

Suffolk and North East Essex Primary Care and A&E* Antibiotic Formulary (Adults and paediatrics)

Revision Date: December 2025

*For use in A+E where an admission is not required.

Principles of treatment

1. This formulary is based on best available evidence, but practitioners should use their professional judgement and patients should be involved in decisions about their treatment.
2. Do not prescribe antibiotics for a common cold. Signpost to community pharmacy for self-care advice, including drinking plenty of fluid, OTC medicines and resting. Give advice on how long common symptoms usually last. Advise on contacting the practice if symptoms worsen or do not get better in the time scale. There is information for patients/parents on how long common conditions like sore throat last on the Target website under 'Leaflets to share with patients' <https://www.rcgp.org.uk/TARGETantibiotics>.
3. It is important to initiate antibiotics as soon as possible for severe infection.
4. Prescribe an antibiotic only when there is likely to be a clear clinical benefit, giving alternative, non-antibiotic self-care advice where appropriate.
5. If a person is systemically unwell with symptoms or signs of serious illness or is at high risk of complications: give immediate antibiotic. Always consider possibility of sepsis and refer to hospital if severe systemic infection.
6. Use a lower threshold for antibiotics in immunocompromised patients, or in those with multiple morbidities; consider culture/specimens, and seek advice from microbiology if required
7. In severe infection or immunocompromised, it is important to initiate antibiotics as soon as possible, particularly if sepsis is suspected. If 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.
8. Consider a 'No', or 'Back-up/delayed', antibiotic strategy for acute self-limiting mild Urinary Tract Infection (UTI) symptoms and upper Respiratory Tract Infections (RTI) including sore throat, cough and sinusitis. (See patient leaflets "[Treating your infection](#)").
9. Limit prescribing over the telephone to exceptional cases.
10. Use simple antibiotics prescribed generically whenever possible. Avoid broad spectrum antibiotics (e.g. co-amoxiclav, quinolones and cephalosporins) when narrow spectrum antibiotics remain effective. Broad spectrum antibiotics increase the risk of *Clostridium difficile*, MRSA and resistant UTIs – they should be avoided in patients with a history of *Clostridium difficile* infection or colonisation.
11. Following the return of antibiotic sensitivity results, a check should be made that the patient is receiving an antibiotic that will treat the infection. Where both broad spectrum (e.g. co-amoxiclav, quinolones and cephalosporins) and narrow spectrum antibiotics are highlighted as treatment options, the patient should be given a prescription for a narrow spectrum antibiotic.
12. Avoid widespread use of topical antibiotics, especially those agents also available as systemic preparations, e.g. fusidic acid; in most cases, topical use should be limited except for ophthalmology and otitis externa.
13. Do not treat positive wound swab results with antibiotics unless there are clinical signs of infection.
14. Always check for antibiotic allergies. Unless otherwise stated, a dose and duration of treatment for adults is usually suggested, but may need modification for age, weight, renal function or if immunocompromised. In severe or recurrent cases, consider a larger dose or longer course.
15. Please refer to the British National Formulary (BNF) or the BNF for Children (BNFc) for further dosing and interaction information (e.g. interaction between macrolides and statins) if needed and please check for hypersensitivity.
16. For further advice (e.g. empirical therapy failure, special circumstances, etc.) contact local Consultant Medical Microbiologists (West Suffolk Hospital: 01284 712579; ESNEFT [Ipswich]: 01473 712233; ESNEFT [Colchester]: 01206 747474).
17. In pregnancy, if possible, AVOID **tetracyclines, quinolones, aminoglycosides, azithromycin, clarithromycin and high dose metronidazole (e.g. doses $\geq 2g$ stat)** unless the benefits outweigh the risks. Short-term use of **nitrofurantoin** is not expected to cause foetal problems, but should be AVOIDED in 3rd trimester due to the potential risk of neonatal haemolysis. Avoid **Trimethoprim** in first trimester.
18. Where a 'best guess' therapy has failed, or special circumstances exist, advice from a consultant microbiologist should be obtained.
19. This formulary should not be used in isolation, it should be supported with patient information about safety netting, back-up/delayed antibiotics, self-care, infection severity and usual duration, clinical staff education, and audits. Materials are available on the [RCGP TARGET website](#)

Safety issues/ interactions

This page lists some of the common interactions and safety issues that should be considered when prescribing antibiotics. Please note that this list is not exhaustive.

Drug	Warning
Warfarin	<ul style="list-style-type: none"> Experience in anticoagulant clinics suggests that INR is possibly altered when warfarin is given with many antibiotics; please check for interactions, consider management options and advise the patient accordingly. Patients should be advised to have their INR checked 3-4 days after starting an antibiotic or a new medicine and follow the advice given by the anticoagulant clinic.
Trimethoprim	<p><u>AVOID WITH PATIENTS TAKING METHOTREXATE (ORAL AND INJECTION)</u></p> <p><u>Please note co-trimoxazole contains trimethoprim</u></p>
Macrolides	<p>MHRA safety update to consider before prescribing macrolides</p> <ul style="list-style-type: none"> February 2022 – Hydroxychloroquine, chloroquine: increased risk of cardiovascular events when used with macrolide antibiotics December 2020 - Erythromycin: caution required due to cardiac risks (QT interval prolongation) – includes other macrolides. December 2020 – Erythromycin: drug interaction with rivaroxaban – includes other macrolides and DOACs. December 2020 -Erythromycin: update on known risk of infantile hypertrophic pyloric stenosis
Aminoglycosides (Neomycin)	<p>MHRA safety update to consider before prescribing aminoglycosides</p> <ul style="list-style-type: none"> January 2021 - Aminoglycosides (gentamicin, amikacin, tobramycin, and neomycin): increased risk of deafness in patients with mitochondrial mutations. Although no cases were identified with neomycin or topical preparations of gentamicin, amikacin, or tobramycin, based on a shared mechanism of action there is the potential for a similar effect with neomycin and other aminoglycosides that are administered at the site of toxicity (the ear).

Quinolones	<p>MHRA safety updates to consider before prescribing quinolones</p> <ul style="list-style-type: none"> • January 24-Fluoroquinolone antibiotics: must now only be prescribed when other commonly recommended antibiotics are inappropriate • December 2020 - Systemic and inhaled fluoroquinolones: small risk of heart valve regurgitation; consider other therapeutic options first in patients at risk • March 2019- Very rare reports of disabling and potentially long-lasting or irreversible side effects • November 2018- Small increased risk of aortic aneurysm and dissection; advice for prescribing in high-risk patients
Nitrofurantoin	<ul style="list-style-type: none"> • Check renal function before prescribing (click here for further information) • Contraindicated in glucose 6-phosphate dehydrogenase (G6PD) deficiency (due to the definite risk of haemolysis), and in acute porphyria. • Nitrofurantoin has a potential risk of causing pulmonary reactions in acute cases and long term use.
Theophylline / Aminophylline	<ul style="list-style-type: none"> • Due to the metabolism of theophylline/aminophylline it is important to consult the Summary of Product Characteristics (SPC) product literature for any potential interactions. • Certain antibiotics, antifungals and antivirals can alter the level of theophylline/aminophylline. • Doses of theophylline/aminophylline may need to be adjusted. • Theophylline levels may need to be monitored. • Common signs of toxicity include tachycardia, palpitations, nausea, headache, abdominal pain and muscle tremor.

