	• **No antibiotic.** Give self-care advice – see comments section.			**Self-care advice:** • 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. • AOM resolves in 60% of cases in 24 hours without antibiotics. • Antibiotics reduce pain only at two days (NNT15), and do not prevent deafness. • **Consider 2 or 3-day delayed, or immediate antibiotics for pain relief if:** <2 years AND bilateral AOM (NNT4), bulging membrane, or symptom score >8 for: ➢ fever; ➢ tugging ears; ➢ crying; ➢ irritability; ➢ difficulty sleeping; ➢ less playful; ➢ eating less ➢ (0 = no symptoms; 1 = a little; 2 = a lot). • All ages with otorrhoea NNT3. • Antibiotics to prevent mastoiditis NNT>4000. • Refer to hospital if: severe systemic infection, or complications like mastoiditis
	1. Amoxicillin	1-11 months: 125mg TDS BNFc 1-4 years: 250mg TDS 5-17 years: 500mg TDS	5-7 days	
	Penicillin allergy or intolerance:			
	Clarithromycin ***OR*** Erythromycin	1 month - 11 years: BNFc Under 8kg: 7.5mg/kg BD 8-11kg: 62.5mg BD 12-19kg: 125 mg BD 20-29kg: 187.5mg BD 30-40 kg: 250mg BD ***OR*** 12-17 years: 250-500mg BD 1 month to 1 year: 125mg QDS BNFc ***OR*** 250mg BD 2-7 years: 250mg QDS ***OR*** 500mg BD 8-17 years: 250-500mg QDS ***OR*** 500 – 1000mg BD	5-7 days 5-7 days	
	Worsening symptoms on first choice taken for at least 2 to 3 days:			
	Co-amoxiclav	1-11 months: 0.25 ml/kg of 125/31 suspension TDS BNFc 1-5 years: 5ml of 125/31 suspension TDS ***OR*** 0.25ml/kg of 125/31 suspension TDS 6-11 years: 5ml of 250/62 suspension TDS ***OR*** 0.15 ml/kg of 250/62 suspension TDS 12-17 years: 250/125mg TDS ***OR*** 500/125mg TDS	5-7 days	

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ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
LOWER RESPIRATORY TRACT INFECTIONS *Note: Low doses of penicillins are more likely to select out resistance,* ***we recommend 500mg of amoxicillin. Do not use quinolones*** *(ciprofloxacin and ofloxacin) 1st line due to poor pneumococcal activity. Reserve all quinolones (including levofloxacin) for proven resistant organisms.*				
Acute cough and bronchitis NICE: Cough (acute) NG120 NG120 Visual Summary	• **Give self-care advice & safety net – see comments section.**			**Self-care advice:** • Some people may wish to try honey (in over 1s), the herbal medicine pelargonium (in over 12s), cough medicines containing the expectorant guaifenesin (in over 12s) or cough medicines containing cough suppressants, except codeine, (in over 12s). These self-care treatments have limited evidence for the relief of cough symptoms. • **Acute cough with upper respiratory tract infection**: no antibiotic. • **Acute bronchitis**: no routine antibiotic. • **Acute cough and higher risk of complications (at face-to-face examination)**: immediate or back-up antibiotic. • **Acute cough and systemically very unwell (at face to face examination)**: immediate antibiotic. • Higher risk of complications includes: ➢ people with pre-existing comorbidity; ➢ young children born prematurely; ➢ people over 65 with 2 or more of, or over 80 with 1 or more of: ○ hospitalisation in previous year, ○ type 1 or 2 diabetes, ○ history of congestive heart failure, ○ current use of oral corticosteroids. • Do not offer a mucolytic, an oral or inhaled bronchodilator, or an oral or inhaled corticosteroid unless otherwise indicated. • Antibiotics have little benefit if no co-morbidity. • **Consider delayed antibiotic as second line, with safety netting, and advise that symptoms can last up to 3 to 4 weeks.**
	Adults aged 18 years & over:			
	1. Doxycycline	200mg STAT then 100mg OD BNFc	5 days	
	Adults aged 18 years & over – alternative first choice antibiotics:			
	Amoxicillin ***OR*** (preferred if pregnant)	500mg TDS BNFc	5 days	
	Clarithromycin ***OR***	250-500mg BD BNFc	5 days	
	Erythromycin (preferred if pregnant)	250-500mg QDS BNFc ***OR*** 500-1000mg BD	5 days	
	Children & young people under 18 years:			
	1. Amoxicillin	1-11 months: 125mg TDS BNFc 1-4 years: 250mg TDS 5-17 years: 500mg TDS	5 days	
	Children & young people under 18 years - alternative first choice antibiotics:			
	Clarithromycin ***OR***	1 month - 11 years: BNFc Under 8kg: 7.5mg/kg BD 8-11kg: 62.5mg BD 12-19kg: 125 mg BD 20-29kg: 187.5mg BD 30-40 kg: 250mg BD ***OR*** 12-17 years: 250-500mg BD	5 days	
	Erythromycin ***OR***	1 month to 1 year: 125mg QDS BNFc ***OR*** 250mg BD 2-7 years: 250mg QDS ***OR*** 500mg BD 8-17 years: 250-500mg QDS ***OR*** 500 – 1000mg BD	5 days	
	Doxycycline (not in under 12yrs)	200mg STAT then 100mg OD BNFc	5 days	
Acute exacerbation of COPD NICE: COPD (acute exacerbation) NG114 NG114 Visual summary NICE COPD NG115	1. Amoxicillin ***OR***	500mg TDS (see BNF for severe infection)	5 days	• 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.
	Doxycycline ***OR***	200mg STAT then 100mg OD (see BNF for severe infection)	5 days	
	Clarithromycin	500mg BD (see BNF for severe infection)	5 days	
	Second choice oral antibiotics if no improvement in symptoms on first choice taken for at least 2 to 3 days; guided by susceptibilities when available.			
	Alternative choice (if person at higher risk of treatment failure):			
	2. Co-amoxiclav ***OR***	500/125mg TDS	5 days	
	Co-trimoxazole (consider safety issues) ***OR***	960mg BD	5 days	
	Levofloxacin (consider safety issues)	500mg OD	5 days	

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ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
Acute exacerbation of Bronchiectasis NICE: Bronchiectasis (non-cystic fibrosis) (acute exacerbation) NG117 NG117 Visual summary	***Adults aged 18 years & over*** ***Send a sputum sample for culture and susceptibility testing and start empirical treatment:***			**Do not await the results of culture.** • When choosing antibiotics, take account of: severity of symptoms, previous exacerbations, hospitalisations and risk of complications and treatment failure, previous sputum culture and susceptibility results • If unable to take oral antibiotics or severely unwell refer to hospital for IV antibiotics. • Course length based on an assessment of the person's severity of bronchiectasis, exacerbation history, severity of exacerbation symptoms, previous culture and susceptibility results, and response to treatment. • People who may be at higher risk of treatment failure include people who have had repeated courses of antibiotics, a previous sputum culture with resistant or atypical bacteria, or a higher risk of developing complications. **Antibiotic prophylaxis** • Only start a trial of antibiotic prophylaxis on specialist advice • When considering antibiotic prophylaxis, discuss the possible benefits (reduced exacerbations), harms (increased antimicrobial resistance, adverse effects and interactions with other medicines) and the need for regular review with the patient. • Where a person is receiving antibiotic prophylaxis, treatment should be with an antibiotic from a different class. ***Local consultant microbiologist recommendation (Dr John Clark, EStH; Dr Marina Basarab, SGH)**
	1. Amoxicillin ***OR*** (preferred if pregnant)	500mg TDS	7-14 days	
	Doxycycline ***OR***	200mg STAT then 100mg OD	7-14 days	
	Clarithromycin	500mg BD	7-14 days	
	Adults aged 18 years & over - alternative choice oral antibiotics (if person at higher risk of treatment failure) empirical treatment:			
	2. Co-amoxiclav ***OR***	500/125mg TDS	7-14 days	
	Levofloxacin (consider safety issues)	500mg OD/BD	7 - 14 days	
	Children & young people under 18 years ***Send a sputum sample for culture and susceptibility testing and start empirical treatment:***			
	1. Amoxicillin ***OR***	1-11 months:125mg TDS BNFc 1-4 years: 250mg TDS 5-17 years: 500mg TDS	7 - 14 days	
	Clarithromycin ***OR***	1 month - 11 years: BNFc Under 8kg: 7.5mg/kg BD 8-11kg: 62.5mg BD 12-19kg: 125 mg BD 20-29kg: 187.5mg BD 30-40 kg: 250mg BD ***OR*** 12-17 years: 250-500mg BD	7 - 14 days	
	Doxycycline (not in under 12yrs)	200mg STAT then 100mg OD BNFc	7 - 14 days	
	Children & young people under 18 years – alternative choice oral antibiotics (if person at higher risk of treatment failure) empirical treatment:			
	2. Co-amoxiclav ***OR***	1-11 months: 0.25 ml/kg of 125/31 suspension TDS BNFc 1-5 years: 5ml of 125/31 suspension TDS ***OR*** 0.25ml/kg of 125/31 suspension TDS 6-11 years: 5ml of 250/62 suspension TDS ***OR*** 0.15 ml/kg of 250/62 suspension TDS 12-17 years: 250/125mg TDS ***OR*** 500/125mg TDS	7 - 14 days	
	Ciprofloxacin **(on microbiologist advice only)** (consider safety issues) ***AND**** Clarithromycin*** OR**	1-17 years: 20mg/kg BD (max. 750mg per dose) BNFc 1 month - 11 years: BNFc Under 8kg: 7.5mg/kg BD 8-11kg: 62.5mg BD 12-19kg: 125 mg BD 20-29kg: 187.5mg BD 30-40 kg: 250mg BD ***OR*** 12-17 years: 250-500mg BD	7 - 14 days 7 - 14 days	
	Doxycycline***** (not in under 12yrs)	200mg STAT then 100mg OD BNFc	7 - 14 days	

ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
Community-acquired pneumonia NICE (pneumonia community acquired) NG138 NG138 Visual summary	***Low severity in adults or non-severe in children:***			• Assess severity in adults based on clinical judgement guided by mortality risk score (CRB65 or CURB65). See NICE (pneumonia community acquired) NG138 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 • Give advice about: ➢ possible adverse effects of the antibiotic(s) ➢ how long symptoms are likely to last ➢ seeking medical help if symptoms worsen rapidly or significantly, or do not start to improve within 3 days, or the person becomes systemically very unwell • **Refer adults to hospital** if: ➢ symptoms or signs suggest a more serious illness such as sepsis, or ➢ symptoms are not improving as expected with antibiotics • Consider referring adults or seeking specialist advice if they have bacteria resistant to oral antibiotics or they cannot take oral medicines • Consider referring children and young people to hospital or seek specialist paediatric advice on further investigation and management *** Stop antibiotics after 5 days unless microbiological results suggest a longer course is needed or the person is not clinically stable**
	1. Amoxicillin	500mg TDS BNFc (higher doses can be used - see BNF/BNFC)	5 days*	
	Low severity in adults or non-severe in children – alternative first choice:			
	Doxycycline (not in under 12yrs) ***OR*** Clarithromycin ***OR*** Erythromycin (preferred if pregnant)	200mg STAT then 100mg OD BNFc 500mg BD BNFc 500mg QDS BNFc	5 days* 5 days* 5 days*	
	Moderate severity in adults:			
	1. Amoxicillin ***AND (if atypical pathogens suspected)*** Clarithromycin ***OR*** Erythromycin (preferred if pregnant)	500mg TDS (higher doses can be used - see BNF) 500mg BD 500mg QDS	5 days* 5 days* 5 days*	
	Moderate severity in adults – alternative first choice:			
	Doxycycline (not in under 12yrs) ***OR*** Clarithromycin	200mg STAT then 100mg OD 500mg BD	5 days* 5 days*	
	High severity in adults or severe in children:			
	1. Co-amoxiclav ***AND (if atypical pathogens suspected)*** Clarithromycin ***OR*** Erythromycin (preferred if pregnant)	500/125mg TDS BNFc 500mg BD BNFc 500mg QDS BNFc	5 days* 5 days* 5 days*	
	High severity in adults – alternative first choice:			
	Levofloxacin (consider safety issues)	500mg BD	5 days*	

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by BNFc) for further information.

ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
HOSPITAL ACQUIRED PNEUMONIA • **Hospital-acquired pneumonia develops 48 hours or more after hospital admission** • **If symptoms or signs of pneumonia start within 48 hours of hospital admission, see community acquired pneumonia.**				
Hospital-acquired pneumonia NICE (pneumonia hospital acquired) NG139 NG139 Visual summary	***Non-severe and not higher risk of resistance:***			• 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 of symptoms or signs, ➢ number of days in hospital before onset of symptoms, ➢ risk of developing complications, ➢ local hospital and ward-based antimicrobial resistance data, ➢ recent antibiotic use and microbiological results, ➢ recent contact with a health or social care setting before current admission, ➢ risk of adverse effects with broad spectrum antibiotics. • No validated severity assessment tools are available. Assess severity of symptoms or signs based on clinical judgement. • Higher risk of resistance includes: ➢ relevant comorbidity (such as severe lung disease or immunosuppression), ➢ recent use of broad spectrum antibiotics, ➢ colonisation with multi-drug resistant bacteria, ➢ recent contact with health and social care settings before current admission. • If symptoms or signs of pneumonia start within days 3 to 5 of hospital admission in people not at higher risk of resistance, consider following community acquired pneumonia for choice of antibiotic. • Seek specialist advice from a microbiologist for: ➢ symptoms that are not improving as expected with antibiotics, ➢ multi-drug resistant bacteria • Follow the NICE guideline on care of dying adults in the last days of life for adults approaching the end of life
	1. Co-amoxiclav	500/125mg TDS BNFc	5 days then review	
	Non-severe and not higher risk of resistance – ADULTS alternative first choice: ***(Choice based on specialist microbiological advice and local resistance data)***			
	Options include: Doxycycline (not in under 12yrs) ***OR***	200mg STAT then 100mg OD	5 days then review	
	Cefalexin (caution in penicillin allergy) ***OR***	500 mg BD or TDS (can increase to 1 to 1.5g TDS or QDS)	5 days then review	
	Co-trimoxazole ***OR***	960mg BD	5 days then review	
	Levofloxacin **(only if switching from IV levofloxacin with specialist advice; (consider safety issues))**	500mg OD **or** BD	5 days then review	
	Non-severe and not higher risk of resistance – CHILDRENS alternative first choice:			
	Clarithromycin **(Other options may be suitable based on specialist microbiological advice and local resistance data)**	1 month - 11 years: BNFc Under 8kg: 7.5mg/kg BD 8-11kg: 62.5mg BD 12-19kg: 125 mg BD 20-29kg: 187.5mg BD 30-40 kg: 250mg BD ***OR*** 12-17 years: 500mg BD	5 days then review	

ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
URINARY TRACT INFECTIONS ***Note: As antibiotic resistance and Escherichia coli bacteraemia in the community is increasing, use nitrofurantoin first line, always give safety net and self-care advice, and consider risks for resistance. Give TARGET UTI leaflet, and refer to the PHE UTI guidance for diagnostic information.***				
Uncomplicated lower UTI (i.e. no fever or flank pain) in men & non-pregnant women 16 years & over NICE NG109: Urinary tract infection (lower) visual summary	1. Nitrofurantoin ***OR*** *If low risk of resistance:* Trimethoprim	100mg m/r BD (BD dose preferred due to increased compliance) ***OR*** 50mg i/r QDS 200mg BD	 Women: 3 days Men: 7 days	**Self-care advice:** • Advise paracetamol or ibuprofen for pain & drinking enough fluid to avoid dehydration. • No evidence for cranberry products or urine alkalinising agents to treat lower UTI. • 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. • BNF: Nitrofurantoin may be used with caution if eGFR 30-44ml/min to treat uncomplicated lower UTI caused by suspected or proven multidrug resistant bacteria and only if potential benefit outweighs risk. • **Low risk of resistance:** younger women with acute UTI and no risk. • **Risk factors for increased resistance include:** ➢ care-home resident; ➢ recurrent UTI; ➢ hospitalisation for >7 days in the last 6 months; ➢ unresolving urinary symptoms; ➢ recent travel to a country with increased resistance; ➢ previous UTI resistant to trimethoprim, cephalosporins, or quinolones. • **If risk of resistance:** send urine for culture and susceptibilities; safety net. • **Women:** • **Treat women** with severe/≥3 symptoms. • **Women <65 years (mild/≤2 symptoms):** pain relief, and consider back up antibiotic (to use if no improvement in 48 hours or symptoms worsen at any time) or immediate antibiotic If urine not cloudy, 97% NPV of no UTI. If urine cloudy, use dipstick to guide treatment: nitrite, leukocytes, blood all negative 76% NPV; nitrite plus blood or leukocytes 92% PPV of UTI. • **Men:** • Immediate antibiotic. • **Men <65 years:** consider prostatitis and send MSU, or if symptoms mild or non-specific, use negative dipstick to exclude UTI. • Nitrofurantoin is not recommended for men with suspected prostate involvement because it is unlikely to reach therapeutic levels in the prostate. • **All patients >65 years:** treat if fever >38°C, or 1.5°C above base twice in 12 hours, and >1 other symptom. • TARGET UTI • SIGN 160: Management of suspected bacterial lower urinary tract infection in adult women
	If treatment failure always perform culture			
	• Consider alternative diagnoses and follow recommendations in the acute pyelonephritis or acute prostatitis sections, basing antibiotic choice on recent culture and susceptibility results.			
	If first line unsuitable or eGFR <45ml/min & MSU indicates susceptible:			
	Pivmecillinam ***OR*** ***If high resistance risk & MSU indicates susceptible:*** Fosfomycin	400mg STAT then 200mg TDS 3g STAT	Women: 3 days Men: 7 days Single dose	
UTI in pregnancy NICE NG109: Urinary tract infection (lower) visual summary	**Send MSU for culture; start antibiotics in all with significant bacteriuria, even if asymptomatic:**			• Pregnant women: immediate antibiotic. • **Treatment of asymptomatic bacteriuria in pregnant women:** choose from nitrofurantoin (avoid at term), amoxicillin or cefalexin based on recent culture and susceptibility results. • Review treatment on results of any available previous MSU. • SPC: Short-term use of nitrofurantoin in pregnancy is unlikely to cause problems to the foetus but avoid at term due to possible risk of neonatal haemolysis. • SIGN 160: Management of suspected bacterial lower urinary tract infection in adult women • PHE: Urinary tract infection: diagnostic tools for primary care
	If eGFR ≥45ml/min: 1. Nitrofurantoin *(avoid at term)*	100mg m/r BD (BD dose preferred due to increased compliance) ***OR*** 50mg i/r QDS	7 days	
	Only if culture results available and susceptible:			
	2. Amoxicillin ***OR*** Cefalexin	500mg TDS 500mg BD	7 days 7 days	

ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
UTI in patients with catheters NICE NG113: Urinary tract infection (catheter-associated) visual summary	**First choice non-pregnant women & men if no upper UTI symptoms:**			**Self-care advice:** • Advise paracetamol for pain and drinking enough fluids to avoid dehydration. • **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 **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. Refer to NICE NG113 visual summary for suitable antibiotic options & for children's recommended antibiotic options. • Do not routinely offer antibiotic prophylaxis to people with a short-term or long-term catheter or for catheter change unless there is a history of catheter-change-associated UTI or trauma. • **Non-pregnant women & men with upper UTI symptoms:** Treat as per pyelonephritis. • **Pregnant women with upper UTI symptoms:** Refer to secondary care.
	If eGFR ≥45ml/min: Nitrofurantoin ***OR*** *If low risk of resistance:* Trimethoprim ***OR*** *Only if culture results available and susceptible:* Amoxicillin	100mg m/r BD (BD dose preferred due to increased compliance) ***OR*** 50mg i/r QDS 200mg BD 500mg TDS	7 days 7 days 7 days	
	Second choice non-pregnant women & men if no upper UTI symptoms:			
	Pivmecillinam	400mg STAT then 200mg TDS	7 days	
Acute prostatitis NICE NG110: Prostatitis (acute) visual summary	***Guided susceptibilities when available:***			**Self-care advice:** • Advise paracetamol (+/- low-dose weak opioid) for pain, or ibuprofen if preferred and suitable. • Send MSU for culture and start antibiotics. • Advise that duration of acute prostatitis may last several weeks. • 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). • Quinolones achieve high prostate concentrations. • NICE CKS**: Consider prostatitis if patient has the following:** ➢ perineal, penile or rectal pain ➢ acute urinary retention ➢ obstructive voiding symptoms ➢ low back pain ➢ pain on ejaculation ➢ tender, swollen, warm prostate
	1. Ciprofloxacin ***OR*** Ofloxacin (consider safety issues) ***OR*** Trimethoprim *(if unable to take quinolone)*	500mg BD 200mg BD 200mg BD	14 days then review	
	After discussion with specialist:			
	2. Levofloxacin (consider safety issues) ***OR*** Co-trimoxazole (consider safety issues)	500mg OD 960mg BD	14 days then review 14 days then review	
Acute pyelonephritis NICE NG111: Pyelonephritis (acute) visual summary	***Send MSU and start:***			**Self-care advice:** • 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. • If admission not needed, send MSU for culture and susceptibility testing, and start antibiotics. • If no response within 24 hours, seek advice. • **If ESBL risk,** and on advice from a microbiologist, consider IV antibiotic via OPAT. • CKS: Although ciprofloxacin, and co-amoxiclav are associated with an increased risk of *Clostridium difficile*, MRSA, and other antibiotic-resistant infections, this has to be balanced against the risk of treatment failure and consequent serious complications with the use of narrow spectrum antibiotics. • **Refer pregnant women to secondary care.** • NICE CKS**: Consider pyelonephritis if patient has the following:** ➢ Kidney pain/tenderness in back under ribs ➢ New/different myalgia, flu-like illness ➢ Shaking chills (rigors) or temperature ≥37.9°C (or <36°C in people aged over 65 years) ➢ Nausea/vomiting
	Ciprofloxacin (consider safety issues) ***OR*** Cefalexin ***OR*** *Only if culture results available and susceptible:* Co-amoxiclav ***OR*** *Only if culture results available and susceptible:* Trimethoprim	500mg BD 500mg BD/TDS up to 1g-1.5g TDS/QDS for severe infections 500/125mg TDS 200mg BD	7 days 7-10 days 7-10 days 14 days	

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by BNFc) for further information.

ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
UTI in Children NICE CG 54: Urinary tract infection in under 16s: diagnosis and management NICE NG109: Urinary tract infection (lower) visual summary	**Lower UTI:** ***Send MSU then start:***			**Self-care advice:** • Advise paracetamol or ibuprofen for pain. • **Children:** immediate antibiotic • **Child <3 months:** refer urgently for assessment. • **Child >3 months:** use positive nitrite to guide antibiotic use; send pre-treatment MSU. • **Imaging:** refer if child <6 months, or recurrent or atypical UTI. • **Upper UTI:** refer to paediatrics to: obtain a urine sample for culture; assess for signs of systemic infection; consider systemic antimicrobials. • For alternative dosing see BNFC.
	If low risk of resistance: Trimethoprim ***OR*** *If eGFR ≥45ml/min:* Nitrofurantoin	6 months-11 years: BNFc 4mg/kg (max. 200mg) BD 12-15 years: 200mg BD Immediate release: BNFc 3 months-11 years: 750micrograms/kg QDS 12-15 years: 50mg QDS Modified release: BNFc 12-15 years: 100mg BD	3 days 3 days 3 days	
	If culture results available and susceptible:			
	Amoxicillin ***OR*** Cefalexin	3-11 months: 125mg TDS BNFc 1-4 years: 250mg TDS 5-15 years: 500mg TDS 3 months -11 years: BNFc 12.5mg/kg BD 12-15 years: 500mg BD	3 days 3 days	
Recurrent UTI (2 in 6 months or ≥3 in a year) NICE NG112: Urinary tract infection (recurrent) visual summary	• **Give self-care advice – see comments section.**			**Self-care advice:** • Advise simple measures, including hydration; ibuprofen for symptom relief. • Non pregnant women may wish to try Cranberry or D-mannose products. • Advise about behavioural and personal hygiene measures, and self-care to reduce the risk of UTI. • **Postmenopausal women:** if no improvement, consider vaginal oestrogen (review within 12 months). • **Non-pregnant women:** if no improvement, consider single-dose antibiotic prophylaxis for exposure to a trigger (review within 6 months). • **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). • Refer if infection not resolving. • TARGET UTI *See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information
	1. Investigate cause of recurrent UTI.			
	2. Antibiotic prophylaxis: Trimethoprim (avoid in pregnancy) ***OR*** Nitrofurantoin (avoid at term) – if eGFR ≥45ml/min	200mg STAT when exposed to a trigger (off label*) ***OR*** 100mg NOCTE 100mg i/r STAT when exposed to a trigger (off label*) ***OR*** 50-100mg i/r NOCTE	**3-6 months then review recurrence rate and need**	
	3. Amoxicillin (off label*) ***OR*** Cefalexin	500mg STAT when exposed to a trigger ***OR*** 250mg NOCTE 500mg STAT when exposed to a trigger (off label*) ***OR*** 125mg NOCTE		
MENINGITIS / SEPTICAEMIA				
Suspected meningococcal disease NICE CG 102: Meningitis (bacterial) and meningococcal septicaemia in under 16s: recognition, diagnosis and management	Benzylpenicillin IV or IM	**Child <1yr:** 300mg BNFc **Child 1-9 years:** 600mg **Adults/child 10+ years:** 1.2g	**STAT dose; give IM if vein cannot be accessed**	• **Transfer all patients to hospital immediately**. • If time before hospital admission, if suspected meningococcal septicaemia or non-blanching rash, give IV benzylpenicillin as soon as possible. • Do not give IV antibiotics if there is a definite history of anaphylaxis; rash is not a contraindication. • CKS: Bacterial meningitis and meningococcal disease are notifiable diseases in England and Wales.
Prevention of secondary case meningitis	• *To notify a suspected case of meningococcal disease or discuss any queries regarding the management of contacts, please contact UKHSA South London Health Protection Team (SL HPT) ☎ 0344 326 2052 (in & out of hours) or 🖷 0344 326 7255.* • *The South London Health Protection Team (SL HPT) will identify close contacts requiring prophylaxis & any vaccination needs and will advise the GP accordingly.*			

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by BNFc) for further information.

ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
GASTRO-INTESTINAL TRACT INFECTIONS				
Oral Candidiasis CKS Candida	Miconazole oral gel	**4 - 23 months:** 1.25ml of 20mg/g BNFc QDS (hold in mouth after food) **≥2 years**: 2.5ml of 20mg/g BNFc QDS (hold in mouth after food)	7 days; continue for 7 days after resolved	**Self-care advice:** • Miconazole oral gel is available OTC (not licensed for use in children under 4 months of age or during first 5–6 months of life of an infant born pre-term, patients with liver dysfunction and patients taking warfarin or simvastatin). See SmPC. • Topical azoles are more effective than topical nystatin. • Oral candidiasis is rare in immunocompetent adults; consider undiagnosed risk factors, including HIV. • **If extensive/severe candidiasis,** use 50mg fluconazole • **If HIV or immunocompromised**, use 100mg fluconazole.
	If not tolerated: Nystatin suspension	1ml; 100,000 units/mL BNFc QDS (half in each side)	7 days; continue for 2 days after resolved	
	Fluconazole capsules	50mg/100mg OD BNFc	7-14 days	
Helicobacter pylori NICE CG184: GORD and dyspepsia in adults: investigation and management PHE: Helicobacter pylori in dyspepsia: test and treat	***Always use PPI.*** ***First line & first relapse & no penicillin allergy:*** ***PPI plus TWO antibiotics:***			• Always test for *H.Pylori* before giving antibiotics. • Treat all positives, if known DU, GU, or low grade MALToma. NNT in non-ulcer dyspepsia: 14. • Do not offer eradication for GORD. • Do not use clarithromycin, metronidazole or quinolone if used in the past year for any infection. • **Penicillin allergy and previous clarithromycin:** use PPI *PLUS* bismuth salt *PLUS* metronidazole *PLUS* tetracycline hydrochloride. • **Relapse and no penicillin allergy** use PPI *PLUS* amoxicillin *PLUS* clarithromycin or metronidazole (whichever was not used first line). • **Relapse and previous metronidazole and clarithromycin:** use PPI *PLUS* amoxicillin *PLUS* either tetracycline *OR* levofloxacin (if tetracycline not tolerated). • **Relapse and penicillin allergy (no exposure to quinolone)**: use PPI *PLUS* metronidazole *PLUS* levofloxacin. • **Relapse and penicillin allergy (with exposure to quinolone)**: use PPI *PLUS* bismuth salt *PLUS* metronidazole *PLUS* tetracycline. • **Retest for *H. pylori*:** post DU/GU, or relapse after second line therapy, using UBT or SAT, consider referral for endoscopy and culture. • **Third line:** seek gastroenterology advice. • See BNF and PHE *H.Pylori* quick reference guide for alternative combinations.
	Omeprazole ***OR*** Lansoprazole ***AND*** Amoxicillin ***AND*** Clarithromycin ***OR*** Metronidazole	20mg BD BNFc 30mg BD BNFc 1g BD BNFc 500mg BD BNFc 400mg BD BNFc	7-14 days; MALToma 14 days	
	Penicillin allergy:			
	PPI ***AND*** Clarithromycin ***AND*** Metronidazole	 500mg BD BNFc 400mg BD BNFc	7 days; MALToma 14 days	
	For alternative regimens/doses see comments & refer to PHE: Helicobacter pylori in dyspepsia: test and treat			
Infectious diarrhoea PHE Diarrhoea	• Refer previously healthy children with acute painful or bloody diarrhoea to exclude E.coli 0157 infection. • **Antibiotics are usually not indicated unless systemically unwell.** • If systemically unwell and campylobacter suspected (e.g. undercooked meat and abdominal pain), consider clarithromycin 250-500mg BD for 5-7 days if treated early (within 3 days). • If giardia is confirmed or suspected: tinidazole 2g STAT is the treatment of choice. • **Food poisoning is notifiable.** Notify and seek advice on exclusion from the South London Health Protection Unit, ☎ 0344 326 2052.			

ILLNESS	DRUG OPTION	DOSE	DURATION	COMMENTS
Clostridiodes difficile NICE *Clostridiodes difficile* NG199 NG199 Visual summary Updated March 2022	**First-line for first episode of mild, moderate or severe:**			• 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.
	Vancomycin	125mg QDS	10 days	
	Second-line for first episode of mild, moderate or severe if vancomycin ineffective:			
	Fidaxomicin **(on microbiologist advice only)**	200mg BD	10 days	
	For further episode within 12 weeks of symptom resolution (relapse):			
	Fidaxomicin **(on microbiologist advice only)**	200mg BD	10 days	
	For further episode more than 12 weeks after symptom resolution (recurrence):			
	Vancomycin OR Fidaxomicin**(on microbiologist advice only)**	125mg QDS 200mg BD	10 days 10 days	
	For alternative antibiotics if first- and second-line antibiotics are ineffective or for life-threatening infection seek specialist advice (see visual summary)			
Traveller's diarrhoea	*Stand-by:* Azithromycin **(unlicensed)**	500mg OD	1-3 days	• Prophylaxis rarely, if ever, indicated. • **Prophylactic medication solely in anticipation of the onset of an ailment outside the UK should be given on a private prescription.** • Consider stand-by antimicrobial only for patients at high risk of severe illness, or visiting high risk areas. • Refer to https://nathnac.net/, CKS or BNF.
	Prophylaxis/treatment: Bismuth subsalicylate (Pepto-Bismol®)	2 tablets QDS	2 days	
Acute Diverticulitis CKS Diverticular disease NICE diverticular disease NICE Diverticulitis NG147: antimicrobial prescribing visual summary	***First choice if systemically unwell, immunosuppressed or with significant comorbidities:***			**Self-care advice:** • If patient is systemically well, consider not prescribing antibiotics, offer diet and lifestyle advice (see NICE guidance for recommendations), and advise the person to re-present if symptoms persist or worsen. • Offer antibiotics if systemically unwell or immunosuppressed or with significant comorbidities but does not meet the criteria for referral for suspected complicated acute diverticulitis • Advise on the use of analgesia, such as paracetamol as needed. • Advise the patient to avoid NSAIDs and opioid analgesia (such as codeine) if possible, due to the potential increased risk of diverticular perforation (see CKS for further information) • Recommend clear liquids only, with a gradual reintroduction of solid food if symptoms improve over the following 2–3 days (CKS) • Consider checking bloods for raised white cell count and CRP, which may suggest infection (CKS) • **If the person is managed in primary care, arrange a review within 48 hours,** or sooner if symptoms worsen. • Arrange urgent hospital admission if symptoms persist or deteriorate despite management in primary care. • **Consider arranging referral to a specialist in colorectal surgery** if a person is managed in primary care and has frequent or severe recurrent episodes of acute diverticulitis. *Only prescribe ciprofloxacin if switching from IV ciprofloxacin with specialist advice
	Co-amoxiclav	500/125mg TDS	5 days (a longer course may be needed based on clinical assessment)	
	Alternative first choice if penicillin allergy or co-amoxiclav unsuitable:			
	Cefalexin (caution with penicillin allergy) **and** Metronidazole **OR** Trimethoprim **and** Metronidazole **OR** Ciprofloxacin* (consider safety issues) **and** metronidazole	500mg BD-TDS (up to 1-1.5g TDS-QDS in severe infection) **and** 400mg TDS 200mg BD **and** 400mg TDS 500mg BD **and** 400mg TDS	5 days (a longer course may be needed based on clinical assessment)	

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
GENITAL TRACT INFECTIONS				
STI Screening	People with risk factors should be screened for chlamydia, gonorrhoea, HIV, and syphilis. Refer individual and partners to GUM. **Risk factors:** <25 years; no condom use; recent/frequent change of partner; symptomatic or infected partner; area of high HIV.			
Chlamydia trachomatis/ urethritis	1. Doxycycline	100mg BD	7 days	• Opportunistically screen all sexually active patients aged 15 to 24 years for chlamydia annually and on change of sexual partner. • If positive, treat index case, refer to GUM and initiate partner notification, testing and treatment. • As single dose azithromycin has led to increased resistance in GU infections, doxycycline should be used first line for chlamydia and urethritis. • Advise patient 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). • If chlamydia, test for reinfection at 3 to 6 months following treatment if <25 years or consider if >25 years and high risk of reinfection. • **Second line, pregnant, breastfeeding, allergy, or intolerance**: azithromycin is most effective. As lower cure rate in pregnancy, test for cure at least 3 weeks after end of treatment. • Consider referring all patients with symptomatic urethritis to GUM as testing should include *Mycoplasma genitalium* and *Gonorrhoea*. • 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.
	Second line/pregnant/breastfeeding/allergy/intolerance:			
	2. Azithromycin	1g STAT then 500mg OD	2 days (total 3 days)	
Epididymitis	Doxycycline ***OR*** Ofloxacin (consider safety issues) ***OR*** Ciprofloxacin (consider safety issues)	100mg BD 200mg BD 500mg BD	10-14 days 14 days 10 days	• Usually due to Gram-negative enteric bacteria in men over 35 years with low risk of STI. • If under 35 years or STI risk, refer to GUM.
Vaginal candidiasis BASHH Vulvovaginal candidiasis	Clotrimazole ***OR*** Clotrimazole ***OR*** Fluconazole (oral)	500mg pessary 100mg pessary 150mg capsule	STAT 6 nights STAT	**Self-care advice:** • Preparations for vaginal candidiasis available OTC for adults. • All topical and oral azoles give over 80% cure. • **Pregnancy:** avoid oral azoles, and use clotrimazole 100mg intravaginal treatment for 6 nights. • **Recurrent (>4 episodes per year):** 150mg oral fluconazole every 72 hours for three doses induction, followed by one dose once a week for six months maintenance.
	Recurrent: Fluconazole (induction/maintenance)	150mg every 72 hours *THEN* 150mg once a week	3 doses 6 months	
Bacterial vaginosis BASHH Bacterial vaginosis	Oral Metronidazole ***OR*** Metronidazole 0.75% vaginal gel ***OR*** Clindamycin 2% cream	400mg BD ***OR*** 2g 5g applicator at night 5g applicator at night	7 days STAT 5 nights 7 nights	**Self-care advice:** • Preparations for bacterial vaginosis are available OTC that patients may find helpful. • Oral metronidazole is as effective as topical treatment, and is cheaper. • Seven days results in fewer relapses than 2g stat at four weeks. • **Pregnant/breastfeeding:** avoid 2g dose. Treating partners does not reduce relapse.
Genital Herpes BASHH Anogenital herpes	Oral Aciclovir ***OR*** Valaciclovir ***OR*** Famciclovir	400mg TDS 800mg TDS (if recurrent) 500mg BD 250mg TDS 1g BD (if recurrent)	5 days 2 days 5 days 5 days 1 day	**Self-care advice:** • Advise saline bathing, analgesia, or topical lidocaine for pain, and discuss transmission. • **First episode:** treat within five days if new lesions or systemic symptoms, and refer to GUM. • **Recurrent:** self-care if mild, or immediate short course antiviral treatment, or suppressive therapy if more than six episodes per year.

