Grŵp Strategaeth Meddyginiaethau Cymru Gyfan
All Wales Medicines Strategy Group

Primary Care Antimicrobial Guidelines

March 2022

(April 2026 – Updates have been made to the section on 'Cellulitis and erysipelas', 'Community acquired pneumonia in adults – treatment in the community' and 'Community acquired pneumonia in children and young people 17 years and under – treatment in the community'. A new section on 'Pinna chondritis/Perichondritis' has also been added.

Please refer to the 'Updates' section at the end of the document for further details)

This document has been prepared by the All Wales Antimicrobial Pharmacist Group (AWAPG) and the All Wales Antimicrobial Guidance Group (AWAGG), with support from the All Wales Prescribing Advisory Group (AWPAG) and the All Wales Therapeutics and Toxicology Centre (AWTTC), and has subsequently been endorsed by the All Wales Medicines Strategy Group (AWMSG).

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Contents

Resources to help manage antibiotic prescribing 4
Aims 5
Principles of treatment 5
Upper Respiratory Tract Infections 7
Treatment of influenza (adults) 7
Prophylaxis of influenza 7
Treatment of COVID-19 8
Prophylaxis of COVID-19 9
Scarlet fever (Group A *Streptococcus*) 10
Acute sore throat 11
Acute otitis media (in children) 12
Acute otitis externa 13
Acute rhinosinusitis 14
Acute rhinosinusitis 15
Lower Respiratory Tract Infections 16
Acute cough, bronchitis 16
Acute infective exacerbation of chronic obstructive pulmonary disease (COPD) 17
Community-acquired pneumonia in adults – Treatment in the community 18
Community-acquired pneumonia in children and young people 17 years and under – Treatment in the community 19
Meningitis 21
Suspected meningococcal disease 21
Out of Hospital Sepsis 22
Urinary Tract Infection (UTI) 23
Lower UTI in adults 23
Patient < 65 years and no risk factors for resistance 24
Patient ≥ 65 years or risk factors for resistance 24
Acute pyelonephritis (upper UTI) 25
Acute pyelonephritis in pregnancy 25
Catheter-associated UTI 26
Lower UTI in pregnancy 27
Acute prostatitis 28
Recurrent UTI 29

Lower UTI in children 31
Upper UTI in children 31
Gastro-intestinal Tract Infections 32
Oral candidiasis (immuno-competent adults) 32
Oral candidiasis (immuno-competent children) 33
Infectious diarrhoea 33
Travellers' diarrhoea 33
Threadworm 33
Threadworm (continued) 34
Acute diverticulitis 35
Biliary infection (cholecystitis/cholangitis) 35
Eradication of *Helicobacter pylori* 36
Clostridioides difficile infection (CDI) 37
Antibiotic Prophylaxis in Asplenia 38
Antibiotic prophylaxis in asplenia 38
Genital Tract Infections 39
Uncomplicated chlamydia trachomatis/urethritis 39
Non-specific / non-gonococcal urethritis – first episode 39
Epididymo-orchitis 40
Bacterial vaginosis 40
Vaginal candidiasis 41
Trichomoniasis 42
Pelvic inflammatory disease 42
Genital herpes 43
Skin Infections 44
Impetigo 44
Rosacea 45
Acne vulgaris 47
Eczema 48
Panton-Valentine Leukocidin (PVL) 49
Cellulitis and Erysipelas 49
Cellulitis in patients with lymphoedema 52
Prophylaxis for recurrent cellulitis in lymphoedema 52
Leg ulcer 53
Insect bites and stings 54

Bites (human/cat/dog) 55
Scabies 56
Tick bites (Lyme disease) 57
Mastitis 57
Dermatophyte infection – skin 58
Cold sores 59
Herpes zoster (Shingles) 61
Dermatophyte infection – nail 63
Eye Infections 64
Conjunctivitis 64
Ophthalmia neonatorum 64
Blepharitis 65
Ophthalmic shingles 65
Dental Infections 66
Mucosal ulceration and inflammation (simple gingivitis) 66
Acute necrotising ulcerative gingivitis 67
Pericoronitis (inflammation around partially erupted teeth) 67
Dental abscess 68
Glossary 69
Updates 70

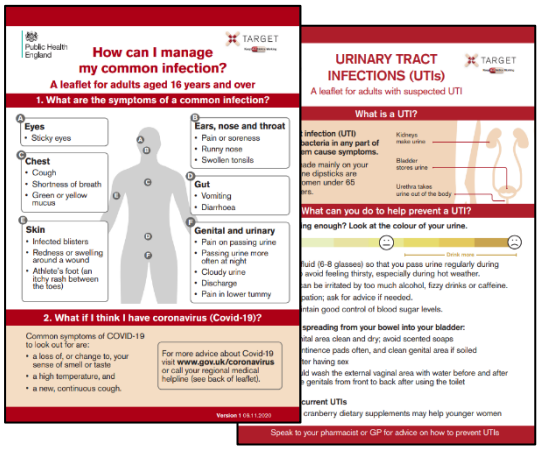
Resources to help manage antibiotic prescribing

Background

Using the correct antibiotics only when needed, with the correct dose intervals and for the correct duration, is vital to help tackle growing resistance.

Studies show that patients are less likely to ask their GP for antibiotics if they are advised what to expect during the course of an illness and are given a self-care plan. To aid in this, a patient specific leaflet for adults has been developed for use in primary care. It contains information relating to how long common illnesses normally last, self-care and when patients should contact their GP/NHS Direct (see 'Antibiotic information leaflet for adults' in the resources section below).

Resources



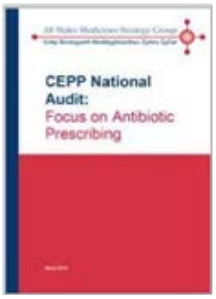
Royal College of General Practitioners' (RCGP) 'Treat Antibiotics Responsibly, Guidance, Education and Tools' TARGET Antibiotics toolkit for clinicians. Includes:

- A primary care self-assessment tool which aims to provide strategies that may help to optimise antibiotic prescribing.
- Patient/parent resources. Leaflets to share with patients (rcgp.org.uk)

Patient information leaflets and guidance on medicines in pregnancy produced by UK Teratology Information Service (UKTIS) Bumps (best use of medicines in pregnancy) (medicinesinpregnancy.org).

When Should I Worry? Booklet. This provides information for parents about the management of respiratory tract infections (coughs, colds, sore throats and ear aches) in children, and has been designed to be used in primary care consultations

All Wales Medicines Strategy Group (AWMSG) Clinical Effectiveness Prescribing Programme (CEPP) National Audit: Focus on prescribing



Aims

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

Principles of treatment

- This guidance is based on the best available evidence, but professional judgement should be used and patients should be involved in the decision.
- The guideline is intended for local implementation and adaptation.
- It is important to initiate antibiotics as soon as possible in severe infection.
- A dose and duration of treatment for adults is usually suggested, but may need modification for age, weight and renal function. For further information on drug dosing in renal impairment see the British National Formulary (BNF). Children's doses are provided for certain indications. Further information can be found in the BNF for Children (BNFc). In severe or recurrent cases, consider a larger dose or longer course. Please refer to the BNF for further dosing and interaction information (e.g. interaction between macrolides and statins) if needed and please check for allergy. Particular consideration should be given to interactions when prescribing for patients on anti-rejection drugs e.g. tacrolimus.
- Consider lower threshold for antibiotics in immunocompromised patients or those with multiple morbidities; consider culture and seek advice.
- Suspect neutropenic sepsis if patients having cancer treatment become unexpectedly or seriously unwell. Refer patients with suspected neutropenic sepsis immediately for assessment at their appropriate local hospital.
- Prescribe an antibiotic only when there is likely to be a clear clinical benefit.
- Consider a no, or delayed, antibiotic strategy for acute self-limiting upper respiratory tract infections.
- Where possible, limit prescribing for virtual consultations to exceptional cases and clear-cut diagnoses. N.B Face-to-face assessment before prescribing antibiotics remains best practice.
- Use simple generic antibiotics if possible. Avoid broad spectrum antibiotics (e.g. co-amoxiclav, quinolones, clindamycin and cephalosporins) when narrow spectrum antibiotics remain effective, as they increase the risk of *Clostridioides difficile* infection, MRSA and resistant urinary tract infections (UTIs). There are a range of National Prescribing Indicators that examine primary care use of these high-risk broad-spectrum agents. These empirical guidelines aim to use the safer, narrow spectrum antibiotics (e.g. tetracyclines) whenever possible. Visit the AWTTC website for further information on these indicators and Server for Prescribing Information Reporting and Analysis (SPIRA) for the most recent prescribing data.
- Avoid widespread use of topical antibiotics (especially those agents also available as systemic preparations, e.g. fusidic acid).
- In pregnancy, take specimens to inform treatment; where possible avoid aminoglycosides unless benefit outweighs risks. Quinolones should be avoided in pregnancy; however, a single dose of ciprofloxacin[1] may be used for the prevention of a secondary case of meningococcal meningitis (Patient Information Leaflet [PIL] English – Welsh). Tetracyclines should not be given to pregnant women.
- Fluoroquinolone antibiotics must now only be prescribed when other commonly recommended antibiotics are inappropriate**.** Consider updated (January 2024)

[1] Consider updated (January 2024) prescribing restrictions and safety issues – see MHRA advice.

prescribing restrictions and safety issues – see MHRA advice. See previous MHRA advice for restrictions and precautions for using fluoroquinolones due to very rare reports of disabling and potentially long-lasting or irreversible side effects affecting musculoskeletal, cardiac and nervous systems. Warnings include stopping treatment at first signs of serious adverse reaction (such as tendonitis), prescribing with special caution in people over 60 years and avoiding co-administration with a corticosteroid (December 2020).

- When a patient re-presents with symptoms that are persisting or worsening, seek local microbiology advice for further management, treatment and culture recommendations
- Where special circumstances exist, microbiological advice can be obtained from your local microbiology team.