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
<u>Upper Respiratory Tract Infections</u>				
Acute sore throat NICE visual summary	Use FeverPAIN or Centor to assess symptoms			
	FeverPAIN 0-1 or Centor 0-2	Self-Care <ul style="list-style-type: none"> - No antibiotic and advise self-care - Advise paracetamol, or if preferred and suitable, ibuprofen for pain. - Medicated lozenges may help pain in adults 		
	FeverPAIN 2-3: no or back-up antibiotic; FeverPAIN 4-5 or Centor 3-4: immediate or back-up antibiotic	First Line Phenoxymethylpenicillin	500mg QDS	5-10 days 5 days may be enough can be extended to 10 days if required
	Systemically very unwell or high risk of complications: immediate antibiotics	Penicillin allergy Clarithromycin	250mg to 500mg BD	5 days
Influenza	<p>Annual vaccination is essential for all those 'at risk' of influenza. Antivirals are not recommended for healthy adults.</p> <p>Treat non-severe 'at risk' patients with 5 days oral oseltamivir as first line, or 5 days inhaled zanamivir as second line when influenza is suspected or confirmed, and ideally within 48 hours of onset (36 hours for zanamivir treatment in children). Detailed dosing information is available in the UKHSA Influenza guidance. Within primary care clinical systems, dosage information is available within the Ardens influenza template.</p>			

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	<p>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); chronic cardiovascular disease; immunosuppression; chronic neurological, renal or liver disease; diabetes mellitus; morbid obesity (BMI>40).</p> <p>See the UKHSA Influenza guidance for the treatment of patients under 13 years and further details for treatments for patients with chronic conditions or requirements for dose reductions.</p> <p>In severe immunosuppression, or oseltamivir resistance, follow advice in UKHSA Influenza guidance and seek advice from microbiology if required.</p>			
Scarlet fever	<p>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.</p> <p>Optimise analgesia and give safety netting advice</p>	First line Phenoxymethylpenicillin	500mg QDS	10 days
		Penicillin allergy: Clarithromycin	250mg to 500mg BD	5 days
Acute otitis media NICE visual summary	<p>Otorrhoea or under 2 years with infection in both ears: no, back-up or immediate antibiotic. If an immediate antibiotic is not given, and there is no eardrum perforation or otorrhoea, consider eardrops containing an anaesthetic and an analgesic for pain</p> <p>Otherwise: no or back-up antibiotic. Consider eardrops containing an anaesthetic and an</p>	Self-Care (for all patients) Regular paracetamol or ibuprofen for pain (right dose for age or weight at the right time and maximum doses for severe pain) can be purchased OTC.		
		Ear drops (see left, not an antibiotic) Phenazone 40 mg/g with lidocaine 10 mg/g	4 drops BD/TDS	Up to 7 days
		First line: Amoxicillin	500mg-1000mg TDS	

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	analgesic for pain Systemically very unwell or high risk of complications: immediate antibiotic	Penicillin allergy: Doxycycline (not in under 12s) Clarithromycin Second line: Co-amoxiclav	200mg on day 1, then 100mg OD 250mg to 500mg BD 625mg TDS	5-7 days
Acute otitis externa	First line management: No antibiotics and advise self-care Analgesia for pain relief, and apply localised heat (such as a warm flannel)			
	Second line management: topical acetic acid or topical antibiotic +/- steroid: similar cure at 7 days. Note Betamethasone 1mg with neomycin 5mg/mL ear drops should be avoided in patients with a perforated tympanic membrane or with a patent grommet	First option: Earcalm (Available OTC for 12yrs+) Second option: Betamethasone 1mg with neomycin 5mg/mL ear drop	1 spray TDS 2-3 drops TDS	7 days 7-14 days
	If cellulitis or disease extends outside ear canal, or systemic signs of infection, start oral antibiotics and refer to exclude malignant otitis externa.	First line Flucloxacillin	250mg QDS If severe: 500mg QDS	7 days

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Sinusitis NICE visual summary	Symptoms for 10 days or less: no antibiotic. Symptoms with no improvement for more than 10 days: no antibiotic or back-up antibiotic depending on likelihood of bacterial cause. Consider high-dose nasal corticosteroid (if over 12 years). Systemically very unwell or high risk of complications: immediate antibiotic, see second line.	Self-Care (for all patients) <ul style="list-style-type: none"> - Paracetamol or ibuprofen for pain. - Little evidence that nasal saline or nasal decongestants help, but people may want to try them. 		
		First line: Phenoxymethylpenicillin	500mg QDS	5 days
		Penicillin allergy: Doxycycline (not in under 12s)	200mg on day 1, then 100mg OD	
		Clarithromycin	500mg BD	
		Second line: Co-amoxiclav	625mg TDS	

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Lower respiratory tract infections Note: Low doses of penicillins are more likely to select for resistance. Do not use fluoroquinolones (ciprofloxacin, ofloxacin) first line because they may have long-term side effects and there is poor pneumococcal activity. Reserve all fluoroquinolones (including levofloxacin) for proven resistant organisms.				
Acute exacerbation of COPD NICE visual summary	<p>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 sputum 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.</p> <p>Some people at risk of exacerbations may have antibiotics to keep at home as part of their exacerbation action plan.</p> <p>If person at higher risk of treatment failure, see third line.</p> <p>For further detail see the NICE guideline on COPD in over 16s</p>	First line: Amoxicillin OR Doxycycline OR Clarithromycin	500mg TDS (see BNF for severe infection) 200mg on day 1, then 100mg OD (see BNF for severe infection) 500mg BD	5 days
		Second line: Use alternative first choice		5 days
		Third line: Co-amoxiclav OR Co-trimoxazole (Contains trimethoprim) (See MHRA alerts)	500/125mg TDS 960mg BD	5 days

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Acute cough NICE visual summary	Acute cough with upper respiratory tract infection: no antibiotic give TARGET RTI leaflet 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.	Self-care Some people may wish to try: <ul style="list-style-type: none"> - Honey (in over 1s) - Herbal medicine pelargonium (in over 12s) - Cough medicines containing the expectorant guaifenesin (in over 12s) - Cough medicines containing cough suppressants, except codeine, (in over 12s). These self-care treatments have limited evidence for the relief of cough symptoms.		
		Adults and children: First line: Amoxicillin OR Doxycycline (not for under 12) OR Clarithromycin	500mg TDS 200mg on day 1, then 100mg OD 250mg- 500mg BD	5 days