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
Gonorrhoea	Ceftriaxone ***OR*** Ciprofloxacin (only if known to be sensitive & consider safety issues)	1000mg IM 500mg	STAT STAT	• Antibiotic resistance is now very high. • Use IM ceftriaxone if susceptibility not known prior to treatment. • Use Ciprofloxacin **only** if susceptibility is known prior to treatment and the isolate is sensitive to ciprofloxacin at all sites of infection. • Refer to GUM. • Test of cure is essential.
Trichomoniasis B A S H H Trichomoniasis	Metronidazole	400mg BD ***OR*** 2g (more adverse effects)	5-7 days STAT	• Oral treatment needed as extravaginal infection common. • Treat partners, and refer to GUM for other STIs. • **Pregnant/breastfeeding:** avoid 2g single dose metronidazole; clotrimazole for symptom relief (not cure) if metronidazole declined.
	Pregnancy, to treat symptoms:			
	Clotrimazole	100mg pessary at night	6 nights	
Pelvic Inflammatory Disease BASHH PID	1. Ceftriaxone ***AND*** Metronidazole ***AND*** Doxycycline	1000mg IM STAT 400mg BD 100mg BD	Single dose 14 days 14 days	• Refer women and sexual contacts to GUM. • Raised CRP supports diagnosis, absent pus cells in HVS smear good negative predictive value. • **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 Mycoplasma genitalium. • *If M. genitalium* tests positive use moxifloxacin.
	2. Metronidazole ***AND*** Ofloxacin (consider safety issues) ***OR*** Moxifloxacin **ALONE** (first line for *M.Genitalium* associated PID) (consider safety issues)	400mg BD 400mg BD 400mg OD	14 days 14 days 14 days	

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by BNFc) for further information.

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
SKIN / SOFT TISSUE INFECTIONS ***Refer to RCGP Skin Infections online training. For MRSA, discuss therapy with microbiology.***				
Impetigo NICE NG153 Impetigo: antimicrobial prescribing NG153 visual summary	***Topical antiseptic:***			• **Localised non-bullous impetigo:** consider initial treatment with hydrogen peroxide 1% cream (other topical antiseptics are available for superficial skin infections, but no evidence for these was found) • **Widespread non-bullous impetigo**: offer a short course of a topical or oral antibiotic, taking account of prescribing considerations • **Bullous impetigo, or systemically unwell, or at high risk of complications:** offer a short course of an oral antibiotic • **When prescribing, take into account**: ➢ that topical and oral antibiotics are both effective at treating impetigo ➢ the person's preferences, including practicalities of administration and possible adverse effects ➢ that antimicrobial resistance can develop rapidly with extended or repeated use of topical antibiotics ➢ local antimicrobial resistance data • A 5-day course is appropriate for most people with impetigo, but can be increased to 7 days based on clinical judgment, depending on the severity and number of lesions. • **Do not offer combination treatment with a topical and oral antibiotic to treat impetigo** (not more effective, risk adverse effects and resistance) • **Consider referral to specialist or hospital if:** ➢ Symptoms or signs suggest serious illness e.g. cellulitis ➢ Immunocompromised patient with widespread impetigo ➢ Bullous impetigo in babies ➢ Impetigo recurring frequently ➢ Systemically unwell ➢ High risk of complications
	Hydrogen peroxide	1% cream BD-TDS BNFc	5 days	
	First-choice topical antibiotic if hydrogen peroxide unsuitable (for example, if impetigo is around eyes) or ineffective:			
	Fusidic acid	2% cream TDS BNFc	5 days	
	Alternative topical antibiotic if fusidic acid resistance suspected or confirmed:			
	Mupirocin	2% ointment TDS BNFc	5 days	
	First-choice oral antibiotic:			
	Flucloxacillin	500mg QDS BNFc	5 days	
	Alternative oral antibiotics if penicillin allergy or flucloxacillin unsuitable:			
	Clarithromycin **OR**	250mg BD (up to 500mg BD for severe infections) BNFc	5 days	
	Erythromycin (preferred if pregnant)	250-500mg QDS BNFc	5 days	
Cold sores CKS Cold sores	***If frequent, severe, and predictable triggers, consider oral prophylaxis:***			**Self-care advice:** • For infrequent cold sores, antiviral creams are available OTC (licensed for adults and children). • **Most resolve after 5 days without treatment.** • Topical antivirals applied prodromally can reduce duration by 12-18 hours.
	Aciclovir	400mg BD BNFc	5-7 days	
PVL SA PHE PVL SA	• Panton-Valentine leukocidin (PVL) is a toxin produced by 20.8-46% of S. aureus from boils/abscesses. • PVL strains are rare in healthy people, but severe. • Suppression therapy should only be started after primary infection has resolved, as ineffective if lesions are still leaking. • Risk factors for PVL: recurrent skin infections; invasive infections; MSM; if there is more than one case in a home or close community (school children; millitary personell; nursing home residents; household contacts). • Contact microbiologist for treatment advice if required. For contact details see 'Principles of Treatment' section at start of guidance.			

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
Eczema (bacterial infection) NICE Secondary bacterial infection of eczema and other common skin conditions NG190 Visual summary	***Topical antibiotic (if appropriate), for localised infections only:***			• **If not systemically unwell**, do not routinely offer either a topical or oral antibiotic. • Manage underlying eczema and flares with treatments such as emollients and topical corticosteroids, whether antibiotics are given or not. • **If systemically unwell** offer an antibiotic. • **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 at initial presentation. Consider sending a skin swab if the infection is worsening or not improving as expected. If the infection recurs frequently, send a skin swab and consider taking a nasal swab and starting treatment for decolonisation. • 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. • Consider referral or seeking specialist advice if the person has spreading infection that is not responding to oral antibiotics, is systemically unwell, is at high risk of complications, has infections that recur frequently. • Refer to hospital if there are symptoms or signs suggesting a more serious illness or condition such as necrotising fasciitis or sepsis.
	Fusidic acid 2%	TDS	5-7 days	
	First choice oral antibiotic:			
	Flucloxacillin	500mg QDS BNFc	5-7 days	
	Alternative first choice if penicillin allergy or flucloxacillin not suitable:			
	Clarithromycin ***OR*** Erythromycin (preferred if pregnant)	250mg BD (up to 500mg BD for severe infections) BNFc 250mg–500mg QDS BNFc	5-7 days 5-7 days	
	If there are symptoms or signs of cellulitis, see the recommendations on antibiotic choice in the cellulitis and erysipelas section of this guideline			
	If MRSA suspected or confirmed – consult local microbiologist			

Acne Vulgaris
 	
NICE Acne vulgaris
 	
CKS Acne vulgaris
 	
Updated March 2022
	Any severity, patients aged 12 years and over † (topical treatment):			• **Mild to moderate acne**, this includes people who have 1 or more of:
				  ○ any number of non-inflammatory lesions (comedones)
				  ○ up to 34 inflammatory lesions (with or without non-inflammatory lesions)
				  ○ up to 2 nodules.
				• **Moderate to severe acne**, this includes people who have either or both of:
				  ○ 35 or more inflammatory lesions (with or without non-inflammatory lesions)
				  ○ 3 or more nodules.
				Self-care advice:
				• Wash with non-alkaline synthetic detergent cleansing product (e.g. Dove® or Aveeno® moisturising bar) twice daily; do not scrub; avoid make-up.
				• Patient information from the British Association of Dermatologist is available here:
				• **Do not use the following to treat acne;**
				  ○ **monotherapy with a topical antibiotic**
				  ○ **monotherapy with an oral antibiotic**
				  ○ **combination of a topical and oral antibiotic**
				  ○ **minocycline as per SWL Position Statement**
				• Give clear information tailored to patient needs and concerns. Topics to cover include:
				  ○ possible reasons for their acne
				  ○ treatment options, including OTC treatments if appropriate
				  ○ benefits and drawbacks of treatment
				  ○ potential impact of acne
				  ○ importance of adhering to treatment, as positive effects can take 6-8 weeks to become noticeable
				  ○ relapses during and after treatment, including when to obtain further advice, and treatment options should a relapse occur

	Combination of adapalene/benzoyl peroxide ***OR*** Combination of tretinoin/clindamycin Alternative treatment if listed options are contraindicated or refused † Benzoyl peroxide †	0.1%/2.5% or 0.3%/2.5% OD (thinly in the evening) 0.025%/1% OD (thinly in the evening) 5% OD – BD	Assess after 12 weeks	
	Mild to moderate, patients aged 12 years and over † (topical treatment):			
	Combination of benzoyl peroxide/clindamycin	3%/1% or 5%/1% OD (thinly in the evening)	Assess after 12 weeks	
	Moderate to severe, patients aged 12 years and over † (topical PLUS oral treatment):			
	Topical treatment Combination of adapalene/benzoyl peroxide **OR** Azelaic acid * **AND** Oral treatment Lymecycline **OR** Doxycycline	 0.1%/2.5% or 0.3%/2.5% OD (thinly in the evening) 15% gel BD or 20% cream BD 408mg OD 100mg OD	Assess after 12 weeks	

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by BNFc) for further information.