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Dosages in Children: Details of drug dosage and administration can be found in the BNFc			
Upper Respiratory Tract Infections			
Treatment of influenza (adults) UKHSA (2025) NICE (2014) NICE CKS (2024)	**Annual vaccination is essential for all those at increased risk of complications from influenza**. **Treatment of uncomplicated influenza:** Antivirals are not recommended for otherwise healthy adults (see 'at risk'* group below). If an independent prescriber believes that the patient is at risk of developing serious complications from influenza, then manage as per 'at risk'* population, below. When influenza is circulating in the community, treat 'at risk'* patients **within 48 hours** of onset of symptoms. Even when influenza is not circulating in the community, treat 'at risk'* people in long-term residential and nursing homes during localised outbreaks, if there is a high level of certainty that the causative agent is influenza and **within 48 hours** of onset of symptoms. ***At risk:** pregnant (including up to two weeks post-partum); 65 years or over; chronic respiratory disease (including COPD and asthma); severe immunosuppression; diabetes mellitus; chronic cardiac, neurological, renal or liver disease; haemoglobinopathies; asplenia or dysfunction of the spleen; severe obesity (BMI ≥ 40). The UK Drugs in Lactation Advisory Service (UK DILAS) has published advice on the use of Oseltamivir and Zanamivir while breastfeeding.		
	Oseltamivir 75 mg BD for 5 days (For immunosuppressed patients, use **10 days**). For dosing in renal impairment and in adults ≤40kg see UKHSA guidance. Information for use in pregnancy, please click here. If there is resistance to oseltamivir, use **zanamivir 10 mg (2 inhalations by diskhaler) BD for 5 days** and seek advice. Information for use in pregnancy, please click here.		
Prophylaxis of influenza	See NICE Influenza prophylaxis guidance (TA158). Patients under 13 years, see UKHSA.		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Treatment of COVID-19 NICE NG191 (2021) NICE TA878 (2023) NICE TA1056 (2025)	**Primary vaccination and booster doses are recommended for those most at risk, as per the** COVID-19: the green book, chapter 14a - GOV.UK. **Treatment of COVID-19** Antivirals are not recommended for otherwise healthy adults. Treatment should be offered to individuals in the highest-risk groups, as defined by the recognised risk factors for progression to severe COVID-19 (see NICE TA878). Individuals should only be treated after a confirmed diagnosis of COVID-19 (following a positive SARS-CoV-2 diagnostic test, either lateral flow device or PCR). See the Welsh Government website for more information on access to tests. Treatment should be initiated as soon as possible and **within 5 days** of symptom onset. For those who are immunosuppressed and outside of the 5-day window, discuss with local virology/microbiology teams. The following treatments are black triangle▼. ALL suspected adverse drug reactions should be reported via the Yellow Card Scheme, and patients should be encouraged to also submit a report themselves. The order of treatment below is recommended as per the evidence base for clinical effectiveness. **1. Oral: nirmatrelvir plus ritonavir (Paxlovid▼®) is recommended in symptomatic adults (≥ 18 years) if they do not require supplemental oxygen for COVID-19 and if:** • **they are at increased risk of progression to severe COVID-19 (see NICE TA878).** Paxlovid▼® is associated with a large range of potential and serious drug–drug interactions and a full drug history should be checked and reviewed using the University of Liverpool COVID-19 Drug Interactions website or mobile app, which also provides several prescribing resources. A Welsh Medicines Advice Service guidance document for using the tool is available here. Appropriate action is required for the management of these drug–drug interactions. Discuss with the local Medicines Advice team if the medication is not listed, or if the clinical scenario is complex. **2. Oral: molnupiravir (Lagevrio▼®) is recommended in symptomatic adults (≥ 18 years) who do not require supplemental oxygen for COVID-19, only if:** • **they are at increased risk of progression to severe COVID-19 (see NICE TA878) and** • **nirmatrelvir plus ritonavir (Paxlovid▼®) is contraindicated or unsuitable.**		
	Section continued overleaf.		

Treatment of COVID-19 (continued) NICE NG191 (2021) NICE TA878 (2023) NICE TA1056 (2025)	**First line:**		
	Nirmatrelvir plus ritonavir (Paxlovid▼®) if eGFR ≥ 60 mL/min	Nirmatrelvir 300 mg plus ritonavir 100 mg (Paxlovid▼®) BD	5 days
	if eGFR < 60 mL/min, including end stage renal failure patients on haemodialysis or peritoneal dialysis (off-label in eGFR < 30 mL/min)	Nirmatrelvir 150 mg plus ritonavir 100 mg (Paxlovid▼®) BD	5 days
	Second line if nirmatrelvir plus ritonavir (Paxlovid▼®) contraindicated or unsuitable:		
	Molnupiravir (Lagevrio▼®)	800 mg BD	5 days
Prophylaxis of COVID-19	Do not offer prophylaxis to contacts.		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Scarlet fever (Group A *Streptococcus*) PHE CKS	Prompt treatment with appropriate antibiotics significantly reduces the risk of complications. Optimise analgesia and give safety netting advice. Notify the local health protection team promptly if a diagnosis of scarlet fever is suspected.		
	Adults: Phenoxymethylpenicillin	500 mg QDS or 1 g BD	10 days
	Children: Phenoxymethylpenicillin	see BNFc for dosing	
	If penicillin allergy: **Adults:** Azithromycin	500 mg OD	5 days
	OR		
	Clarithromycin	250–500 mg BD	10 days
	Children – birth to 6 months: Clarithromycin	see BNFc for dosing	10 days
	Children – 6 months and over: Azithromycin	see BNFc for dosing	5 days
	OR		
	Clarithromycin	see BNFc for dosing	10 days
	Pregnant or postpartum (within 28 days of childbirth): Erythromycin	250–500 mg QDS or 500 mg – 1g BD	10 days

<table>
<tr><th>Infection</th><th>Formulary choice</th><th>Adult dose (unless otherwise specified)</th><th>Duration of treatment</th></tr>
<tr><td rowspan="8">Acute sore throat
NICE CKS (2024)
NICE NG84 (2023)
NICE DG38 (2019)
ESCMID (2012)</td><td colspan="3">Sore throat test and treat service may be available for certain health boards, please refer to local participating community pharmacy.

Avoid antibiotics as 90% resolve in 7 days without, and pain only reduced by 16 hours.
• Antibiotics to prevent quinsy – numbers needed to treat (NNT) > 4,000
• Antibiotics to prevent otitis media – NNT 200
Advise paracetamol, or ibuprofen (if suitable). Medicated lozenges may help pain in adults.
Assess and manage children < 5 years old who present with fever as outlined in NICE guideline (NG143) Fever in under 5s: assessment and initial management.
<table><tr><th>FeverPAIN criteria (score 1 point each)</th><th>Centor criteria (score 1 point each)</th></tr><tr><td>Fever (during previous 24 hours)</td><td>Tonsillar exudate</td></tr><tr><td>Purulence (pus on tonsils)</td><td>Tender anterior cervical lymphadenopathy or lymphadenitis</td></tr><tr><td>Attend rapidly (<3 days after onset of symptoms)</td><td>History of fever (over 38ºC)</td></tr><tr><td>Severely Inflamed tonsils</td><td>Absence of cough</td></tr><tr><td>No cough or coryza (inflammation of mucus membranes in the nose)</td><td></td></tr></table></td></tr>
<tr><td colspan="2">FeverPAIN 0–1 or Centor 0–2:
No antibiotic
FeverPAIN 2–3:
No antibiotic
(Back-up delayed antibiotic prescription can be issued if appropriate – please see prescribing options below)</td><td>When no antibiotic is prescribed, please consider using the ‘TARGET Treating your Infection’ leaflet (RCGP), available in multiple languages.</td></tr>
<tr><td colspan="3">FeverPAIN 4–5 or Centor 3–4: Consider back-up/delayed prescription (to be used if symptoms don't improve within 3-5 days) or immediate prescription for antibiotics</td></tr>
<tr><td>First line:
Phenoxymethylpenicillin</td><td>500 mg QDS or 1 g BD
(See BNFc for dosing in children)</td><td>5 days.
If patient is immunocompromised, confirmed Group A Streptococcus infection or has a problematic recurrence of infection:
10 days.</td></tr>
<tr><td>Penicillin allergy:
Clarithromycin</td><td>250–500 mg BD
(See BNFc for dosing in children)</td><td>5 days</td></tr>
<tr><td>Penicillin allergy and pregnant:
Erythromycin</td><td>250–500 mg QDS or 500 mg – 1g BD</td><td>5 days</td></tr>
</table>

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Acute otitis media (in children) NICE NG91 (2022)	Otitis media can be caused by viruses and bacteria. It is difficult to distinguish and both are often present at the same time**.** **Optimise analgesia: Paracetamol or ibuprofen** should be used regularly for pain at the right dose (for age or weight) and at the right time; and **maximum doses** for severe pain. Consider eardrops containing an anaesthetic and an analgesic for pain. For children and young people who may be less likely to benefit from antibiotics, **consider NO antibiotic** taking account of: • **Otitis media is mostly self- limiting.** Most get better within 3 days without antibiotics, but it can last for up to 1 week. • **Antibiotics make little difference to symptoms**. • **Antibiotics make little difference to the rates of common complications** like recurrence of infection, hearing loss (which is usually temporary) and perforated eardrum. • **Mastoiditis is rare with or without antibiotics.** Antibiotics to prevent mastoiditis NNT > 4000. For children **more** likely to benefit from antibiotics (i.e. **< 2 years with infection in both ears OR children of any age with otorrhoea), consider no antibiotic prescription, back-up delayed antibiotics, or immediate antibiotics.** For children who are **systemically very unwell**, have symptoms or **signs of a more serious illness**, or are at **high risk of serious complications** because of pre-existing comorbidity, **offer immediate antibiotics**. Pre-existing comorbidity include: • Significant heart, lung, renal, liver or neuromuscular disease • Immunosuppression • Cystic fibrosis • Young children who were born prematurely. **Safety netting:** • **No antibiotic –** Seek medical help if symptoms worsen rapidly or significantly, do not start to improve after 3 days, or child becomes systemically very unwell. • **Back-up delayed antibiotic –** Advise to use if symptoms do not start to improve within 3 days, or if they worsen rapidly or significantly at any time. Seek medical help if symptoms worsen rapidly or significantly, or child becomes systemically very unwell. • **Immediate antibiotic –** Seek medical help if symptoms worsen rapidly or significantly, or child becomes systemically very unwell. **Section continued overleaf.**		