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Acute exacerbation of bronchiectasis (non-cystic fibrosis) NICE visual summary	<p>Send a sputum sample for culture and susceptibility testing.</p> <p>Offer an antibiotic.</p> <p>When choosing an antibiotic, take account of severity of symptoms and risk of treatment failure. People who may be at higher risk of treatment failure include people who've had repeated courses of antibiotics, a previous sputum culture with resistant or atypical bacteria, or a higher risk of developing complications.</p> <p>Course length is based on severity of bronchiectasis, exacerbation history, severity of exacerbation symptoms, previous culture and susceptibility results, and response to treatment.</p> <p>Do not routinely offer antibiotic prophylaxis to prevent exacerbations.</p> <p>Seek specialist advice for preventing exacerbations in people with repeated acute exacerbations. This may include a trial of antibiotic prophylaxis after a discussion of the possible benefits and harms, and the need for regular review.</p>	<p>First line Amoxicillin (preferred if pregnant)</p> <p>OR</p> <p>Doxycycline (not in under 12s)</p> <p>OR</p> <p>Clarithromycin</p>	<p>500mg TDS</p> <p>200mg on day 1, then 100mg OD</p> <p>500mg BD</p>	7 to 14 days
		<p>Alternative option (if person at higher risk of treatment failure) Co-amoxiclav</p> <p>OR</p> <p>Levofloxacin (adults only) With specialist advice if co-amoxiclav cannot be used; see MHRA alerts.</p> <p>OR Ciprofloxacin (children only) with specialist advice if co-amoxiclav cannot be used; see MHRA alerts</p>	<p>625mg TDS</p> <p>500mg OD or BD</p> <p>See NICE visual summary</p>	7 to 14 days

Infection	Key Points	Medicine	Adult Dose (check cBNF for children doses unless stated)	Length of treatment
Community-acquired pneumonia NICE visual summary	Assess severity in adults based on clinical judgement guided by mortality risk score (CRB65). See the NICE guideline on pneumonia for full details: Low severity – CRB65 0 Moderate severity – CRB65 1 or 2 consider hospital assessment High severity – CRB65 3 or 4 urgent hospital admission 1 point for each parameter: confusion , respiratory rate ≥30/min, low systolic (<90 mm Hg) or diastolic (≤60 mm Hg) blood pressure , age ≥65.	Low severity Amoxicillin OR Clarithromycin OR Doxycycline (Not in under 12s)	500mg TDS (higher doses can be used- see BNF) 500mg BD 200mg on day 1 then 100mg OD	5 days Stop antibiotics after 5 days unless patient shows sign of clinical deterioration. Consider alternative therapy or hospital admission
	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, recent hospital discharge, risk of complications, local antimicrobial resistance and surveillance data, recent antibiotic use and microbiological results. For detailed information click on the NICE visual summary . See also the NICE guideline on pneumonia .	Moderate severity and at home: Amoxicillin AND (if atypical pathogen is suspected) Clarithromycin OR Doxycycline alone	500mg TDS (higher doses can be used) 500mgBD 200mg on day 1 then 100mg OD	
	High severity: urgent hospital admission			

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<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Lower urinary tract infection Pregnant women NICE visual summary	Immediate antibiotic required Click here for the NICE visual summary and further information	First line Nitrofurantoin (avoid in third trimester) Click here for renal dosing	100mg m/r BD	7 days
		Second choice: Amoxicillin (only if known to be susceptible) OR Cefalexin	500mg TDS 500mg BD	
	Treatment of asymptomatic bacteriuria in pregnant women.	Choose from Nitrofurantoin (avoid in third trimester), Amoxicillin or Cefalexin based on recent culture and susceptibility results.		
Lower urinary tract infection Men NICE visual summary	Immediate antibiotic required Click here for the NICE visual summary and further information	First line: Trimethoprim	200mg BD	7 days
		OR Nitrofurantoin See above for renal dosing	100mg m/r BD	
		Second choice: Base antibiotic choice on recent culture and susceptibility results. Consider alternative diagnoses including sexually transmitted infections.		

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Lower urinary tract infection Children and young people (3 months to 16 years) NICE visual summary	<p>Immediate antibiotic required</p> <p>If <3months refer urgently for assessment</p> <p>Click here for the NICE visual summary and further information</p> <p>*Low risk of resistance is likely if not used in the past 3 months, previous urine culture suggests susceptibility (but this was not used), and in areas where data suggests low resistance. Higher risk of resistance is likely with recent use.</p>	<p>First line</p> <p>Trimethoprim (if low risk of resistance) *</p> <p>OR</p> <p>Nitrofurantoin</p> <p>Click here for renal dosing</p>	<p>Click here for children dosing</p>	3 days
		<p>Second line:</p> <p>Nitrofurantoin</p> <p>Click here for renal dosing (if not used as first choice)</p> <p>OR</p> <p>Amoxicillin (only if known to be susceptible)</p> <p>OR</p> <p>Cefalexin</p>	<p>Click here for children dosing</p>	3 days

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Acute pyelonephritis (upper urinary tract) Advise paracetamol (+/- low-dose weak opioid) for pain for people over 12 years old. 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. Consider admission advice if vomiting, unable to take oral antibiotics or severely unwell.				
Acute pyelonephritis (upper urinary tract) Non-pregnant women and men over 16 NICE visual summary	See above for further information Offer an antibiotic	First line Cefalexin OR Ciprofloxacin (see MHRA alerts)	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections) 500mg BD	7–10 days 7 days
Acute pyelonephritis (upper urinary tract) Pregnant women NICE visual summary	Offer an antibiotic- consider seeking specialist advice if required. See above for further information- consider hospital admission if required. Note: Use opioids with caution during pregnancy and avoid for patients under 12.	First line Cefalexin	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	7–10 days
Second line Contact microbiology for advice				

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Acute pyelonephritis (upper urinary tract) Children and young people (3 months to 16 years) NICE visual summary	Offer an antibiotic See above for further information- consider hospital admission if required. Children <3months- refer to a paediatrician	Cefalexin	Click here for children doses	7-10 days
		Second line Contact microbiology for advice		
Recurrent urinary tract infection NICE guidance	First advise about behavioural and personal hygiene measures, and self-care (with D-mannose or cranberry products available OTC) to reduce the risk of UTI. For postmenopausal women, if no improvement, consider vaginal oestrogen (review within 12 months). For non-pregnant women, if no improvement, consider single-dose antibiotic prophylaxis for exposure to a trigger (review within 6 months). For non-pregnant women (if no improvement or no identifiable trigger) or with specialist advice for pregnant women, men, children or young people, consider a trial of daily antibiotic prophylaxis (review within 6 months). Consider seeking advice from microbiology or urology where first line and second line options have proven unsuccessful IESCCG- click here for local guidance	First line antibiotic prophylaxis: Trimethoprim (avoid in first trimester of pregnancy or planning pregnancy)	200mg single dose when exposed to a trigger or 100mg at night	Review in 6 months
		Second line antibiotic prophylaxis: Nitrofurantoin (avoid in third trimester of pregnancy) See above for renal dosing	100mg single dose when exposed to a trigger or 50mg to 100mg at night	Review in 6 months