Alternative if above are contraindicated/refused: (oral treatment)		
Erythromycin ***OR*** Clarithromycin **OR** Trimethoprim (following consultant advice, off-label**)	500mg BD 250mg BD 300mg BD	Assess after 12 weeks
Children under 12 years:		
Combination of adapalene/benzoyl peroxide (not in under 9's) <u>Alternative treatment if above is contraindicated or refused</u> ***†*** Benzoyl peroxide **AND IF NEEDED** Erythromycin ***OR*** Clarithromycin	0.1%/2.5% OD (thinly in the evening) BNFc 5% OD – BD BNFc 500mg BD BNFc 250mg BD (weight ≥ 30kg) BNFc	Review at 6-8 weeks. Continue for 3 months max
Pregnant women:		
Combination of benzoyl peroxide/clindamycin (to be used with caution) <u>Alternative if above is contraindicated, refused</u> ***†*** Benzoyl peroxide (alone) **AND IF ORAL TREATMENT IS NEEDED** Benzoyl peroxide **WITH** Erythromycin (preferred in pregnancy) ***OR*** Clarithromycin	3%/1% or 5%/1% OD (thinly in the evening) 5% OD – BD 5% OD – BD 500mg BD 250mg BD	Review at 6-8 weeks. Continue for 3 months max

- Refer to a consultant dermatologist if any of the following apply:
  - there is diagnostic uncertainty
  - they have acne conglobata
  - they have nodulo-cystic acne
  - they have acne fulminans (urgent referral to hospital dermatology team to be assess within 24 hours)
- Consider referring to a consultant dermatologist if they have:
  - mild to moderate acne that has not responded to two courses of treatment
  - moderate to severe acne which has not responded to previous treatment that contains an oral antibiotic
  - acne with scarring
  - acne with persistent pigmentary changes
  - acne contributing to persistent psychological distress or a mental health disorder
- To reduce risk of skin irritation with topical treatments, start with alternate-day or short contact application (e.g. wash off after an hour).
- If a person receiving treatment for acne wishes to use hormonal contraception, consider using the combined oral contraceptive pill in preference to the progestogen-only pill
- Review treatment at 12 weeks and in those whose treatment includes an oral antibiotic, consider continuing treatment for up to 12 more weeks if their acne has not completely cleared (either oral and topical treatment, or topical only)
- Only continue antibiotic treatment for more than 6 months in exceptional circumstances. Review every 12 weeks and stop as soon as possible.
- If acne fails to respond adequately to a 12 week course of a first-line treatment option and at review the severity is:
  - mild to moderate: offer another option from the table of treatment choices. If mild to moderate acne fails to respond adequately to 2 different 12 week courses of treatment options, consider referral to a consultant dermatologist-led team
  - moderate to severe, and the treatment did not include an oral antibiotic: offer another option which includes an oral antibiotic from the table of treatment choices
  - moderate to severe, and the treatment included an oral antibiotic: consider referral to a consultant dermatologist-led team.
- Consider maintenance treatment in people with a history of frequent relapse after treatment.
- Consider a fixed combination of topical adapalene and topical benzoyl peroxide as maintenance treatment for acne. If this is not tolerated, or if 1 component of the combination is contraindicated, consider topical monotherapy with adapalene, azelaic acid, or benzoyl peroxide
- Review maintenance treatments for acne after 12 weeks to decide if they should continue.

* Useful in reducing risk of hyperpigmentation in individuals with darker skin

** See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information

PLEASE NOTE: Changes have been made post-IMOC to provide clarity, and have been annotated with ***†***

ILLNESS	DRUG	DOSE	DURATION	COMMENTS

Leg ulcer infection
 	
NICE Leg Ulcer Infection
 	
NG152 Visual summary
	First-choice oral antibiotic:			• Only offer an antibiotic when there are signs or symptoms of infection (for example, redness or swelling spreading beyond the ulcer, localised warmth, increased pain or fever).
				• Manage any underlying conditions to promote ulcer healing
				• Do not take a sample for microbiological testing at initial presentation, even if the ulcer might be infected as most leg ulcers are colonised by bacteria.
				• Give advice to **seek medical help** if symptoms or signs of infection:
				  ○ Worsen rapidly or significantly at any time, or
				  ○ Do not start to improve within 2 to 3 days of starting treatment
				  ○ Person becomes systemically unwell or has severe pain out of proportion to the infection
				• If the infection is worsening, or not improving as expected, consider microbiological testing.
				• When microbiological results are available:
				  ○ Review the antibiotic and change according to results if infection is not improving, using a narrow spectrum antibiotic if possible.
				• Consider **referring or seeking specialist advice** if the person:
				  ○ Has a higher risk of complications because of comorbidities such as diabetes or immunosuppression
				  ○ Has lymphangitis
				  ○ Has spreading infection not responding to oral antibiotics
				  ○ Cannot take oral antibiotics
				  ○ Has a severe infection warranting the use of IV antibiotics
				• Refer to existing pathways for administration of iv antibiotics if appropriate
				
				*See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information

	Flucloxacillin	500mg-1g QDS (1g dose is off-label use* and is recommended for obese/severely obese patients)	7 days	
	Alternative first-choice oral antibiotics for penicillin allergy or if flucloxacillin unsuitable:			
	Doxycycline **OR**	200mg on first day, then 100mg OD (can be increased to 200mg OD)	7 days	
	Clarithromycin **OR**	500mg BD	7 days	
	Erythromycin (preferred if pregnant)	500mg QDS	7 days	
	Second-choice oral antibiotics (guided by microbiological results when available):			
	Co-amoxiclav **OR**	500/125mg TDS	7 days	
	Co-trimoxazole (in penicillin allergy, off-label use*)	960mg BD	7 days	

Insect bites and stings
 	
NICE Insect bites and stings
 	
NG182 Visual summary
 	
NICE CKS: Insect bites and stings
 	
Updated March 2022
	• **Give self-care advice – see comments section.**			**Self-care advice:**
				• Oral antihistamines and topical treatments are available from the pharmacy
				• Avoid scratching to reduce risk of infection
				• Redness and itching are common and may last up to 10 days
				• **Treat only if sign of infection**, as most cases are self-limiting, most insect bites or stings will not need antibiotics.
				• **Be aware** that a rapid onset skin reaction is more likely to be an inflammatory or allergic reaction rather than an infection
				• **Consider referral or seeking specialist advice for people if:**
				  ○ they are systemically unwell
				  ○ they are severely immunocompromised, and have symptoms or signs of an infection
				  ○ they have had a previous systemic allergic reaction to the same type of bite or sting
				  ○ the bite or sting is in the mouth or throat, or around the eyes
				  ○ it has been caused by an unusual or exotic insect
				  ○ they have fever or persisting lesions associated with a bite or sting that occurred while travelling outside the UK
				• **Reassess if:**
				  ○ symptoms or signs of an infection develop
				  ○ the person's condition worsens rapidly or significantly or they become systemically unwell
				  ○ the person has severe pain out of proportion to the wound, which may indicate the presence of toxin-producing bacteria
				• Take account of other possible diagnoses, such as Lyme disease indicated by erythema migrans

	If there are symptoms or signs of infection, see the recommendations on antibiotic choice for cellulitis and erysipelas section of this guideline			

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by BNFc) for further information.