<table>
<tr><th>Infection</th><th colspan="2">Formulary choice</th><th>Adult dose (unless otherwise specified)</th><th>Duration of treatment</th></tr>
<tr><td rowspan="8">Acute otitis media (in children) (continued)
NICE NG91 (2022)</td><td colspan="4">If NO immediate antibiotic required, offer analgesia for pain relief and consider the use of eardrops below:</td></tr>
<tr><td colspan="2">Phenazone 40mg/g with lidocaine 10mg/g
Use only if all apply:
• Immediate oral antibiotic is not given
• No eardrum perforation
• No otorrhoea</td><td>Apply 4 drops two or three times a day</td><td>Up to 7 days</td></tr>
<tr><td colspan="4">Consider using the ‘When Should I Worry?’ booklet or a ‘TARGET Treating your Infection’ leaflet (RCGP), available in multiple languages.</td></tr>
<tr><td colspan="4">If an antibiotic required:</td></tr>
<tr><td rowspan="2">First line</td><td>Amoxicillin</td><td>See BNFc</td><td>5–7 days</td></tr>
<tr><td>Penicillin allergy:
Clarithromycin</td><td>See BNFc</td><td>5–7 days</td></tr>
<tr><td rowspan="2">Second line
(If symptoms worsening on first line option taken for at least 2–3 days)</td><td>Co-amoxiclav</td><td>See BNFc</td><td>5–7 days</td></tr>
<tr><td colspan="3">Penicillin allergy:
Consult local microbiologist</td></tr>
<tr><td rowspan="4">Acute otitis externa
NICE CKS (2018)</td><td colspan="4">First line: Use aural toilet (if available) and manage pain with analgesia and apply localised heat (such as a warm flannel). Cure rates similar at 7 days for topical acetic acid or antibiotic +/- steroid.
If cellulitis or disease extending outside ear canal, or systemic signs of infection or condition not improving, start oral antibiotics for cellulitis (flucloxacillin 500 mg QDS or clarithromycin 500 mg BD for 7 days) and refer to exclude malignant otitis externa.</td></tr>
<tr><td colspan="2">Acetic acid 2%
(A proprietary preparation containing acetic acid 2% is on sale to the public)</td><td>1 spray TDS</td><td>7 days</td></tr>
<tr><td colspan="2">Alternative:
Neomycin sulphate* with corticosteroid</td><td>3 drops TDS</td><td>7 days minimum, up to 14 days maximum.</td></tr>
<tr><td colspan="4">*See Medicines and Healthcare products Regulatory Agency (MHRA) warning concerning topical aminoglycosides and increased risk of deafness in patients with mitochondrial mutations.</td></tr>
</table>

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Acute rhinosinusitis NICE CKS (2024) NICE NG79 (2017)	**Avoid antibiotics** as 80% resolve in 14 days without, and they only offer marginal benefit after 7 days. **Use adequate analgesia.** **Bacterial cause may be more likely if several of the following are present:** • Symptoms for more than 10 days • Discoloured or purulent nasal discharge • Severe localised unilateral pain (particularly pain over teeth and jaw) • Fever • Marked deterioration after an initial milder phase		
	Symptoms for 10 days or less: No antibiotic	When an antibiotic is not prescribed, please consider using the 'TARGET Treating your Infection' leaflet (RCGP), available in multiple languages.	
	Symptoms with no improvement for > 10 days: No antibiotic. Consider prescribing a high-dose nasal corticosteroid for 14 days for adults and children aged 12 years and over (off-label use see NICE guidance). (Back-up antibiotic prescription can be issued if appropriate – please see prescribing options below.) Consider back-up prescription (to be used if symptoms don't improve within 7 days or if they worsen rapidly or significantly at any time) or immediate antibiotic when purulent nasal discharge.		
	First line if symptoms for > 10 days and back-up or immediate antibiotics are indicated:		
	Phenoxymethylpenicillin	500 mg QDS	5 days
	Penicillin allergy: Doxycycline (if > 12 years old)	200 mg stat then 100 mg OD	5 days
	OR		
	Clarithromycin (children < 12 years old)	500 mg BD (See BNFc)	
	OR		
	Erythromycin (preferred if pregnant)	250–500 mg QDS	
	Section continued overleaf.		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Acute rhinosinusitis (continued) NICE CKS (2024) NICE NG79 (2017)	**Tetracyclines should not be given to children under 12 years old as deposition of tetracyclines in growing bone and teeth (by binding to calcium) causes staining and occasionally dental hypoplasia.**		
	Systemically very unwell, symptoms and signs of a more serious illness or condition, or high risk of complications: Immediate antibiotic (please see prescribing options below).	Refer to hospital if: • Severe systemic infection • Intraorbital or periorbital complications • Intracranial complication	
	First line if systemically very unwell, symptoms and signs of a more serious illness or condition, or high risk of complications OR Second line (worsening symptoms on first choice taken for at least 2 to 3 days):		
	Co-amoxiclav	625 mg TDS	5 days

<table>
<tr><th>Infection</th><th>Formulary choice</th><th>Adult dose (unless otherwise specified)</th><th>Duration of treatment</th></tr>
<tr><td colspan="4">Dosages in Children: Details of drug dosage and administration can be found in the BNFc</td></tr>
<tr><td colspan="4">Lower Respiratory Tract Infections
Note: Low doses of penicillins are more likely to select out resistance. Do not use quinolones first-line due to poor Pneumococcal activity.</td></tr>
<tr><td rowspan="4">Acute cough, bronchitis
NICE CKS (2023)
NICE NG120 (2022)</td><td colspan="3">Antibiotics are of little benefit if there is no co-morbidity.
• First line: self-care and safety netting advice.
• Second line: Consider a back-up delayed antibiotic prescription with safety netting advice and advise that symptom resolution can take 3 weeks.
Offer immediate antibiotics for people with an acute cough who are identified as systemically very unwell (ideally at a face-to-face clinical examination)
Consider immediate or back-up antibiotics for patients at higher risk of complications (ideally at a face-to-face clinical examination). Higher risk of complications if they:
• have a pre-existing comorbidity, such as significant heart, lung, renal, liver or neuromuscular disease, immunosuppression or cystic fibrosis
• are young children who were born prematurely
• are ≥ 65 years with TWO or more of the following criteria, or ≥ 80 years with ONE or more of the following criteria:
  • hospitalisation in previous year
  • type 1 or type 2 diabetes
  • history of congestive heart failure
  • current use of oral corticosteroids.
If available, consider C-reactive protein (CRP) if antibiotic is being considered:
• No antibiotics if CRP < 20 mg/L and symptoms for > 24 hours
• Delayed antibiotics if 20–100 mg/L
• Immediate antibiotics if > 100 mg/L.</td></tr>
<tr><td>No antibiotic</td><td colspan="2">When an antibiotic is not prescribed, please consider using the ‘TARGET Treating your Infection’ leaflet (RCGP), available in multiple languages.</td></tr>
<tr><td>Amoxicillin</td><td>500 mg TDS</td><td>5 days</td></tr>
<tr><td>Penicillin allergy:
Doxycycline</td><td>200 mg stat then 100 mg OD</td><td>5 days</td></tr>
</table>

<table>
<tr><th>Infection</th><th>Formulary choice</th><th>Adult dose (unless otherwise specified)</th><th>Duration of treatment</th></tr>
<tr><td rowspan="8">Acute infective exacerbation of chronic obstructive pulmonary disease (COPD)
NICE NG114 (2018)
GOLD (2020)
RHIG (2020)</td><td colspan="3">Assessment
Send sputum for culture in cases of recurrent or severe exacerbation
Consider chest radiograph in cases of severe exacerbation, or the patient is presenting with chest signs, or they fail to improve.
Antibiotics are not required for exacerbation without increased sputum purulence

Consider the need for an antibiotic taking into account:
Severity of symptoms (particularly increased breathlessness; sputum colour changes and increased volume or thickness beyond normal
Risk of complications
Previous sputum culture and susceptibility results
Risk of antimicrobial resistance and current antibiotic prophylaxis (treatment should be with an antibiotic from a different class).
If CRP testing available (see table below)
<table><tr><td>CRP < 20</td><td>Antibiotics unlikely to be helpful</td></tr><tr><td>CRP 20–40</td><td>Consider antibiotics</td></tr><tr><td>CRP > 40</td><td>Prescribe antibiotics</td></tr></table></td></tr>
<tr><td>Doxycycline</td><td>200 mg stat then 100 mg OD</td><td>5 days in total</td></tr>
<tr><td>If doxycycline unsuitable:

Clarithromycin</td><td>

500 mg BD</td><td rowspan="3">5 days</td></tr>
<tr><td>OR</td><td></td></tr>
<tr><td>Amoxicillin</td><td>500 mg TDS</td></tr>
<tr><td>If patient exposed to antibiotics in the past 3 months or at higher risk of treatment failure:

Co-trimoxazole</td><td>

960 mg BD</td><td rowspan="3">5 days</td></tr>
<tr><td>OR</td><td></td></tr>
<tr><td>Co-amoxiclav</td><td>625 mg TDS</td></tr>
</table>