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<p align="center">Catheter-associated urinary tract infection</p> <p>CSU samples should not be dipstick tested as this will give false positive results and is not helpful in diagnosing presence of infection. Click here for further guidance</p> <p>Asymptomatic bacteriuria: Antibiotic treatment is not routinely needed for asymptomatic bacteriuria in people with a urinary catheter.</p> <p>Antibiotic prophylaxis: Do not routinely offer antibiotic prophylaxis to people with a short-term or long-term catheter.</p> <p>Symptomatic infection:</p> <ul style="list-style-type: none"> - 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 - 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. 				
<p>Catheter-associated urinary tract infection</p> <p>Non-pregnant women and men over 16 years if <u>NO</u> upper UTI symptoms</p> <p>NICE visual summary</p>	<p>See above for further information</p> <p>When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data.</p> <p>*Low risk of resistance is likely if not used in the past 3 months, previous urine culture suggests susceptibility (but this was not used), and in areas where data suggests low resistance. Higher risk of resistance is likely with recent use.</p>	<p>First line Nitrofurantoin Click here for renal dosing OR Trimethoprim (if low risk of resistance)*</p> <p>Second line Pivmecillinam (a penicillin)</p>	<p>100mg m/r BD</p> <p>200mg BD</p> <p>400mg initial dose, then 200mg TDS</p>	7 days

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Catheter-associated urinary tract infection Non-pregnant women and men if upper UTI symptoms 16 and over NICE visual summary	See above for further information. 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.	First line Cefalexin	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	7-10 days
		OR		
		Co-amoxiclav (Only if known to be susceptible)	500/125mg TDS	7-10 days
		OR Ciprofloxacin (See MHRA alerts)	500mg BD	7 days
		Second line Discuss with Microbiology		

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Catheter-associated urinary tract infection pregnant women NICE visual summary	<p>See above for further information.</p> <p>When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data.</p>	Discuss with Microbiology if required		
Catheter-associated urinary tract infection Children and young people (3 months to 16 yrs.) NICE visual summary	<p>See above for further information.</p> <p>When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data.</p>	Discuss with Microbiology if required		
Acute prostatitis NICE visual summary	<p>Advise paracetamol (+/- low-dose weak opioid) for pain, or ibuprofen if preferred and suitable.</p> <p>Be guided by susceptibilities where available.</p>	First line: Ciprofloxacin (See MHRA alerts) OR Trimethoprim (if unable to take quinolone)	500mg BD 200mg BD	28 days
		Second line (to be prescribed after discussion with specialist)		

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<u>Meningitis</u>				
Suspected meningococcal disease	<p><u>Transfer all patients to hospital immediately.</u></p> <p>If time before hospital admission, if suspected meningococcal septicaemia or non-blanching rash, give IV benzylpenicillin as soon as possible.</p> <p><u>Do not give IV antibiotics if there is a definite history of anaphylaxis; rash is not a contraindication.</u></p>	IV or IM Benzylpenicillin	<p>Child <1 year: 300mg</p> <p>Child 1–9 years: 600mg</p> <p>Adult/Child 10+ years: 1.2g</p>	Stat dose; give IM if vein cannot be accessed
Prevention of secondary case of meningitis (Public Health England)	<p>Only prescribe following advice from your local health protection specialist/consultant: ☎ 0300 3038537</p> <p>Out of hours: contact on-call doctor: ☎ 01603 481221</p> <p>Expert advice is available for managing clusters of meningitis. Please alert the appropriate organisation to any cluster situation.</p> <p>Public Health England, Colindale (☎ 0208 200 4400)</p> <p>AWARe (all Wales Acute Response team) (☎ 0300 003 0032)</p> <p>Access the supporting evidence and rationales on the PHE website.</p>			

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
<u>Gastrointestinal tract infections</u>				
Oral candidiasis	Topical azoles are more effective than topical nystatin. Oral candidiasis is rare in immunocompetent adults; consider undiagnosed risk factors, including HIV.	Miconazole oral gel Available OTC Avoid if patient is using warfarin (see MHRA alert)	2.5ml of 24mg/ml QDS (hold in mouth after food)	7 days; continue for 7 days after resolved
		If not tolerated or on warfarin: Nystatin suspension	1ml; 100,000units/mL QDS (half in each side)	7 days; continue for 2 days after resolved
	If extensive/severe candidiasis	Fluconazole capsules	50mg OD	7 to 14 days
	If HIV or immunocompromised		100mg OD	
Infectious diarrhoea	For children send stool sample and discuss with a paediatrician to consider HUS (Haemolytic Uremic Syndrome) Refer previously healthy children with acute painful or bloody diarrhoea, to exclude <i>E. coli</i> O157 infection. Antibiotic therapy is not usually indicated unless patient is systemically unwell. If systemically unwell and campylobacter suspected (such as undercooked meat and abdominal pain), consider Clarithromycin 250mg–500mg BD for 5–7 days, if treated early (within 3 days). If <i>Giardia</i> is confirmed or suspected – tinidazole 2g single dose is the treatment of choice. Click here for information on reporting infectious bloody diarrhoea / food poisoning			

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<i>Helicobacter pylori</i> See PHE quick reference guide for diagnostic advice: PHE H. pylori	Always test for <i>H. pylori</i> before giving antibiotics. Treat all positives, if known duodenal ulcer (DU,) gastric ulcer (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. Retest for <i>H. pylori</i>: post DU/GU, or relapse after second-line therapy, using urea breath test (UBT) or stool antigen test (SAT), consider referral for endoscopy and culture. PPI options - Always use PPI^{first} line and first relapse Omeprazole 20mg BD Lansoprazole 30mg BD			
	No penicillin allergy:	Use PPI PLUS Amoxicillin PLUS Clarithromycin OR Metronidazole	1000mg BD 500mg BD 400mg BD	7 days MALToma 14 days
	Penicillin allergy:	Use PPI PLUS Clarithromycin PLUS Metronidazole.	500mg BD 400mg BD	

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
<i>Helicobacter pylori</i> See PHE quick reference guide for diagnostic advice: PHE H. pylori	Penicillin allergy and previous clarithromycin:	Use PPI PLUS Bismuth subsalicylate (Pepto bismol chewable tablet) PLUS Metronidazole PLUS Tetracycline hydrochloride.	2 tablets (525mg) QDS 400mg BD 500mg QDS	7 days
	Relapse and no penicillin allergy	Use PPI PLUS Amoxicillin PLUS Clarithromycin OR Metronidazole (whichever was not used first line)	1000mg BD 500mg BD 400mg BD	MALToma 14 days
	Relapse and previous metronidazole and clarithromycin	Use PPI PLUS Amoxicillin PLUS Tetracycline hydrochloride OR Levofloxacin (See MHRA alerts)	1000mg BD 500mg QDS 250mg BD	

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
<i>Helicobacter pylori</i> See PHE quick reference guide for diagnostic advice: PHE H. pylori	Relapse and penicillin allergy (no exposure to quinolone)	Use PPI PLUS Metronidazole PLUS Levofloxacin (See MHRA alerts)	400mg BD 250mg BD	7 days MALToma 14 days
	Relapse and penicillin allergy (with exposure to quinolone)	Use PPI PLUS Bismuth subsalicylate chewable tablet PLUS Metronidazole PLUS Tetracycline	2 tablets (525mg) QDS 400mg BD 500mg QDS	
	Third line on advice	Use PPI PLUS Bismuth subsalicylate chewable tablet PLUS 2 antibiotics as above not previously used	2 tablets (525mg) QDS	