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
Cellulitis & erysipelas NICE Cellulitis & erysipelas NG141 Visual summary	Flucloxacillin	500mg-1g QDS BNFc (1g dose is off-label*)	5-7 days	• A longer course (up to 14 days in total) may be needed based on clinical assessment. However, the skin does take time to return to normal, and full resolution at 5 to 7 days is not expected. • Consider marking extent of infection with a single-use surgical marker pen • Manage underlying conditions such as diabetes, venous insufficiency, eczema and oedema • Infection around the eyes or the nose (the triangle from the bridge of the nose to the corners of the mouth, or immediately around the eyes including periorbital cellulitis) is of more concern because of a risk of a serious intracranial infection complication. • Consider taking a swab for microbiological testing from people with cellulitis or erysipelas to guide treatment, but only if the skin is broken **and**: ○ there is a penetrating injury **or** ○ there has been exposure to water-borne organisms **or** ○ the infection was acquired outside the UK. • Reassess if: ○ symptoms worsen rapidly, or do not start to improve in 2 to 3 days ○ the person is very unwell, has severe pain, or redness or swelling beyond the initial presentation. • Do not routinely offer antibiotic prophylaxis to prevent recurrent cellulitis or erysipelas. • Refer to hospital if there are symptoms or signs of a more serious illness or condition such as orbital cellulitis, osteomyelitis, septic arthritis, necrotising fasciitis or sepsis • Consider referring or seeking specialist advice if the person: ○ is severely unwell or has lymphangitis ○ has infection near the eyes or nose ○ may have uncommon pathogens ○ has spreading infection not responding to oral antibiotics ○ cannot take oral antibiotics (to explore giving IV antibiotics at home or in the community if appropriate *See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information.
	Alternative first-choice antibiotics for penicillin allergy or if flucloxacillin unsuitable:			
	Clarithromycin **OR** Erythromycin (preferred in pregnancy) **OR** Doxycycline (not in under 12yrs)	500mg BD BNFc 500mg QDS BNFc 200mg on first day, then 100mg OD	5-7 days 5-7 days 5-7 days	
	First choice antibiotic if infection near the eyes or nose (consider seeking specialist advice):			
	Co-amoxiclav	500/125mg TDS BNFc	7 days	
	Alternative first choice antibiotic if infection near the eyes or nose for penicillin allergy or if co-amoxiclav unsuitable (consider seeking specialist advice):			
	Clarithromycin **AND** Metronidazole	500mg BD BNFc 400mg TDS BNFc	7 days	

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
Human and Animal Bites NICE Human and Animal Bites NG184 Visual summary CKS Bites	***Prophylaxis and treatment ALL:***			• Seek specialist advice from a microbiologist for bites from a wild or exotic animal (including birds and non-traditional pets) or domestic animal bites (including farm animal bites) you are unfamiliar with • Manage the wound with irrigation and debridement as necessary • **Offer an antibiotic treatment course** for human or animal bites 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:** • **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 (see below). • **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):** • **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. • High-risk areas include the hands, feet, face, genitals, skin overlying cartilaginous structures or an area of poor circulation • People at high risk include those at risk of a serious wound infection because of a co-morbidity (such as diabetes, immunosuppression, asplenia or decompensated liver disease) • Assess the risk of tetanus, rabies or a bloodborne viral infection and take appropriate action. • Consider referral or seeking specialist advice if, for example, the person: ➢ Is systemically unwell ➢ Has an infection after prophylactic antibiotic ➢ Cannot take or has an infection that is not responding to oral antibiotics *See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information.
	Co-amoxiclav	375-625mg TDS BNFc	3 days for prophylaxis 5 days for treatment (course length can be increased to 7 days (with review) based on clinical assessment of the wound)	
	Alternative first-choice oral antibiotics for adults and young people aged 12 to 17 years for penicillin allergy or if co-amoxiclav is unsuitable:			
	Doxycycline (not in under 12yrs) ***AND*** Metronidazole	200mg STAT then 100-200mg OD BNFc 400mg TDS BNFc	3 days for prophylaxis 5 days for treatment (course length can be increased to 7 days (with review) based on clinical assessment of the wound)	
	Alternative first-choice oral antibiotics in pregnancy for penicillin allergy or if co-amoxiclav is unsuitable:			
	Seek specialist advice			
	Alternate first-choice for children under 12s for penicillin allergy or if co-amoxiclav is unsuitable			
	Co-trimoxazole* (off-label) (consider safety issues)	6 weeks to 5 months: 120mg or 24mg/kg BD BNFc 6 months to 5 years: 240 mg or 24 mg/kg BD 6 years to 11 years: 480 mg or 24 mg/kg BD	3 days for prophylaxis 5 days for treatment (course length can be increased to 7 days (with review) based on clinical assessment of the wound)	
Dermatophyte infection: skin PHE Fungal skin and nail infections	Terbinafine ***OR*** Clotrimazole ***OR*** Miconazole	1% cream OD-BD BNFc 1% cream BD-TDS BNFc 2% cream BD BNFc	1-4 weeks 4 weeks (min) 2-6 weeks Continue for 1 week after healing	**Self-care advice:** • Topical antifungals available OTC. ➢ Terbinafine licensed in >16 years ➢ Miconazole/Clotrimazole licensed in children and adults • **Most cases:** use terbinafine as fungicidal, treatment time shorter and more effective than with fungistatic imidazoles or undecenoates. • **If candida possible:** use imidazole. • **If intractable, or scalp:** send skin scrapings and if infection confirmed: use oral terbinafine or itraconazole. • **Scalp:** oral therapy, and discuss with specialist.
	Athlete's foot only:			
	Undecenoate (topical) (e.g. Mycota®)	BD BNFc	Continue for 1 week after healing	

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
Dermatophyte infection: nail CKS Fungal nail infection	***Take nail clippings; start therapy only if infection is confirmed.***			• Prescribing of topical nail lacquer is not routinely recommended in SWL. See position statement. • Oral terbinafine is more effective than oral azole. • Liver reactions 0.1 to 1% with oral antifungals • If candida or non-dermatophyte infection is confirmed, use oral itraconazole. • **To prevent recurrence:** apply weekly 1% topical antifungal cream to entire toe area. • **Children:** seek specialist advice. • **Stop treatment when continual, new, healthy, proximal nail growth.**
	Terbinafine	250mg OD BNFc	Fingers: 6 weeks Toes: 12 weeks	
	Itraconazole	200mg BD BNFc	1 week a month: Fingers: 2 courses Toes: 3 courses	
Mastitis CKS Mastitis and breast abscess	Flucloxacillin	500mg QDS BNFc	10-14 days	• *S. aureus* is the most common infecting pathogen. • Suspect if woman has: a painful breast; fever and/or general malaise; a tender, red breast. • **Breastfeeding:** oral antibiotics are appropriate, where indicated. Women should continue feeding, including from the affected breast.
	Penicillin allergy:			
	Erythromycin (preferred if pregnant) ***OR*** Clarithromycin	250-500mg QDS BNFc 500mg BD BNFc	10-14 days 10-14 days	
Varicella zoster/ chicken pox **Herpes zoster/ shingles** UKHSA Varicella	1. *For chicken pox or shingles* Aciclovir	800mg five times a day BNFc	7 days	**Self-care advice:** • Advise paracetamol for pain relief. • CKS: Advise the following simple measures to help alleviate symptoms: ➢ Encourage adequate fluid intake to avoid dehydration. ➢ Dress appropriately to avoid overheating or shivering. ➢ Wear smooth, cotton fabrics. ➢ Keep nails short to minimize damage from scratching. • **Pregnant/immunocompromised/neonate:** seek urgent specialist advice. • **Chickenpox:** consider aciclovir if: onset of rash <24 hours, and one of the following: ➢ >14 years of age; ➢ severe pain; ➢ dense/oral rash; ➢ taking steroids; ➢ smoker. • **Shingles:** treat if >50 years (PHN rare if <50 years) and within 72 hours of rash, or if one of the following: ➢ active ophthalmic; ➢ Ramsey Hunt; ➢ eczema; ➢ non-truncal involvement; ➢ moderate or severe pain; ➢ moderate or severe rash. • **Shingles treatment if not within 72 hours:** consider starting antiviral drug up to one week after rash onset, if high risk of severe shingles or continued vesicle formation; older age; immunocompromised; or severe pain.
	2. *For shingles if poor compliance:* Valaciclovir ***OR*** Famciclovir (not for children)	 1g TDS BNFc 250-500mg TDS ***OR*** 750mg BD	 7 days 7 days	
Bacterial Conjunctivitis NICE Summary of antimicrobial prescribing guidance	1. Give self-care advice – Bathe/clean eyelids with cotton wool dipped in sterile saline or boiled (cooled) water, to remove crusting.			**Self-care advice:** • Chloramphenicol available OTC for those >2 years. • **Treat only if severe**, as most cases are viral or self-limiting. • **Bacterial conjunctivitis:** usually unilateral and also self-limiting. It is characterised by red eye with mucopurulent, not watery discharge. 65% and 74% resolve on placebo by days 5 and 7. • **Third line:** fusidic acid as it has less gram-negative activity. • Chloramphenicol eye drops containing borax or boric acid buffers: use in children younger than 2 years
	2. Chloramphenicol	0.5% eye drops BNFc 2 hourly for 2 days then reduce frequency to TDS-QDS ***OR*** 1% eye ointment TDS – QDS *OR* NOCTE if using antibiotic eye drops during the day	Continue for 48 hours after resolution	
	3. Fusidic acid	1% gel BD BNFc	Continue for 48 hours after resolution	

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by BNFc) for further information.