<table>
<tr><th>Infection</th><th colspan="2">Formulary choice</th><th>Adult dose (unless otherwise specified)</th><th>Duration of treatment</th></tr>
<tr><td rowspan="6">Community-acquired pneumonia in adults – Treatment in the community
NICE NG250 (2025)
RHIG (2021)
BTS (2009)</td><td colspan="4">Use CRB65 score to help guide mortality risk, place of care and antibiotics. Each feature scores 1:
• Confusion (Abbreviated Mental Test score 8 or less – Age, time, address for recall at end of test, year, place, identification of 2 persons, DOB, year of World War 1, present monarch, count backwards 20–1), or new disorientation in person, place or time
• Respiratory rate ≥ 30/min
• BP systolic < 90 mmHg or diastolic ≤ 60 mmHg (if below their normal baseline BP)
• Age ≥ 65 years old
Use clinical judgement together with the CRB65 score (bearing in mind this can be affected by other factors, for example, comorbidities or pregnancy) to inform shared decisions about place of care:
o CRB65 Score 0: usually suitable for home treatment
o CRB65 Score 1 – 2: consider hospital assessment or admission
o CRB65 Score 3 – 4: urgent hospital admission usually required
Refer adults to hospital if they have any symptoms or signs suggesting a more serious illness or condition (for example, cardiorespiratory failure or sepsis).
• Prescribers should advise patients to start antibiotic treatment as soon as possible after establishing a diagnosis of community-acquired pneumonia.
• Clinically assess need for dual therapy to cover atypical infections if high CRB65 score. However, Mycoplasma infection is rare in over 65s.
• Give safety net advice and likely duration of different symptoms, such as cough 6 weeks.
• If recent influenza infection, consider need for anti-staphylococcal cover e.g. doxycycline monotherapy or addition of flucloxacillin to standard treatment.
• If failure of first-line agents, patients should be reassessed for on-going signs of infection before further treatment is prescribed.
• Consider testing for HIV in adult patients presenting with community acquired pneumonia as recommended by the British HIV Association. HIV testing may be particularly useful in patients with unexplained recurrent pneumonia or other infections.</td></tr>
<tr><td colspan="4">Low severity disease:</td></tr>
<tr><td>First line</td><td>Amoxicillin</td><td>500 mg TDS</td><td rowspan="4">5 days.
Stop antibiotic treatment after 5 days unless microbiological results suggest a longer course length is needed or the person is not clinically stable.</td></tr>
<tr><td rowspan="3">Second line (failure first line treatment/penicillin allergy/atypical pathogen suspected)</td><td>Doxycycline</td><td>200 mg stat then 100 mg OD</td></tr>
<tr><td>OR
Clarithromycin</td><td>500 mg BD</td></tr>
<tr><td>OR if pregnant
Erythromycin</td><td>500mg QDS</td></tr>
<tr><td colspan="4">Section continued overleaf.</td></tr>
</table>

Infection	Formulary choice		Adult dose (unless otherwise specified)	Duration of treatment
Community-acquired pneumonia in adults – Treatment in the community (contd.)	**Third line** (treatment failure)	Co-trimoxazole	960 mg BD	5 days. Stop antibiotic treatment after 5 days unless microbiological results suggest a longer course length is needed or the person is not clinically stable.
	Moderate-severity disease:			
	First line	Amoxicillin **PLUS** Clarithromycin **OR if pregnant** Amoxicillin **PLUS** Erythromycin	500 mg TDS (higher doses can be used; see the BNF) 500 mg BD 500 mg TDS (higher doses can be used; see the BNF) 500mg QDS	5 days. Stop antibiotic treatment after 5 days unless microbiological results suggest a longer course length is needed or the person is not clinically stable.
	Second line (penicillin allergy or if underlying lung disease)	Doxycycline	200 mg stat then 100 mg OD	
	Third line (underlying lung disease and failed second line treatment)	Co-trimoxazole	960 mg BD	
Community-acquired pneumonia in children and young people 17 years and under – Treatment in the community BTS (2011) NICE CKS (2024) NICE NG250 (2025)	Consider referring children and young people with community-acquired pneumonia to hospital or seek specialist paediatric advice on further investigation and management. All children with a clear clinical diagnosis of pneumonia should receive antibiotics, as bacterial and viral pneumonia cannot reliably be distinguished from each other. Prescribers should advise patients/parents/carers to start antibiotic treatment as soon as possible after establishing a diagnosis of community-acquired pneumonia. Children aged < 2 years presenting with mild symptoms of lower respiratory tract infection do not usually have pneumonia and do NOT need to be treated with antibiotics, but should be reviewed if symptoms persist. A history of conjugate *Pneumococcal* vaccination gives greater confidence in this decision. Give safety net advice and likely duration of different symptoms. Consider using the 'When Should I Worry?' booklet or a 'TARGET Treating your Infection' leaflet (RCGP), available in multiple languages. **Section continued overleaf.**			

Infection	Formulary choice		Adult dose (unless otherwise specified)	Duration of treatment
Community-acquired pneumonia in children and young people 17 years and under – Treatment in the community (contd). BTS (2011) NICE CKS (2024) NICE NG250 (2025)	**Non-severe symptoms or signs**			
	First line:	Amoxicillin	See BNFc	**Babies and children aged 3 months (corrected gestational age) to 11 years** – 3 days (Consider extending use of antibiotics beyond 3 days if they are not clinically stable) **Children 12-17 years** – 5 days For **all children and young people**, stop antibiotic treatment after 5 days unless microbiological results suggest a longer course is needed or the child or young person is not clinically stable
	Second line (penicillin allergy/atypical pathogens suspected):	Clarithromycin	See BNFc	**Babies and children aged 3 months (corrected gestational age) to 11 years** – 3 days (Consider extending use of antibiotics beyond 3 days if they are not clinically stable) **Children 12-17 years** – 5 days For **all children and young people**, stop antibiotic treatment after 5 days unless microbiological results suggest a longer course is needed or the child or young person is not clinically stable
	Post-influenza:	Co-amoxiclav	See BNFc	**Babies and children aged 3 months (corrected gestational age) to 11 years** – 3 days (Consider extending use of antibiotics beyond 3 days if they are not clinically stable) **Children 12-17 years** – 5 days For **all children and young people**, stop antibiotic treatment after 5 days unless microbiological results suggest a longer course is needed or the child or young person is not clinically stable

Infection	Formulary choice	Dose	Reconstitution	Duration of treatment
Dosages in Children: Details of drug dosage and administration can be found in the BNFc				
Meningitis Clinically suspected meningitis is a notifiable disease – Please contact the Health Protection Team. NICE (NG143) *Fever in under 5s: assessment and initial management* (2019)				
Suspected meningococcal disease NICE NG240 (2024) NICE CKS (2024)	**Transfer all patients to hospital immediately.** Unless definite history of penicillin/cephalosporin anaphylaxis (rash is **not** a contraindication), if there is likely to be a clinically significant delay in transfer to hospital for people with strongly suspected bacterial meningitis, give intravenous (IV) or intramuscular (IM) antibiotics outside of hospital and for people with strongly suspected meningococcal disease, give IV or IM antibiotics as soon as possible outside of hospital, unless this will delay transfer to hospital. **Ceftriaxone should not be given to any patients with history of anaphylaxis due to penicillin/cephalosporin.**			
	IM or IV ceftriaxone	**Administer prior to urgent transfer to hospital unless this will delay transfer** **Age:** Adult: 2 g Child 12–17 years: 2 g for 1 dose **For children 1 month – 11 years administer prior to urgent transfer to hospital unless this will delay transfer. The actual dose given should be communicated to the receiving hospital, where the child's weight should be obtained as soon as possible and the remainder of the dose given if necessary.** Child 9–11 years: 2 g for 1 dose Child 5–8 years: 1.5 g for 1 dose Child 1–4 years: 1 g for 1 dose Child 2–11 months: 500 mg for 1 dose Child 1 month: 250mg for 1 dose **NB: IM preferred route for child 1 month-11 years**	**IM –** Reconstitute with water for injection [off-label] • 3.5 ml for each 1 g vial • 7 ml for each 2 g vial (Lidocaine 1% w/v may be used as solvent to reduce pain at injection site [licensed]). Doses over 1 g should be divided between more than one site. In children divide doses and inject at more than one site if the volume of injection is too large to give at a single site, based on the age and size of the child. Doses over 500 mg are usually divided between sites. **If lidocaine is used as the solvent, the resulting solution should NEVER be administered intravenously.** **IV –** Reconstitute with water for injection • 10 ml for each 1 g vial • 20 ml for each 2 g vial Administer over at least 5 minutes	Stat dose
	Prevention of secondary cases of meningitis. Only prescribe following advice from Public Health doctor.			

Infection	Formulary choice	Dose	Reconstitution	Duration of treatment
Out of Hospital Sepsis NICE NG51 (2024)	Refer all people with suspected sepsis outside acute hospital settings for emergency medical care by the most appropriate means of transport (usually 999 ambulance). Administer antibiotics to patients with high risk criteria in pre-hospital settings in locations where transfer time is more than 1 hour. **Ceftriaxone should not be given to any patients with history of anaphylaxis due to penicillin/cephalosporin.**			
	IM or IV ceftriaxone	**Administer prior to urgent transfer to hospital unless this will delay transfer** **Age:** Adult: 2 g Child 12–17 years: 2 g for 1 dose **For children 1 month – 11 years administer prior to urgent transfer to hospital unless this will delay transfer. The actual dose given should be communicated to the receiving hospital, where the child's weight should be obtained as soon as possible and the remainder of the dose given if necessary.** Child 9–11 years: 2 g for 1 dose Child 5–8 years: 1.5 g for 1 dose Child 1–4 years: 1 g for 1 dose Child 2–11 months: 500 mg for 1 dose Child 1 month: 250mg for 1 dose **NB: IM preferred route for child 1 month-11 years**	**IM –** Reconstitute with water for injection [off-label] • 3.5 ml for each 1 g vial • 7 ml for each 2 g vial (Lidocaine 1% w/v may be used as solvent to reduce pain at injection site [licensed]). Doses over 1 g should be divided between more than one site. In children divide doses and inject at more than one site if the volume of injection is too large to give at a single site, based on the age and size of the child. Doses over 500mg are usually divided between sites. **If lidocaine is used as the solvent, the resulting solution should NEVER be administered intravenously.** **IV –** Reconstitute with water for injection • 10 ml for each 1 g vial • 20 ml for each 2 g vial Administer over at least 5 minutes	Stat dose