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Acute diverticulitis NICE visual summary (Continued below)	Diet and lifestyle - give advice on: <ul style="list-style-type: none"> • eating a healthy, balanced diet including whole grains, fruit and vegetables • increasing fibre intake for people with constipation and a low-fibre diet • drinking adequate fluids • the benefits of exercise, weight loss and stopping smoking 			
	Diverticulosis or diverticular disease	Self-Care <ul style="list-style-type: none"> - No antibiotic and advise self-care - Advise paracetamol for pain and bulk forming laxatives for constipation/diarrhoea - Advise on diet and lifestyle (see above) 		
	Acute diverticulitis – systemically well	Self-Care <ul style="list-style-type: none"> - No antibiotic and advise self-care - Advise paracetamol for pain and bulk forming laxatives for constipation/diarrhoea - Advise on diet and lifestyle (see above) 		
	Acute diverticulitis and systemically unwell, immunosuppressed, or significant comorbidity: Give oral antibiotics if person not referred to hospital for suspected complicated acute diverticulitis.	First line (uncomplicated acute diverticulitis): Co-amoxiclav	625mg TDS	5 days*

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
	* A longer course may be needed based on clinical assessment.	If co-amoxiclav unsuitable: Cefalexin (Caution in penicillin allergy) PLUS Metronidazole OR Trimethoprim PLUS Metronidazole	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections) 400mg TDS 200mg BD 400mg TDS	5 days*
<i>Clostridium difficile</i> NICE visual summary (Continued below)	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).	First-line for first episode of mild, moderate or severe: Vancomycin	125mg QDS	10 days
		Second-line for first episode of mild, moderate or severe if vancomycin ineffective: Fidaxomicin	200mg BD	10days

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
	<p>Existing antibiotics: review and stop unless essential. If still essential, consider changing to one with a lower risk of C. difficile infection.</p> <p>Review the need to continue: proton pump inhibitors, other medicines which affect gastrointestinal activity or adverse effects (such as laxatives), medicines that may cause problems if people are dehydrated (such as NSAIDs).</p> <p>Do not offer antimotility medicines such as loperamide.</p> <p>Offer an oral antibiotic to treat suspected or confirmed C. difficile infection.</p> <p>For children and young people, treatment should be started by, or after advice from, a microbiologist, paediatric infectious diseases specialist or paediatric gastroenterologist.</p> <p>If antibiotics have been started for suspected C. difficile infection, and subsequent stool sample tests do not confirm infection, consider stopping these antibiotics.</p>	<p>For further episode within 12 weeks of symptom resolution (relapse):</p> <p>Fidaxomicin</p>	200mg BD	10 days
		<p>For further episode more than 12 weeks after symptom resolution (recurrence):</p> <p>Vancomycin</p>	125mg QDS	10 days
		<p>OR</p> <p>Fidaxomicin</p>	200mg BD	10 days

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Traveller's diarrhoea	Prophylaxis rarely, if ever, indicated. Consider standby antimicrobial only for patients at high risk of severe illness or visiting high-risk areas.	Standby: Azithromycin	500mg OD	1–3 days
	Do not prescribe on the NHS- prescribe privately if required or refer to travel clinic. SNEE Position statement	Prophylaxis/treatment: Bismuth subsalicylate (Pepto bismol chewable tablets)	2 tablets QDS	2 days
Threadworm	Treat all household contacts at the same time. Advise hygiene measures for 2 weeks (hand hygiene; pants at night; morning shower, including perianal area). Wash sleepwear, bed linen, and dust and vacuum. Child <6 months , add perianal wet wiping or washes 3 hourly.	Adults and children >6 months: Mebendazole Available OTC for 2yrs +	100mg stat	1 dose; repeat in 2 weeks if persistent
		Child <6 months or pregnant (at least in first trimester): only hygiene measures for 6 weeks		

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<u>Genital tract infections</u>				
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	Opportunistically screen all sexually active patients aged 15 to 24 years for <i>chlamydia</i> annually and on change of sexual partner. Test positives for reinfection at 3 months following treatment. Reinfection in this age group is more common. If positive, treat index case, refer to GUM for partner notification, further testing and treatment. As single dose azithromycin has led to increased resistance in GU infections, doxycycline should be used first line for <i>chlamydia</i> and urethritis. Advise patient to abstain from sexual intercourse for 7 days after treatment. Test of cure: At least 3 weeks after end of treatment is recommended in pregnancy, where poor compliance is suspected and where symptoms persist. Consider referring all patients with symptomatic urethritis to GUM as testing should include <i>Mycoplasma genitalium</i> and <i>Gonorrhoea</i> .	First line: Doxycycline	100mg BD	7 days
		Second line including pregnant/breastfeeding: Azithromycin	1000mg on day 1 then 500mg OD	2 days (Total 3 days)

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Epididymitis	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.	Doxycycline OR	100mg BD	10 to 14 days
		Ofloxacin (see MHRA alerts) OR	200mg BD	14 days
		Ciprofloxacin (See MHRA alerts)	500mg BD	10 days
Vaginal candidiasis	All topical and oral azoles give over 80% cure. Pregnant: avoid oral azoles, the longer courses are more effective than shorter ones. Do not routinely treat an asymptomatic sexual partner Consider signposting for OTC treatment unless patient meets the following criteria <ul style="list-style-type: none"> - First presentation - under 16 or over 60 - more than 4 episodes in 12 months (see below) - Pregnant or breastfeeding - Immunocompromised - Failed treatment - Where not prescribing would negatively impact on their health 	Non-pregnant Clotrimazole	500mg pessary	Stat
		OR Oral Fluconazole	150mg	Stat
		Pregnant Clotrimazole	500mg pessary	7 nights
		OR Miconazole 2% topical	5g applicator full ON	7 days
	Recurrent (>4 episodes per year): Consider sending a swab for culture requesting candida identification/sensitivity if grown	If recurrent: Fluconazole (induction/maintenance)	150mg every 72 hours THEN 150mg once a week	3 doses 6 months

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Bacterial vaginosis	<p>Oral metronidazole is as effective as topical treatment, and is cheaper.</p> <p>7 days results in fewer relapses than 2g stat at 4 weeks. Prescribe 7 day course of metronidazole in preference to the 2g dose.</p> <p>Where compliance is an issue prescribe 2g stat dose</p> <p>Pregnant/breastfeeding: avoid 2g dose. Treating partners does not reduce relapse.</p>	Oral Metronidazole	400mg BD OR 2g	7 days OR Stat
		Metronidazole 0.75% vaginal gel	5g applicator at night	5 nights
		Clindamycin 2% cream	5g applicator at night	7 nights
Genital herpes	<p>Advise: saline bathing, analgesia, or topical lidocaine ointment for pain, and discuss transmission.</p> <p>First episode: treat within 5 days if new lesions or systemic symptoms and refer to GUM.</p> <p>Recurrent: self-care if mild, or immediate short course antiviral treatment, or suppressive therapy if more than 6 episodes per year and refer to GUM.</p>	Oral Aciclovir	400mg TDS	5 days
			800mg TDS (if recurrent)	2 days
Gonorrhoea (Continued below)	<p>Antibiotic resistance is now very high.</p> <p>Use IM ceftriaxone if susceptibility not known prior to treatment.</p> <p>Use Ciprofloxacin only If susceptibility is known prior to treatment and the isolate is sensitive to ciprofloxacin at all sites of infection.</p> <p>Refer to GUM. Test of cure is essential.</p>	Ceftriaxone	1000mg IM	Stat
		Ciprofloxacin (only if known to be sensitive) (See MHRA alerts)	500mg	Stat