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
Blepharitis NICE Summary of antimicrobial prescribing guidance	• **Give self-care advice – see comments section.**			**Self-care advice:** • Lid hygiene for symptom control, including: warm compresses; lid massage, wipes and scrubs; gentle washing; avoiding cosmetics. • Lid hygiene products are available OTC. • **Second line:** topical antibiotics if hygiene measures are ineffective after 2 weeks. • Signs of Meibomian gland dysfunction, or acne rosacea: consider oral antibiotics. *See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information
	1. Chloramphenicol	1% eye ointment BD BNFc	6 week trial	
	2. Oxytetracycline ***OR***	500mg BD BNFc then 250mg BD	4 weeks (initial) 8 weeks (maintenance)	
	Doxycycline (off label use*)	100mg OD BNFc then 50mg OD	4 weeks (initial) 8 weeks (maintenance)	

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
PARASITIC INFECTIONS				
Threadworm CKS Threadworm	*Patients >6 months:* Mebendazole *(<2 years off label)*	100mg BNFc	STAT dose; repeat after 2 weeks if persistent	**Self-care advice:** • Mebendazole is available OTC for those >2 years (not licensed in pregnancy or breast-feeding) • See hygiene measures below. • **Treat household contacts at the same time AND advise hygiene measures (as below) for 2 weeks.**
	Children < 6 months and pregnant or breastfeeding women:	• Hygiene measures alone for **6 weeks:** ➢ Thorough hand hygiene ➢ Wear close fitting pants at night and change in the morning ➢ Morning bath or shower, including perianal area ➢ Wash sleepwear, bed linen, dust and vacuum ➢ Cut fingernails regularly, avoid biting nails and scratching around the anus ➢ Do not shake out items as this may distribute eggs around the room ➢ Washing/drying in a hot cycle will kill threadworm eggs ➢ Thoroughly dust and vacuum (including vacuuming mattresses) and clean the bathroom by 'damp-dusting' surfaces ➢ Child <6 months, add perianal wet wiping or washes 3 hourly • For more details, contact the UK Teratology Information Service (UKTIS) on 0344 892 0909.		
Scabies NHS Scabies	Permethrin	5% cream BNFc	2 applications, 1 week apart	**Self-care advice:** • Permethrin & malathion available OTC. • **First choice permethrin:** Treat **whole** body from ear/chin downwards, and under nails. • If using permethrin & patient is under 2 years, elderly, immunosuppressed, ***OR*** if treating with malathion: also treat face & scalp. • **Home/sexual contacts:** treat within 24 hours.
	Permethrin allergy: Malathion	0.5% aqueous liquid BNFc	2 applications, 1 week apart	
Lyme disease with erythema migrans NICE Lyme Disease NG95 PHE Summary of antimicrobial prescribing guidance CKS Lyme disease Updated July 22	***Lyme disease without focal symptoms but with erythema migrans and/or non-focal symptoms***			• Treat erythema migrans empirically; serology is often negative early in infection. • For treatment of other Lyme disease presentations see NICE guidance/seek specialist advice. • If symptoms worsen during treatment for Lyme disease, assess for an allergic reaction to the antibiotic. • Be aware that a Jarisch–Herxheimer reaction (~15% of patients) does not usually warrant stopping treatment o This causes a worsening of symptoms early in treatment o It can happen when large numbers of bacteria in the body are killed o It does not happen to everyone treated for Lyme disease o They should keep taking their antibiotics if their symptoms worsen and seek medical advice
	Doxycycline (For 9 years and above, unlicensed in under 12 years)	100mg BD BNFc Or 200mg OD	21 days	
	Alternative if doxycycline is not suitable (e.g. pregnancy):			
	Amoxicillin	1g TDS BNFc	21 days	
	Alternative if doxycycline and amoxicillin are not suitable:			
	Azithromycin Do not use azithromycin to treat people with cardiac abnormalities associated with Lyme disease because of its effect on QT interval	500mg OD BNFc	17 days	

ILLNESS	DRUG	DOSE	DURATION	COMMENTS
DENTAL INFECTIONS				
For suspected dental infections outside a dental setting. Derived from the Scottish Dental Clinical Effectiveness Programme 2011 SDCEP Guidelines. ***This guidance is not designed to be a definitive guide to oral conditions, as GPs should not be involved in dental treatment.*** ***This guidance may be followed if treatment is deemed necessary and the clinician feels competent to do so however patients presenting to non-dental primary care services with dental problems, in the first instance, should be directed to their regular dentist, or if this is not possible, to the NHS 111 service, who will be able to provide details of how to access emergency dental care.***				
Note: Antibiotics do not cure toothache. First line treatment is with paracetamol and/or ibuprofen; codeine is not effective for toothache.				
Mucosal ulceration and inflammation (simple gingivitis) SDCEP Dental problems	Simple saline mouthwash	½ tsp salt warm water BNFc	Always spit out after use	**Self-care advice:** • Simple saline mouthwash can be prepared at home. • Mouthwashes are available OTC. • Temporary pain and swelling relief can be attained with saline mouthwash. • Use antiseptic mouthwash if more severe, and if pain limits oral hygiene to treat or prevent secondary infection. • The primary cause for mucosal ulceration or inflammation (aphthous ulcers; oral lichen planus; herpes simplex infection; oral cancer) needs to be evaluated and treated.
	Chlorhexidine *(Do not use within 30 mins of toothpaste)*	0.2% mouthwash 1 minute BD with 10 mL BNFc	Use until lesions resolve or less pain allows oral hygiene	
	Hydrogen peroxide *(spit out after use)*	6% mouthwash 2-3 mins BD-TDS with 15ml in ½ glass warm water BNFc		
Acute necrotising ulcerative gingivitis	Chlorhexidine *(Do not use within 30 mins of toothpaste)* ***OR*** Hydrogen peroxide *(spit out after use)*	0.2% mouthwash 1 minute BD with 10 mL BNFc 6% mouthwash 2-3 mins BD-TDS with 15ml in ½ glass warm water BNFc	Until pain allows for oral hygiene	**Self-care advice:** • Mouthwashes are available OTC. • Refer to dentist for scaling and hygiene advice. • Antiseptic mouthwash if pain limits oral hygiene. • Commence metronidazole in the presence of systemic signs and symptoms.
	If systemic signs and symptoms: Metronidazole	400mg TDS BNFc	3 days	
Pericoronitis S D C E P D e n t a l p r o b l e m s	Metronidazole ***OR*** Amoxicillin	400mg TDS ☺ 500mg TDS ☺	3 days 3 days	**Self-care advice:** • Use antiseptic mouthwash if pain and trismus limit oral hygiene. • Mouthwashes are available OTC. • Refer to dentist for irrigation and debridement. • If persistent swelling or systemic symptoms, use metronidazole or amoxicillin.
	Chlorhexidine *(Do not use within 30 mins of toothpaste)* ***OR*** Hydrogen peroxide *(spit out after use)*	0.2% mouthwash 1 minute BD with 10 mL BNFc 6% mouthwash 2-3 mins BD-TDS with 15ml in ½ glass warm water BNFc	Until pain allows for oral hygiene	
Dental abscess SCDEP Dental problems	***Regular analgesia should be the first option until a dentist can be seen for urgent drainage, as repeated courses of antibiotics for abscesses are not appropriate.***			**Self-care advice:** • Analgesia available OTC. • Repeated antibiotics alone, without drainage, are ineffective in preventing the spread of infection. • **Antibiotics are only recommended if there are signs of severe infection, systemic symptoms, or a high risk of complications.** • Patients with severe odontogenic infections (cellulitis, plus signs of sepsis; difficulty in swallowing; impending airway obstruction) should be referred urgently for hospital admission to protect airway, for surgical drainage and for IV antibiotics. • The empirical use of cephalosporins, co-amoxiclav, clarithromycin, and clindamycin do not offer any advantage for most dental patients, and should only be used if there is no response to first line drugs. • **If pus is present**, refer for drainage, tooth extraction, or root canal. • Send pus for investigation. • **If spreading infection** (lymph node involvement or systemic signs, i.e. fever or malaise) *ADD* metronidazole. • Use clarithromycin in true penicillin allergy and, **if severe, refer to hospital.**
	Amoxicillin ***OR*** Penicillin V	500mg-1g TDS BNFc 500mg-1g QDS BNFc	Up to 5 days; review at 3 days	
	Metronidazole	400mg TDS BNFc		
	Penicillin allergy: Clarithromycin	500 mg BD BNFc		

Note: Doses are for guidance only. Doses are oral and for adults. Refer to BNF/BNFC (BNFC indicated by BNFc) for further information.

SOURCE DOCUMENTS

This guidance is based on:

1. Managing common infections: guidance for consultation and local adaptation. BNF (latest review June 2021) https://www.bnf.org/wp-content/uploads/2021/07/summary-antimicrobial-prescribing-guidance_july-21-for-BNF.pdf
2. Online BNF. Last updated 3rd February 2022. https://bnf.nice.org.uk/
3. Online BNF for Children Last updated 3rd February 2022. https://bnfc.nice.org.uk/
4. NICE Clinical Knowledge Summaries (CKS) https://cks.nice.org.uk/
5. In the development of these guidelines advice was sought from Microbiologists at Epsom and St Helier University Hospitals, Kingston Hospital and St George's Hospital