Dosages in Children: Details of drug dosage and administration can be found in the BNFc	
Urinary Tract Infection (UTI) Ensure appropriate dosing—adjusted for age, body weight, renal and hepatic function—and consider potential drug interactions and adverse drug reactions. See Summary of Product Characteristics (SPC) or BNF for further details.	
Lower UTI in adults PHE (2020) EAU (2024) SIGN 160 (2020) NICE CG139 (2017) NICE QS90 (2023) NICE CKS women (2024) NICE CKS men (2024)	Advise paracetamol or ibuprofen for pain. **Do not treat asymptomatic bacteriuria except in pregnancy,** or in exceptional circumstances after consultation with a relevant specialist team (e.g. urology, renal transplant teams etc.); it is common in adults ≥ 65 years but is not associated with increased morbidity. **Do not dipstick in patients ≥ 65 years of age to make a diagnosis of UTI.** Diagnosis should be made on assessment of symptoms. If a dipstick is performed in a patient ≥ 65 years old, a negative result may exclude a UTI, but a positive result has **no** value and does not suggest the presence of a UTI. **Catheter in situ: antibiotics will not eradicate asymptomatic bacteriuria;** only treat if systemically unwell or pyelonephritis likely. Do not use prophylactic antibiotics for catheter changes unless history of catheter-change-associated UTI or trauma (NICE [CG139] *Healthcare-associated infections: prevention and control in primary and community care*). Where implemented, ensure all patients with an indwelling catheter have a catheter passport completed. **Men**: If symptoms mild / non-specific, use negative dipstick to **exclude UTI**. If infection is indicated, consider prostatitis and send pre-treatment mid-stream sample of urine (MSU). **Nitrofurantoin is not recommended for men with suspected prostate involvement** because it is unlikely to reach therapeutic levels in the prostate. **N.B** Nitrofurantoin, pivmecillinam and fosfomycin are not appropriate for the treatment of upper UTI/pyelonephritis. MHRA Guidance on Nitrofurantoin risks of pulmonary and hepatic adverse drug reactions. **Non-pregnant women**: In women aged <65 years with suspected uncomplicated lower UTI and diagnosed with mild symptoms on clinical assessment consider a 3 day course of Ibuprofen (if suitable) as first-line treatment **and/or** offer a back-up antibiotic (to use if no improvement in 48 hours or symptoms worsen at any time) or immediate antibiotic. **Pregnant women and children**: offer an immediate antibiotic. **Treat according to sensitivities on recent MSU results if available, otherwise treat empirically.** Resistance to many agents is increasing, particularly in the elderly (≥ 65 years). **If high risk of resistance, send urine for microscopy, culture and sensitivity (MC&S).** **Risk factors for resistance:** Care home resident, recurrent UTI, hospitalization for > 7 days in the last 6 months, unresolving urinary symptoms, recent travel to areas of high antimicrobial resistance (outside northern Europe & Australasia), previous resistant UTI. **Complicated infection**: all males, females with renal impairment, abnormal urinary tract, poorly controlled diabetes or immunosuppression.

Infection	Formulary Choice		Adult Dose (unless otherwise specified)	Duration of Treatment
Patient < 65 years and no risk factors for resistance	Nitrofurantoin (if estimated Glomerular Filtration Rate [eGFR] ≥ 45 ml/minute) MHRA Guidance on Nitrofurantoin risks.		100 mg m/r BD	**Uncomplicated** - 3 days **Complicated** - 7 days
	OR			
	Trimethoprim		200 mg BD	
Patient ≥ 65 years or risk factors for resistance	**First line:**	Nitrofurantoin (if eGFR ≥ 45 ml/minute) MHRA Guidance on Nitrofurantoin risks.	100 mg m/r BD	**Uncomplicated** - 3 days **Complicated** - 7 days
		OR		
		Trimethoprim (only if recent MSU shows sensitivities)	200 mg BD	
	Second line:	Pivmecillinam. (Warning: β-lactam, do not use if allergic to penicillin).	400 mg TDS (N.B. High dose recommended due to increased risk of resistance)	**Uncomplicated** - 3 days **Complicated** - 7 days
		OR		
		Fosfomycin	3 g sachet	**Women:** 3 g PO stat (plus additional 3 g dose 3 days later if complicated UTI) **Men:** 3 g PO stat plus 3 g dose 3 days later (Prescribing in men and complicated UTIs are both off-label)

Infection	Formulary Choice	Adult Dose (unless otherwise specified)	Duration of Treatment
Acute pyelonephritis (upper UTI) NICE CKS (2023)	If admission not needed, send MSU for MC&S and start antibiotics. Re-assess the person if symptoms worsen at any time, or do not start to improve within 48 hours of taking the antibiotic. **Refer pregnant women with pyelonephritis to secondary care for IV antibiotics**. **Treat according to sensitivities on recent MSU results if available, otherwise treat empirically.**		
	First Line:		
	Cefalexin	1 g TDS	7–10 days
	OR		
	Trimethoprim (if susceptible)	200 mg BD	14 days
	OR		
	Co-amoxiclav (if susceptible)	625 mg TDS	7–10 days
	Second Line:		
	Ciprofloxacin (Consider updated (January 2024) prescribing restrictions and safety issues – see MHRA advice. PIL English – Welsh)	500 mg BD	7 days
Acute pyelonephritis in pregnancy NICE CKS (2021)	Referring or seeking specialist advice for people with acute pyelonephritis if they are pregnant is recommended. If admission not needed or patient reluctant for admission, send MSU for culture and sensitivities and start antibiotics. If no response within 24 hours, admit. Advise patient to seek medical help if symptoms worsen at any time or do not start to improve within 48 hours of taking the antibiotic, or become systemically very unwell.		
	Cefalexin	1 g TDS	7–10 days

Infection	Formulary Choice	Adult Dose (unless otherwise specified)	Duration of Treatment
Catheter-associated UTI NICE NG113 (2018)	Antibiotics will not eradicate asymptomatic bacteriuria; only treat if systemically unwell or pyelonephritis likely. Do not use prophylactic antibiotics for catheter changes unless history of catheter-change-associated UTI or trauma (NICE [CG139] *Healthcare-associated infections: prevention and control in primary and community care*). Where implemented ensure all patients with an indwelling catheter have a catheter passport completed. **If signs and symptoms of pyelonephritis (upper UTI), treat as per pyelonephritis.** Ensure catheter is correctly positioned, drains correctly and is not blocked. Consider removing or changing the catheter if it has been in place for more than 7 days. Do not perform urine dipsticks. Most people with a urinary catheter will have bacteria present in the bladder/urine without an infection. **Treat according to sensitivities on recent MSU results if available, otherwise treat empirically.** Resistance to many agents is increasing, particularly in the elderly (≥ 65 years old).		
	Non-pregnant women and men, no upper UTI symptoms, first line:		
	Nitrofurantoin (if eGFR ≥ 45 ml/minute) MHRA Guidance on Nitrofurantoin risks.	100 mg m/r BD	7 days
	OR		
	Trimethoprim	200 mg BD	7 days
	OR		
	Amoxicillin (if susceptible)	500 mg TDS	7 days
	Non-pregnant women and men, no upper UTI symptoms, second line:		
	Pivmecillinam (Warning: β-lactam, do not use if allergic to penicillin).	400 mg TDS (N.B. High dose recommended due to increased risk of resistance)	7 days
	Pregnant women, no upper UTI symptoms:		
	Cefalexin	500 mg BD or TDS (up to 1 g TDS for severe infections).	7–10 days

Infection	Formulary Choice		Adult Dose (unless otherwise specified)	Duration of Treatment
Lower UTI in pregnancy NICE CKS (2021)	Send MSU for culture and start antibiotics. Short-term use of nitrofurantoin in pregnancy is unlikely to cause problems to the foetus. Avoid at term and close to, or during, labour or delivery due to risk of neonatal haemolysis. This includes patients with threatened pre-term labour. **Treatment of asymptomatic bacteriuria in pregnant women:** base choice on recent urine MC&S results. If group B *Streptococcal* bacteriuria is identified, ensure antenatal services are made aware as intrapartum antibiotic prophylaxis will be required in addition to treatment at the time of diagnosis.			
	First line:	Nitrofurantoin (if eGFR ≥ 45 ml/minute. Avoid at term – may produce neonatal haemolysis) (patient information on use in pregnancy) MHRA Guidance on Nitrofurantoin risks.	100 mg m/r BD	7 days
		OR		
		Amoxicillin (if susceptible MC&S results) (patient information on use in pregnancy)	500 mg TDS	
	Second line:	Cefalexin (patient information on use in pregnancy)	500 mg BD	

Infection	Formulary Choice		Adult Dose (unless otherwise specified)	Duration of Treatment
Acute prostatitis NICE CKS (2024) NICE NG110 (2018)	Send MSU for culture and start antibiotics. A 4-week course may prevent chronic prostatitis. **Fluoroquinolone antibiotics must now only be prescribed when other commonly recommended antibiotics are inappropriate.** Consider updated (January 2024) prescribing restrictions and safety issues – see MHRA advice. Fluoroquinolones achieve higher prostate levels. See previous MHRA advice for restrictions and precautions for using fluoroquinolones due to very rare reports of disabling and potentially long-lasting or irreversible side effects affecting musculoskeletal, cardiac and nervous systems. Warnings include stopping treatment at first signs of serious adverse reaction (such as tendonitis), prescribing with special caution in people over 60 years and avoiding co-administration with a corticosteroid (December 2020).			
	First line:	Co-trimoxazole (if no previous history of Trimethoprim resistance)	960 mg BD	14 days, then review
	Second line:	Ciprofloxacin (Consider updated (January 2024) prescribing restrictions and safety issues – see MHRA advice. PIL English – Welsh).	500 mg BD	
		OR		
		Ofloxacin (Consider updated (January 2024) prescribing restrictions and safety issues – see MHRA advice. PIL English – Welsh).	200 mg BD	

Infection	Formulary Choice	Adult Dose (unless otherwise specified)	Duration of Treatment
Recurrent UTI AWMSG (2022) EAU (2021) SIGN (2020) NICE (2018)	**N.B. Children with recurrent UTIs should be referred to a paediatric or urology specialist for advice.** **Non-antibiotic strategies, self-care measures and behavioural techniques** are all effective and should be attempted first before initiating antimicrobial prophylaxis. Any urological risk factor must be identified and treated. Significant residual urine should be treated optimally. Advise patients with recurrent UTI about behavioral and personal hygiene measures and self-care treatments that may help to reduce the risk of UTI: • Ensure adequate hydration to promote more frequent urination of pale coloured urine. Encourage water, decaffeinated drinks and avoid fizzy drinks • Encourage urge-initiated voiding and post-coital voiding. • Avoid delay of habitual and post-coital urination • Avoid constipation • Avoid douching and occlusive underwear. • Wipe from front to back after defaecation • Consider alternative to spermicide-containing contraceptives. There is conflicting evidence for methenamine hippurate, D-mannose and cranberry juice for preventing recurrent UTIs. See full guidelines for further details: *Management of Recurrent Symptomatic Urinary Tract Infection in Adult Women* If an antibiotic strategy is required: • Check urinary cultures for any recent resistance to inform choice of prophylactic antibiotic. • Consider stat dose if a trigger has been identified, or short courses (rescue antibiotics) as an alternative to regular daily prophylaxis. • If 3–6 months prophylaxis is chosen, **treatment will require monitoring.** In particular: pulmonary toxicity and hepatotoxicity for nitrofurantoin; blood dyscrasias and hyperkalaemia for trimethoprim. This advice is included in the full guideline provided above. MHRA Guidance on Nitrofurantoin risks. **Section continued overleaf**		