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Trichomoniasis	<p>Oral treatment needed as extravaginal infection common. Treat partners and refer to GUM for other STIs.</p> <p>Pregnant/breastfeeding: avoid 2g single dose metronidazole; clotrimazole for symptom relief (not cure) if metronidazole declined.</p>	Metronidazole	400mg BD OR	5–7 day OR
			2g (more adverse effects)	Stat
		Pregnancy to treat symptoms: Clotrimazole	100mg pessary at night	6 nights
Pelvic inflammatory disease	<p>Refer women and sexual contacts to GUM for treatment.</p> <p>Raised CRP supports diagnosis, absent pus cells in HVS smear good negative predictive value.</p> <p>Exclude: ectopic pregnancy, appendicitis, endometriosis, UTI, irritable bowel, complicated ovarian cyst, functional pain.</p> <p>Always test for gonorrhoea, chlamydia, and <i>M. genitalium</i> if available.</p>	First line therapy: Ceftriaxone PLUS Metronidazole PLUS Doxycycline	1000mg IM 400mg BD 100mg BD	Stat 14 days 14 days
		Second line therapy: Metronidazole PLUS itraacin (See MHRA alerts)	400mg BD 400mg BD	14 days

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Skin and soft tissue infections				
Note: Refer to <u>RCGP Skin Infections</u> online training. For MRSA, discuss therapy with microbiologist				
Impetigo	Localised non-bullous impetigo If hydrogen peroxide unsuitable or ineffective, short-course topical antibiotic	Topical antiseptic Hydrogen peroxide 1% cream (Available OTC)	BD or TDS	5 days*
	Widespread non-bullous impetigo Short-course topical or oral antibiotic.	First line topical antibiotic Fusidic acid 2% cream	Thinly TDS	
	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	Fusidic acid resistance suspected or confirmed Topical Mupirocin 2% ointment	TDS	
		More severe: Flucloxacillin	500mg QDS	
		Penicillin allergy Clarithromycin	250mg BD	
	If MRSA suspected or confirmed – consult local microbiologist *5 days is appropriate for most, can be increased to 7 days based on clinical judgement			
Cold sores	Most resolve after 5 days without treatment. Topical antivirals applied prodromally can reduce duration by 12 to 18 hours (available OTC). If frequent, severe, and predictable triggers: consider oral prophylaxis: aciclovir 400mg, twice daily, for 5 to 7 days.			

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PVL-SA	<p>Panton-Valentine leukocidin (PVL) is a toxin produced by 20.8 to 46% of <i>S. aureus</i> from boils/abscesses. PVL strains are rare in healthy people, but severe.</p> <p>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; military personnel; nursing home residents; household contacts). Discuss with microbiology where required.</p>			
Eczema NICE visual summary	Manage underlying eczema and flares with treatments such as emollients and topical corticosteroids, whether antibiotics are given or not.	If not systemically unwell, do not routinely offer either a topical or oral antibiotic		
	Symptoms and signs of secondary bacterial infection can include: weeping, pustules, crusts, no response to treatment, rapidly worsening eczema, fever and malaise.	Topical antibiotic (where appropriate). For localised infections only: Fusidic acid 2%	Apply TDS	5 to 7 days
	Not all flares are caused by a bacterial infection, so will not respond to antibiotics.	First line Flucloxacillin	500mg QDS	5 to 7 days
	Eczema is often colonised with bacteria but may not be clinically infected.	Penicillin allergy or flucloxacillin unsuitable (not pregnant) Clarithromycin	250mg BD (Can be increased to 500mg BD for severe infections)	5 to 7 days
	Do not routinely take a skin swab.			
	If an antibiotic is offered, when choosing between a topical or oral antibiotic, take account of patient preferences, extent and severity of symptoms or signs, possible adverse effects, and previous use of topical antibiotics because antimicrobial resistance can develop rapidly with extended or repeated use.			
	Systemically unwell: Offer an oral antibiotic. If there are symptoms or signs of cellulitis, see cellulitis and erysipelas.	Erythromycin (in pregnancy)	250mg - 500mg QDS	

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Leg ulcer NICE visual summary	<p>Manage any underlying conditions to promote ulcer healing.</p> <p>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.</p> <p>When prescribing antibiotics, take account of severity, risk of complications and previous antibiotic use.</p> <p>If the infection is worsening or not improving as expected, consider taking a swab for microbiological testing and prescribe according to sensitivities</p> <p>Refer to hospital if there are symptoms or signs of a more serious illness or condition such as sepsis, necrotising fasciitis, osteomyelitis or has a spreading infection not responding to antibiotics.</p>	First line Flucloxacillin	500mg QDS	7 days
		Penicillin allergy or flucloxacillin unsuitable Doxycycline	200mg on day 1, then 100mg or 200mg daily	7 days
		OR Clarithromycin	500mg BD	
		OR Erythromycin (in pregnancy)	500mg QDS	
		Second line Co-amoxiclav	625mg TDS	7 days
		OR Penicillin allergy Co-trimoxazole (Contains trimethoprim) (See MHRA alerts)	960mg BD	

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Diabetic foot infection NICE visual summary (Continued below)	<p>In diabetes, all foot wounds are likely to be colonised with bacteria. Diabetic foot infection has at least 2 of the following- local swelling or induration; erythema; local tenderness or pain; local warmth; purulent discharge.</p> <p>Severity is classified as:</p> <p>Mild: local infection with 0.5 to less than 2cm erythema</p> <p>Moderate: local infection with more than 2cm erythema or involving deeper structures (such as abscess, osteomyelitis, septic arthritis or fasciitis)</p> <p>Severe: local infection with signs of a systemic inflammatory response.</p> <p>Start antibiotic treatment as soon as possible. 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.</p> <p>Do not offer antibiotics to prevent diabetic foot infection.</p>	Mild infection first line Flucloxacillin	500mg to 1g QDS	7 days*
		Mild infection (penicillin allergy): Clarithromycin OR Erythromycin (in pregnancy) OR doxycycline	500mg BD 500mg QDS 200mg on day 1, then 100mg OD (can be increased to 200mg daily)	7 days*
		Moderate infections Urgent referral into local diabetes foot clinic service Antibiotics may be recommended by specialist to be prescribed in the interim while the patient is waiting to be seen. Ongoing treatment will need to be provided by the foot service		

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	<p>*A longer course (up to a further 7 days) may be needed based on clinical assessment. However, skin does take time to return to normal, and full resolution at 7 days is not expected.</p>	Severe infections Urgent admission into hospital		
Insect bites and stings NICE visual summary	<p>Most insect bites or stings will not need antibiotics.</p> <p>Do not offer an antibiotic if there are no symptoms or signs of infection. If there are symptoms or signs of infection, see cellulitis and erysipelas (see below).</p> <p>Advise self-care</p> <ul style="list-style-type: none">- a community pharmacist can advise about self-care treatments e.g. antihistamines- avoiding scratching may reduce inflammation and the risk of infection- they should seek medical help if symptoms develop or worsen rapidly or significantly at any time, or they become systemically unwell <p>Refer people to hospital if they have symptoms or signs suggesting a more serious illness or condition, such as a systemic allergic reaction</p>			
Cellulitis and erysipelas NICE visual summary	Class I: patient afebrile and healthy other than cellulitis, use oral flucloxacillin alone. If river or sea water exposure: seek microbiology advice.	Flucloxacillin	500mg to 1000mg QDS	5- 7 days
		Penicillin allergy: Clarithromycin	500mg BD	Continue for a further 7 days if required