Infection	Formulary Choice		Adult Dose (unless otherwise specified)	Duration of Treatment
Recurrent UTI (continued) AWMSG (2022) EAU (2021) SIGN (2020) NICE (2018)	**If a trigger is identified:**			
	First line:	Nitrofurantoin (if eGFR ≥ 45 ml/minute) MHRA Guidance on Nitrofurantoin risks.	100 mg stat	Single dose when exposed to a trigger
		OR		
		Trimethoprim	200 mg stat	
	Second line:	Cefalexin	500 mg stat	
	If rescue antibiotic course required (treat as 'lower UTI for patients with risk factors for resistance' and consider recent MC&S results) **– N.B.** this should be issued as an acute prescription:			
	First line:	Nitrofurantoin (if eGFR ≥ 45 ml/minute) MHRA Guidance on Nitrofurantoin risks.	100 mg m/r BD	**Uncomplicated:** 3 days **Complicated:** 7 days
		OR		
		Trimethoprim can be used if a recent MSU shows sensitivity	200 mg BD	
	Second line:	Pivmecillinam (Warning: β-lactam, do not use if allergic to penicillin)	400 mg TDS (N.B: high dose recommended due to increased risk of resistance)	
		OR		
		Fosfomycin	3 g sachet	**Women:** 3 g PO stat (plus additional 3 g dose 3 days later if complicated UTI) **Men:** 3 g PO stat plus 3 g dose 3 days later (Prescribing in men and complicated UTIs are both off-label)
	If regular prophylaxis is required:			
	First line:	Nitrofurantoin (if eGFR ≥ 45 ml/minute) MHRA Guidance on Nitrofurantoin risks	50–100 mg nocte	**Review after 3 months.** **Maximum duration 6 months.** No evidence of additional benefit when continued beyond 6 months.
		OR		
		Trimethoprim	100 mg nocte	
	Second line:	Cefalexin	125 mg nocte	

Infection	Formulary Choice		Adult Dose (unless otherwise specified)	Duration of Treatment
Lower UTI in children PHE (2021) NICE CKS (2019) NICE CG54 (2018)	Send pre-treatment MSU for all children with suspected UTI. **Child < 3 months:** refer urgently for assessment. **Child ≥ 3 months:** use positive nitrite to guide antibiotic use. Imaging: only refer if child < 6 months, or recurrent or atypical UTI.			
	First line:	Trimethoprim **OR** Nitrofurantoin (if eGFR ≥ 45 ml/minute) (**Note high cost of liquid formulation** - £452.09 per bottle, at the time of writing. Tablets should not be crushed.) MHRA Guidance on Nitrofurantoin risks	See BNFc	3 days
	Second line:	Cefalexin (consider if trimethoprim not appropriate and liquid preparation required) **OR** Amoxicillin (If susceptible MC&S results)		
Upper UTI in children NICE CG54 (2018)	Refer all cases to a paediatrician for further investigation. Send pre-treatment MSU for all children with suspected UTI. **Child < 3 months:** refer urgently for assessment. **Child ≥ 3 months:** use positive nitrite to guide antibiotic use. Imaging: only refer if child < 6 months, recurrent or atypical UTI.			
	Co-amoxiclav (if susceptible) **OR** Cefalexin		See BNFc	7 - 10 days

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Dosages in Children: Details of drug dosage and administration can be found in the BNFc			
Gastro-intestinal Tract Infections			
Oral candidiasis (immuno-competent adults) NICE CKS (2025)	Oral candidiasis is uncommon in people other than infants, denture wearers and the elderly. In otherwise healthy people, candidiasis may be the first presentation of an undiagnosed risk factor. Exclude risk factors such as HIV infection, cancer, diabetes, anaemia or haematinic deficiencies. If the person has diabetes, review diabetic control and manage accordingly, particularly if there are recurrent episodes of oral candidal infection. If the person is using an inhaled corticosteroid, provide advice on the prevention of oral candidal infection (e.g. good technique, mouth rinsing, spacer devices). If the person wears dentures, advise about hygiene measures to aid healing and prevent recurrence. Antifungal agents absorbed from the gastrointestinal tract (e.g. fluconazole) prevent oral candidiasis in patients receiving treatment for cancer. For advice on treating oral thrush in immunosuppressed and HIV patients, please see NICE CKS. Please check interactions before prescribing these medications.		
	Miconazole 24mg/ml oral gel BEWARE INTERACTIONS: although an oral gel, absorption can occur, leading to potential significant increases in INR in patients receiving warfarin.	2.5 ml QDS (hold in mouth after food)	Minimum of 7 days treatment and continue treatment for 7 days after symptoms resolve.
	If miconazole unsuitable or no response after 7 days of miconazole:		
	Nystatin (100 000units/ml) suspension	1 ml QDS (hold in mouth after food)	Minimum of 7 days treatment and continue treatment for 2 days after symptoms resolve.
	For severe or extensive candidiasis, treat as below OR seek specialist advice OR refer to an oral surgeon:		
	Fluconazole	200–400 mg on day one, followed by 100–200 mg OD	7-21 days. Review at 14 days and extend to 21 days if infection has not completely resolved or swab to identify the causative organism or seek specialist advice. If symptoms persist after 21 days of treatment refer to oral surgeon.

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Oral candidiasis (immuno-competent children) NICE CKS (2025)	Miconazole 24 mg/ml oral gel (off label if < 4 months) BEWARE INTERACTIONS: although an oral gel, absorption can occur, leading to potential significant increases in INR in patients receiving warfarin.	See BNFc	Minimum of 7 days treatment and continue treatment for 7 days after symptoms resolve.
	If miconazole unsuitable or no response after 7 days of miconazole:		
	Nystatin (100,000 units/ml) suspension (off-label in neonates)	See BNFc	Minimum of 7 days treatment and continue treatment for 2 days after symptoms resolve.
Infectious diarrhoea NICE CKS (2024)	Refer previously healthy children with acute painful or bloody diarrhoea to exclude *E. coli* 0157 infection. **Antibiotics are contraindicated in *E. coli* 0157 infection as this may result in haemolytic uraemic syndrome (HUS).** **Antibiotic therapy not indicated unless systemically unwell.** If systemically unwell and *Campylobacter* suspected (e.g. ingestion of undercooked meat and abdominal pain) consider clarithromycin 250–500 mg BD for 5–7 days if treated early (within 3 days). If giardia is confirmed or suspected, consider metronidazole 2 g OD for 3 days or 400 mg TDS for 5 days (see BNFc for children's dosing).		
Travellers' diarrhoea NICE CKS (2023)	**Prophylaxis is rarely, if ever, indicated. Standby antibiotics are not recommended.** **Only consider standby antibiotics** for remote areas or people at high-risk of severe illness with travellers' diarrhoea. If standby treatment appropriate give: azithromycin 500 mg OD for 1–3 days (private prescription), contact the National Travel Health Network and Centre for further advice. Empirical antibiotics are not generally indicated. Specific treatment should be directed by the results of stool sampling.		
Threadworm NICE CKS (2023)	Treat all household contacts at the same time PLUS advise hygiene measures for 2 weeks (hand hygiene, wear pants at night, morning shower including peri-anal area) PLUS wash sleepwear and bed linen, dust and vacuum on day one.		
	First line > 6 months old:		
	Mebendazole (off label if < 2 years old)	100 mg	1 dose; repeat in 2 weeks if persistent.
	Section continued overleaf.		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Threadworm (continued)	**First line < 6 months old, breastfeeding* or in pregnant women (especially during first 12 weeks of pregnancy):**		
NICE CKS (2023)	6 weeks hygiene only and add perianal wet wiping or washes 3-hourly. If no improvement following hygiene measures, recontact health professional and seek further advice. ***UK Drugs in Lactation Advisory Service advice:** • Mebendazole is considered to be compatible with breastfeeding due to negligible transfer into breast milk and poor oral bioavailability. • No side effects have been reported in breastfed infants of mebendazole-treated mothers. • As a precaution, the infant could be monitored for changes in feeding. Infant side effects are highly unlikely to occur, and no other specific infant monitoring is necessary.		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Acute diverticulitis NICE (2019)	People with mild, uncomplicated diverticulitis can be managed at home with paracetamol, clear fluids and antibiotics. For people who are systemically well following clinical assessment, consider a no antibiotic prescribing strategy and advise the person to re-present if symptoms persist or worsen.		
	Cefalexin **PLUS** Metronidazole	500 mg TDS (up to 1.5g TDS for severe infections) 400 mg TDS	5 days
	OR		
	Co-amoxiclav (Please note increasing resistance rates. Advise patient to re-present if symptoms persist or worsen).	625 mg TDS	
	OR		
	Co-trimoxazole **PLUS** Metronidazole	960 mg BD 400 mg TDS	
Biliary infection (cholecystitis/ cholangitis) NICE CKS (2021)	Urgent referral to secondary care is recommended for all cases of cholecystitis to assess the need for cholecystectomy. Please note high mortality rate (up to 10%) associated with Acute Cholecystitis. If for any reason you are unable to comply with this advice, recommendation for antibiotic treatment for mild cases is outlined below. Biliary colic with no associated infection does **not** require antibiotics.		
	Cefalexin **PLUS** Metronidazole	500 mg TDS (up to 1.5g TDS for severe infections) 400 mg TDS	5–7 days
	OR		
	Co-amoxiclav (Please note increasing resistance rates. Advise patient to re-present if symptoms persist or worsen).	625 mg TDS	
	OR		
	Co-trimoxazole **PLUS** Metronidazole	960 mg BD 400 mg TDS	

<table>
<tr><th>Infection</th><th colspan="3">Antibiotic and PPI choices and adult doses (Refer to BNFc for paediatric doses)</th><th>Duration of treatment</th></tr>
<tr><td rowspan="11">Eradication of Helicobacter pylori
NICE CG184 (2019)</td><td colspan="4">• Always test for H. pylori before giving antibiotics.
• Eradication is beneficial in known duodenal ulcer (DU), gastric ulcer (GU) or low grade MALToma.
• For non-ulcer dyspepsia (NUD), the NNT is 14 for symptom relief.
• Do not offer eradication for gastro-oesophageal reflux disease.
• Do not use clarithromycin or metronidazole if used in the past year for any infection.
• DU/GU relapse: retest for H. pylori using breath or stool test OR consider endoscopy for culture and sensitivities.
• NUD relapse: Do not retest, offer proton pump inhibitor (PPI) or H_2-receptor antagonist.
• Always use ONE proton pump inhibitor (PPI) PLUS TWO antibiotics.
• PPI options include: Omeprazole 20 mg BD or Lansoprazole 30 mg BD.</td></tr>
<tr><td>PPI:</td><td></td><td>Antibiotic:</td><td rowspan="10">First line: 7 days
MALToma: 14 days</td></tr>
<tr><td rowspan="9">Omeprazole 20 mg BD
OR
Lansoprazole 30 mg BD</td><td rowspan="9">PLUS</td><td>First line:</td></tr>
<tr><td>Amoxicillin 1 g BD
AND Clarithromycin 500 mg BD OR Metronidazole 400 mg BD</td></tr>
<tr><td>First line (penicillin allergy):</td></tr>
<tr><td>Clarithromycin 500 mg BD
AND Metronidazole 400 mg BD</td></tr>
<tr><td>Second line:</td></tr>
<tr><td>Amoxicillin 1 g BD
AND Clarithromycin 500 mg BD OR Metronidazole 400 mg BD
(which ever was not used first line)</td></tr>
<tr><td>If penicillin allergy AND previous clarithromycin use (in addition to PPI):</td></tr>
<tr><td>Bismuth subsalicylate 525 mg QDS (NB: Long-term supply issue with Bismuth subsalicylate)
AND Metronidazole 400 mg BD
AND Tetracycline 500 mg QDS</td></tr>
<tr><td>Relapse and previous metronidazole and clarithromycin:</td></tr>
<tr><td>Amoxicillin 1 g BD
AND Tetracycline 500 mg QDS OR if tetracycline cannot be used, levofloxacin* 250 mg BD
*(Consider updated (January 2024) prescribing restrictions and safety issues – see MHRA advice. PIL English – Welsh).</td></tr>
<tr><td colspan="3">Third line (with advice from specialist):</td><td rowspan="2">10 days</td></tr>
<tr><td colspan="3">Bismuth subsalicylate 525 mg QDS (NB: Long-term supply issue with Bismuth subsalicylate)
AND TWO antibiotics not yet tried OR rifabutin 150 mg BD OR furazolidone 200 mg BD</td></tr>
</table>

<table>
<tr><th>Infection</th><th>Recommendations</th></tr>
<tr><td>Clostridioides difficile infection (CDI)
DH&SC & PHE (2019)
NICE NG199 (2021)</td><td>

In adults, treat with oral antibiotics as in table below, and consider seeking advice from Microbiology or Infectious Diseases.
Patients should only be treated if symptomatic.
In children under 18 years of age, discuss with Microbiology, Paediatric Infectious Diseases or Gastroenterology.
Review current medicines with the aim of de-escalating or stopping all unnecessary antibiotics, gastric acid suppressing agents, gut motility agents, opiates and laxatives.
Advise patient to manage fluid loss with regular fluids, prevent the spread of infection by regular handwashing with soap and water, and seek medical help if symptoms worsen rapidly or significantly at any time. Consider the use of oral electrolyte solutions.
If severe symptoms or signs* discuss case with Microbiology and consider hospital referral.

* Admit if: Temperature > 38.5ºC; white cell count > 15, serum creatinine > 50% above baseline, or signs/symptoms of severe colitis

Interpreting C. difficile tests
Currently there are three laboratory tests for C. difficile in use across Wales; glutamate dehydrogenase (GDH), toxin production and PCR. Please refer to your local health board laboratory guidance for information on testing and diagnosis of C. difficile infection.
Routine clearance samples should not be sent. Samples from previously positive patients will not routinely be retested within 28 days. Clearance samples may still be positive due to colonisation with C. difficile, which does not require treatment if the patient is well and asymptomatic.
Repeat samples are only necessary if the patient is clinically unwell or symptomatic, and the clinical information should be filled in on the request forms in these cases.
<table>
<tr><th>Treatment in adults 18 years and over</th><th>Antibiotic, dosage and course length</th></tr>
<tr><td>First-line antibiotic for a mild or moderate CDI

Severe CDI</td><td>Vancomycin 125 mg orally four times a day for 10 days

Discuss with microbiology and consider hospital referral</td></tr>
<tr><td>Second-line antibiotic for a first episode of mild or moderate CDI if vancomycin is ineffective</td><td>Fidaxomicin 200 mg orally twice a day for 10 days</td></tr>
<tr><td>Antibiotics for CDI if first and second line antibiotics are ineffective</td><td>Seek specialist advice</td></tr>
<tr><td>Antibiotic for a further episode of CDI within 12 weeks of symptom resolution (relapse)</td><td>Fidaxomicin 200 mg orally twice a day for 10 days</td></tr>
<tr><td>Antibiotic for a further episode of CDI after 12 weeks of symptom resolution (recurrence)</td><td>Vancomycin 125mg orally four times a day for 10 days
or Fidaxomicin 200mg orally twice a day for 10 days</td></tr>
</table>
</td></tr>
</table>

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Dosages in Children: Details of drug dosage and administration can be found in the BNFc			
Antibiotic Prophylaxis in Asplenia			
Antibiotic prophylaxis in asplenia	Individuals with an absent or dysfunctional spleen are at increased risk of severe infection, particularly those caused by encapsulated bacteria. These patients should be fully vaccinated, according to national schedule. Additional vaccination against pneumococcal infection is recommended to minimise risk of overwhelming infection as well as an annual influenza vaccination. For full details refer to Department of Health, The Green Book. Long-term prophylaxis should be offered to the following high-risk groups: • Age <16 years • Age >50 years • Inadequate response to Pneumococcal vaccine • Previous invasive Pneumococcal disease • Underlying haematological malignancy particularly in the context of ongoing immunosuppression. Patients not at high risk should be counselled regarding the risks and benefits of lifelong antibiotics, and may choose to continue or discontinue prophylaxis. After splenectomy for trauma, the risk is greatest in the immediate post-operative period and prophylaxis should cover this period at least.		
	Phenoxymethylpenicillin	250 mg BD	Lifelong
	Penicillin allergy: Erythromycin	500 mg BD	Lifelong

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Dosages in Children: Details of drug dosage and administration can be found in the BNFc			
Genital Tract Infections Contact UK Teratology Information Service (UKTIS) for information on foetal risks if patient is pregnant. Sexually Transmitted Infection (STI) screening – People with risk factors should be screened for chlamydia, gonorrhoea, HIV, syphilis. Refer individual and partners to Sexual Health service. Risk factors: < 25 years, no condom use, recent (< 12 month) / frequent change of partner, symptomatic partner.			
Uncomplicated chlamydia trachomatis/urethritis BASHH (2018) PHE (2016) NICE CKS (2021)	Opportunistically screen all aged 15 – 25 years. Treat partners and refer to Sexual Health service.		
	Doxycycline	100 mg BD	7 days
	OR		
	Azithromycin	1 g STAT followed by 500 mg OD for 2 days	3 days
	Pregnant or breastfeeding:		
	Azithromycin	1 g STAT following by 500 mg OD for 2 days	3 days
	OR		
	Erythromycin	500 mg QDS	7 days
	OR		
	Amoxicillin	500 mg TDS	7 days
Non-specific / non-gonococcal urethritis – first episode BASHH (2018) NICE CKS (2024)	Patients should abstain from sexual intercourse until 14 days after start of treatment and symptoms have resolved. Treat partners and refer to Sexual Health service.		
	First line:		
	Doxycycline	100 mg BD	7 days
	Second line:		
	Azithromycin	1 g STAT then 500mg OD for 2 days	3 days
	Third line:		
	Levofloxacin (Consider updated (January 2024) prescribing restrictions and safety issues – see MHRA advice. PIL English – Welsh).	500 mg OD	7 days

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Epididymo-orchitis BASHH (2020) NICE CKS (2024)	Usually due to Gram-negative enteric bacteria in men over 35 years old with low risk of STI. If under 35 years old or STI risk, refer to Genitourinary Medicine (GUM) for additional IM ceftriaxone treatment. Use of an oral cephalosporin instead of IM preparations is not recommended due to increasing resistance.		
	If over 35 years with low risk STI:		
	Co-trimoxazole	960 mg BD	10 days
	OR		
	Co-amoxiclav	625 mg TDS	
Bacterial vaginosis BASHH (2012) NICE CKS (2018)	Oral metronidazole is as effective as topical treatment and is cheaper. Less relapse with 7 days' treatment than 2 g stat at 4 weeks. Treating partners does not reduce relapse.		
	Oral metronidazole	400 mg BD *or* 2 g	7 days stat
	OR		
	Metronidazole 0.75% vaginal gel	5 g applicatorful at night	5 nights
	OR		
	Clindamycin 2% cream	5 g applicatorful at night	7 nights
	Pregnant or breastfeeding:		
	Oral metronidazole	400 mg BD	7 days
	OR		
	Metronidazole 0.75% vaginal gel	5 g applicatorful at night	5 nights
	OR		
	Clindamycin 2% cream	5 g applicatorful at night	7 nights

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Vaginal candidiasis BASHH (2019) NICE CKS (2022)	All topical and oral azoles give 80% cure. **Pregnancy and breastfeeding**: Avoid oral azoles and use intravaginal treatment for 7 days. When inserting the pessary, the use of the applicator should be avoided due to the risk of mechanical trauma. **Recurrent:** At least four episodes per 12 months with two episodes confirmed by microscopy or culture when symptomatic (at least one must be culture).		
	First line:		
	Fluconazole	150 mg orally	stat
	Second line (if oral imidazole contraindicated):		
	Clotrimazole	500 mg pessary *or* 10% cream 5 g intravaginally	stat
	Alternative regimens:		
	Clotrimazole	100 mg pessary at night *or* 200 mg pessary at night	6 nights 3 nights
	Pregnant:		
	Clotrimazole	500 mg pessary intravaginally	7 days
	OR		
	Miconazole 2% cream (discontinued)[2]	5 g intravaginally nocte	7 days
	Recurrent:		
	Fluconazole (induction/maintenance)	150 mg every 72 hours THEN 150 mg once a week	3 doses 6 months

[2] Discontinued July 2023, supplies may still be in circulation.