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	<p>Class II: patient febrile and ill, or comorbidity, admit for IV treatment, or use outpatient parenteral antimicrobial therapy.</p> <p>Class III: if toxic appearance, admit. Adding clindamycin does not improve outcomes</p> <p>Erysipelas: often facial and unilateral. Use flucloxacillin for non-facial erysipelas.</p>	Facial (non-dental): Co-amoxiclav	625mg TDS	7 days Continue for a further 7 days if required
Prophylaxis of cellulitis and erysipelas NICE visual summary	<p>Do not routinely offer antibiotic prophylaxis to prevent recurrent cellulitis or erysipelas. Discuss any trial of antibiotic prophylaxis to ensure shared decision making</p> <p>Review every 6 months</p> <p>Contact antimicrobial team where patient continues to develop cellulitis</p>	First line Phenoxymethylpenicillin	250mg BD	Review at least every 6 months
		Penicillin allergy: Erythromycin	250mg BD	Review at least every 6 months
Bites NICE visual summary (Continued below)	<p>Offer an antibiotic for a human or animal bite if there are symptoms or signs of infection, such as increased pain, inflammation, fever, discharge or an unpleasant smell. Take a swab for microbiological testing if there is discharge (purulent or non-purulent) from the wound.</p> <p>Do not offer antibiotic prophylaxis if a human or animal bite has not broken the skin.</p> <p>Assess risk of tetanus, rabies, HIV, and hepatitis B or C.</p> <p>Human: Offer antibiotic prophylaxis if the human bite has broken the skin and drawn blood.</p>	Prophylaxis/treatment all: Co-amoxiclav	375mg to 625mg TDS	3 days for prophylaxis 5 days for treatment*
		Penicillin allergy or co-amoxiclav unsuitable Metronidazole AND Doxycycline	400mg TDS 200mg on day 1, then 100mg or 200mg daily	3 days for prophylaxis 5 days for treatment*

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
	<p>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.</p> <p>Cat: 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.</p> <p>Risk of deep-seated infection; may need assessment for washout in hospital particularly if bitten on hands/wrists</p> <p>Dog: Do not offer antibiotic prophylaxis if the bite has broken the skin but not drawn blood.</p> <p>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.</p> <p>Consider rabies and rabies related viruses if the bite has occurred abroad or from bats. Click here for further information</p> <p>Penicillin allergy: Review all at 24 and 48 hours, as not all pathogens are covered.</p>	<p>Seek specialist advice in the following cases</p> <ul style="list-style-type: none"> - Pregnancy - Wild or exotic animal (including birds and non-traditional pets) <p>Consider seeking specialist advice from a microbiologist for domestic animal bites (including farm animal bites) you are unfamiliar with.</p>		

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Scabies	First choice permethrin (OTC): Treat whole body from ear/chin downwards, and under nails. If using permethrin and patient is under 2 years, elderly or immunosuppressed, or if treating with malathion (OTC): also treat face and scalp. Home/sexual contacts: treat within 24 hours.	Permethrin	5% cream	Two applications, 1 week apart
		Permethrin allergy: Malathion	0.5% aqueous liquid	
Mastitis in lactating women NICE CKS	<i>S. aureus</i> 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. Treat to sensitives if breast milk culture is available If treatment has failed prescribe second line antibiotic Arrange hospital admission if there are: <ul style="list-style-type: none">- signs of sepsis (such as tachycardia, fever, and chills)- the infection progresses rapidly- the woman is haemodynamically unstable or immunocompromised	Ensure that the woman is aware of measures to prevent recurrence , such as having a good breastfeeding technique and maintaining good hygiene.		
		First Line Flucloxacillin	500mg QDS	10–14 days
		Penicillin allergy: Clarithromycin	500mg BD	
		Second line Co-amoxiclav	625 mg TDS	
		Second line and penicillin allergic Seek specialist advice		

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Mastitis in non-lactating women NICE CKS	<p>The most common infecting pathogens are S. aureus, enterococci, and anaerobic bacteria (such as Bacteroides spp. and anaerobic streptococci).</p> <p>Arrange hospital admission if there are:</p> <ul style="list-style-type: none"> - signs of sepsis (such as tachycardia, fever, and chills) - the infection progresses rapidly - the woman is haemodynamically unstable or immunocompromised. <p>If MRSA is suspected, seek local microbiology advice regarding possible investigations and treatments.</p>	To relieve pain and discomfort- a simple analgesic (OTC), place a warm compress on the breast		
		First Line Co-amoxiclav	625 mg TDS	10–14 days.
		Penicillin allergy: Erythromycin plus Metronidazole OR Clarithromycin plus Metronidazole	500mg QDS 400 mg TDS 500mg BD 400 mg TDS	10–14 days.
Dermatophyte infection: skin	<p>Most cases: use terbinafine as fungicidal, treatment time shorter and more effective than with fungistatic imidazoles or undecenoates. If candida possible, use imidazole.</p> <p>If intractable, or scalp: send skin scrapings, and if infection confirmed: use oral terbinafine or itraconazole.</p> <p>Scalp: oral therapy and discuss with specialist.</p>	Topical terbinafine (Available OTC)	1% OD to BD	1–4 weeks
		OR Clotrimazole 1% (available OTC)	1% OD to BD	4-6 weeks
		Alternative in athlete's foot: Mycota® (Available OTC)	OD to BD	4–6 weeks

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Dermatophyte infection: nail	<p>Take nail clippings; start therapy only if infection is confirmed. 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. Topical nail lacquer is not as effective.</p> <p>To prevent recurrence: apply weekly 1% topical antifungal cream to entire toe area.</p> <p>Children: seek specialist advice.</p>	First line: Terbinafine	250mg OD	Fingers: 6 weeks to 3 months Toes: 3-6 months
		Second line: Itraconazole	200mg BD	7 days-subsequent courses repeated after 21 day interval Fingers: 2 courses Toes: 3 courses
		Stop treatment when continual, new, healthy, proximal nail growth.		

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Varicella zoster/ chickenpox Herpes zoster/ shingles	<p>Pregnant/immunocompromised/neonate: seek urgent specialist advice.</p> <p>Chickenpox: consider aciclovir if: onset of rash <24 hours, and 1 of the following: >14 years of age; severe pain; dense/oral rash; taking steroids; smoker. Give paracetamol for pain relief.</p> <p>Shingles: treat if >50 years of age (Postherpetic neuralgia [PHN] rare if <50 years) and within 72 hours of rash, or if 1 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 1 week after rash onset, if high risk of severe shingles or continued vesicle formation; older age; immunocompromised; or severe pain.</p>	First line for chicken pox and shingles: Aciclovir	800mg 5 times daily	7 Days
		Second line for shingles if poor compliance: <i>Not for children:</i> Valaciclovir	1g TDS	
Lyme disease	<p>Treatment: Erythema migrans is diagnostic of Lyme disease and does not require confirmation with testing; serology is often negative early in infection. For other suspected Lyme disease such as neuroborreliosis (CN palsy, radiculopathy) seek advice.</p>	Treatment: Doxycycline	100mg BD	21 days
		Second Line: Amoxicillin	1000mg TDS	

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Acne vulgaris NICE Guideline (Continued below)	<p>First-line treatment options: offer a course of 1 of the options, taking account of severity, preferences, and advantages/disadvantages of each option. Completing the course is important because positive effects can take 6 to 8 weeks.</p> <p>Consider topical benzoyl peroxide monotherapy as an alternative if first-line treatment options are contraindicated, or to avoid topical retinoids or an antibiotic (topical or oral).</p> <p>Do not use: monotherapy with a topical antibiotic, monotherapy with an oral antibiotic, or a combination of a topical antibiotic and an oral antibiotic.</p> <p>Review first-line treatment at 12 weeks.</p> <p>Only continue a topical or oral antibiotic for more than 6 months in exceptional circumstances. Review at 3 monthly intervals and stop the antibiotic as soon as possible. For detailed inform</p>	<p>First Line Any acne severity: Fixed combination of topical adapalene with topical benzoyl peroxide (not in under 9s)</p> <p>OR Any acne severity: Fixed combination of topical tretinoin with topical clindamycin (not in under 12s)</p> <p>Mild to moderate acne: Fixed combination of topical benzoyl peroxide with topical clindamycin (not in under 12s)</p> <p>Moderate to severe acne: Fixed combination of topical adapalene with topical benzoyl peroxide AND either oral lymecycline or oral doxycycline (not in under 12s)</p>	<p>0.1% or 0.3% adapalene /2.5% benzoyl peroxide OD (thinly in the evening)</p> <p>0.025% tretinoin/ 1% clindamycin OD (thinly in the evening)</p> <p>3% or 5% benzoyl peroxide/1% clindamycin OD (in the evening)</p> <p>0.1% or 0.3% adapalene/2.5% benzoyl peroxide OD (in the evening) AND lymecycline 408mg OD</p>	12 weeks

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
		<p>OR</p> <p>Moderate to severe acne: Topical azelaic acid AND either oral lymecycline or oral doxycycline (not in under 12s)</p>	<p>OR doxycycline 100mg OD</p> <p>15% or 20% azelaic acid BD AND lymecycline 408mg OD OR doxycycline 100mg OD</p>	12 weeks
		<p>Alternative: topical benzoyl peroxide (Consider OTC of appropriate)</p>	5% benzoyl peroxide OD to BD	

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
<u>Eye infections</u>				
Conjunctivitis	<p>Treat only if severe, as most cases are viral or self-limiting.</p> <p>Bacterial conjunctivitis: usually unilateral and self-limiting. It is characterised by red eye with mucopurulent, not watery discharge. 65% and 74% resolve on placebo by days 5 and 7 respectively.</p> <p>Second line: fusidic acid as it has less Gram-negative activity.</p>	<p>Self-care Bath/clean eyelids with cotton wool dipped in sterile saline or boiled (cooled) water, to remove crusting.</p>		
		<p>First line Chloramphenicol (OTC) 0.5% eye drop</p>	2 hourly for 2 days, then reduce frequency to 3–4 times daily	48 hours after resolution
		<p>AND/OR</p> <p>Chloramphenicol (OTC) 1% ointment</p>	3 to 4 times daily or once daily at night if using antibiotic eye drops during the day.	
		<p>Second line: Fusidic acid 1% gel</p>	Use BD	

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Blepharitis	First line - Self care Lid hygiene for symptom control, including warm compresses; lid massage and scrubs; gentle washing; avoiding cosmetics.			
	Second line management: Topical antibiotics if hygiene measures are ineffective after 2 weeks	Second line Chloramphenicol 1% eye ointment	Apply BD	6-week trial
	Signs of meibomian gland dysfunction , or acne rosacea: consider oral antibiotics.	Third line Doxycycline	100mg OD 50mg OD	4 weeks initial 8 weeks maintenance

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<p><u>Suspected dental infections in primary care (outside dental settings)</u></p> <p>This guidance is not designed to be a definitive guide to oral conditions, as GPs should not be involved in dental treatment. Patients presenting to non-dental primary care services with dental problems should be directed to their regular dentist, or if this is not possible, to the NHS 111 service (in England), who will be able to provide details of how to access emergency dental care.</p> <p>Note: Antibiotics do not cure toothache. First-line treatment is with paracetamol and/or ibuprofen; codeine is not effective for toothache.</p>				
Mucosal ulceration and inflammation (simple gingivitis)	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.	<p>Self-care Temporary pain and swelling relief can be attained with saline mouthwash (½ tsp salt in warm water)</p>		
		<p>Chlorhexidine 0.2% mouthwash (Available OTC)</p> <p>(Do not use within 30 minutes of toothpaste)</p> <p>OR</p> <p>Hydrogen peroxide 6% (Available OTC)</p>	<p>1 minute BD with 10 ml</p> <p>2 to 3 minutes BD/TDS with 15ml in ½ glass warm water</p>	<p>Always spit out after use. Use until lesions resolve or less pain allows for oral hygiene</p>

<u>Infection</u>	<u>Key Points</u>	<u>Medicine</u>	<u>Adult Dose</u> (check cBNF for children doses unless stated)	<u>Length of treatment</u>
Acute necrotising ulcerative gingivitis	Refer to dentist for scaling and hygiene advice. Antiseptic mouthwash if pain limits oral hygiene. Commence metronidazole if systemic signs and symptoms.	Chlorhexidine 0.2% mouthwash (do not use within 30 minutes of toothpaste) (Available OTC) OR Hydrogen peroxide 6% (Available OTC)	1 minute BD with 10 ml 2 to 3 minutes BD/TDS with 15ml in ½ glass warm water	Until less pain allows for oral hygiene
		Metronidazole	400mg TDS	3 days
Pericoronitis	Refer to dentist for irrigation and debridement. If persistent swelling or systemic symptoms, use metronidazole or amoxicillin. Use antiseptic mouthwash if pain and trismus limit oral hygiene.	Metronidazole	400mg TDS	3 days
		OR		
		Amoxicillin	500mg TDS	
		Chlorhexidine 0.12 to 0.2% mouthwash (do not use within 30 minutes of toothpaste) (Available OTC) OR Hydrogen peroxide 6% (Available OTC)	1 minute BD with 10 ml 2 to 3 minutes BD/TDS with 15ml in ½ glass warm water	Until less pain allows for oral hygiene

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Dental abscess	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. 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.	Amoxicillin	500mg to 1000mg TDS	Up to 5 days; review at 3 days
	Send pus for investigation. If spreading infection (lymph node involvement or systemic signs, that is, fever or malaise) ADD metronidazole.	Metronidazole	400mg TDS	
	Use clarithromycin in true penicillin allergy and, if severe, refer to hospital.	Penicillin allergy: clarithromycin	500mg BD	