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Trichomoniasis BASHH (2014) NICE CKS (2021)	Treat partners and refer to Sexual Health service. **Pregnancy or breastfeeding**: Avoid 2 g single dose metronidazole. Consider clotrimazole for symptom relief (not cure) if metronidazole declined. When inserting the pessary the use of the applicator should be avoided due to the risk of mechanical trauma.		
	Metronidazole	400 mg BD *or* 2 g	5–7 days stat
	Pregnant or breastfeeding:		
	Metronidazole	400 mg BD	5–7 days
	OR		
	Clotrimazole (see note above)	100 mg pessary at night	6 nights
Pelvic inflammatory disease BASHH (2019) NICE CKS (2024)	Refer patient and contacts to Sexual Health service. Always culture for gonorrhoea and chlamydia and test for *Mycoplasma genitalium*. 28% of gonorrhoea isolates are now resistant to quinolones, therefore if gonorrhoea likely (partner has it, severe symptoms, sex abroad) use ceftriaxone regimen or refer to Sexual Health service. Use of an oral cephalosporin instead of IM preparations is **not** recommended due to increasing resistance. **Exclude**: ectopic, appendicitis, endometriosis, UTI, irritable bowel, complicated ovarian cyst, functional pain.		
	First Line:		
	Ceftriaxone **PLUS** Metronidazole **PLUS** Doxycycline	1 g IM 400 mg BD 100 mg BD	stat 14 days 14 days
	Second Line:		
	Metronidazole **PLUS** Ofloxacin (Consider updated (January 2024) prescribing restrictions and safety issues – see MHRA advice. PIL English – Welsh).	400 mg BD 400 mg BD	14 days 14 days

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Genital herpes BASHH (2014) NICE CKS (2017)	Advise saline bathing, analgesia, or topical anaesthetic agents; e.g. 5% lidocaine ointment may be beneficial for pain, although may rarely cause sensitisation. Take dry swab for confirmation of diagnosis by PCR and refer to Sexual Health service. If pregnant, refer to Sexual Health service. First episode: treat within 5 days of the start of the episode, while new lesions are still forming, or if systemic symptoms and refer to GUM. Recurrent episodes: usually self-limiting and generally cause mild symptoms. Consider referral to GUM. Treat with self-care, immediate short course antiviral treatment, or suppressive therapy if more than 6 episodes per year.		
	Aciclovir	400mg TDS *or* If recurrent: 800mg TDS	5 days 2 days

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Dosages in Children: Details of drug dosage and administration can be found in the BNFc			
Skin Infections			
Impetigo NICE CKS (2020) NICE NG153 (2020)	• For extensive, severe, or bullous impetigo, use oral antibiotics. • Do not offer combination treatment with a topical and oral antibiotic to treat impetigo. • Reserve topical antibiotics for very localised lesions to reduce the risk of resistance. • Reserve topical mupirocin for localised MRSA-positive lesions. • Treatment duration can be increased to 7 days based on clinical judgement, depending on the severity and number of lesions • Advise patient on good hygiene measures to prevent spread of impetigo – see NICE CKS for details.		
	First line:		
	Hydrogen peroxide 1% cream	Apply BD –TDS	5 days
	Flucloxacillin	500 mg QDS	5 days
	Penicillin allergy:		
	Clarithromycin	250–500 mg BD	5 days
	Localised lesions:		
	Fusidic acid 2% cream	TDS	5 days
	Localised MRSA-positive lesions:		
	Mupirocin 2% ointment	TDS	5 days

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Rosacea NICE CKS (2021)	Provide advice on self-management: • Avoid trigger factors wherever possible. • A diary may be helpful to identify stimuli and triggers that may exacerbate rosacea. • Use effective sun protection and avoid use of sunbeds. • High-factor sunscreen with protection against ultraviolet A and B (for example Uvistat® or Sunsense®) can be prescribed (these are classified as 'borderline substances' and the prescription must be endorsed by the Advisory Committee on Borderline Substances. • Ultraviolet protection sunglasses may be helpful for people with features of ocular rosacea. • Regular use of non-oily emollients if the skin is dry. • The use of gentle soap-free over-the-counter cleansers. • The possible use of yellow- or green-tinted cosmetics to help camouflage skin erythema. • For persistent erythema, consider prescribing topical brimonidine 0.5% gel once-daily on an 'as needed' basis, for temporary relief of symptoms. Brimonidine may reduce erythema within 30 minutes, reaching peak action at 3–6 hours, after which the effect diminishes and erythema returns to baseline. • Arrange to review the person following first-line treatment(s), to assess the clinical response, need for maintenance therapy, alternative treatment, or referral. • Recurrent symptoms: For infrequent recurrences a course of treatment can be repeated as below.		
	Mild-to-moderate papules and/or pustules:		
	First line:		Review at 8 – 12 weeks. If there is clinical improvement, continue maintenance treatment with topical preparations as needed, ideally until the skin is clear. Courses may be repeated as necessary. If there is little or no clinical improvement, consider prescribing a combination of topical preparation together with oral antibiotics (as below). **Note:** do **not** use combination topical and oral antibiotic therapy as dual therapy
	Topical ivermectin *(N.B not appropriate in pregnancy/breastfeeding)*	OD	
	Alternatives (i.e. for pregnant/breastfeeding women):		
	Metronidazole 0.75% gel or cream	BD	
	OR		
	Azelaic acid 15%	BD	
			Section continued overleaf.

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Rosacea (continued) NICE CKS (2021)	**Moderate-to severe papules and/or pustules:** Prescribe a combination of topical (as above) plus oral antibiotics		
	First line:		Review therapy from 8 weeks onwards, maximum duration 16 weeks. Therapy should then be stepped down to topical monotherapy. If there is little or no improvement, consider arranging dermatology referral, depending on clinical judgement. Consider dermatology referral if relapsing symptoms occur once oral antibiotic therapy is stopped
	Oxytetracycline	500 mg BD	
	If compliance is an issue:		
	Doxycycline (Unlicensed use])	100 mg OD	
	OR		
	Doxycycline m/r (Licensed – N.B: significantly more expensive at time of writing [September 2021])	40 mg OD	
	If tetracycline contraindicated (e.g. in pregnancy):		
	Erythromycin [Unlicensed]	500 mg BD	

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Acne vulgaris NICE CKS (2021) NICE NG198 (2021)	• Minocycline is not recommended. • Do not use monotherapy with a topical antibiotic, monotherapy with an oral antibiotic or a combination of a topical antibiotic and an oral antibiotic. • **Some people may not require treatment with topical or oral antibiotics, please refer to NICE NG198 guidelines for all treatment recommendations.** • When choosing a first line treatment option take into account the severity of the acne, the person's preferences, and discuss the advantages and disadvantages of the various treatment options. When discussing treatment choices with a person with childbearing potential, cover that topical retinoids and oral tetracyclines are contraindicated during pregnancy and when planning a pregnancy and that they will need to use effective contraception, or choose an alternative treatment to these options. • Discuss the importance of completing the course of treatment as positive effects can take 6 to 8 weeks to become noticeable. • Consider referring people to a consultant dermatologist-led team if their acne of any severity, or acne-related scarring, is causing or contributing to persistent psychological distress or a mental health disorder. • 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. • For people with polycystic ovary syndrome and acne, treat their acne using a first-line treatment options below. If the chosen first-line treatment is not effective, consider adding ethinylestradiol with cyproterone acetate (co-cyprindiol) or an alternative combined oral contraceptive pill to their treatment. • Only continue a treatment option that includes an antibiotic (topical or oral) for more than 6 months in exceptional circumstances. Review at 3‑monthly intervals, and stop the antibiotic as soon as possible. Topical or oral antibiotics are not recommended for maintenance treatment. • Oral antibiotics only recommended for moderate to severe acne.		
	Any acne severity:		
	Fixed combination of topical tretinoin (0.025%) with topical clindamycin (1%)	Apply once daily in the evening	12 weeks then review. If acne fails to respond adequately consider alternative topical treatment choice.
	Mild to moderate acne:		
	Fixed combination of topical benzoyl peroxide (3% or 5%) with topical clindamycin (1%)	Apply once daily in the evening	12 weeks then review. If acne fails to respond adequately consider alternative topical treatment choice. If acne fails to respond adequately to 2 different 12 week courses of treatment options, consider referral to dermatology.
	Section continued overleaf.		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Acne vulgaris (continued) NICE CKS (2021) NICE NG198 (2021)	**Moderate to severe acne:**		
	Fixed combination of topical adapalene (0.1% or 0.3%) with topical benzoyl peroxide (2.5%)	Apply once daily in the evening	12 weeks then review. If the acne has completely cleared, consider stopping the antibiotic but continuing the topical treatment. If their acne has improved but not completely cleared, consider continuing the oral antibiotic, alongside the topical treatment, for up to 12 more weeks. If acne fails to respond adequately consider referral to dermatology.
	OR		
	Azelaic acid (15% or 20%) **PLUS**	Apply twice daily	
	Doxycycline	100 mg OD	
	OR		
	Lymecycline	408 mg OD	
	OR		
	Erythromycin (If tetracycline contraindication)	500 mg BD	
Eczema NICE NG190 (2021) NICE CKS (2021)	• For secondary bacterial infection of eczema in people who are not systemically unwell: Do not routinely offer either a topical or oral antibiotic. • If no visible signs of infection, use of antibiotics (alone or with steroids) encourages resistance and does not improve healing. If visible signs of infection: o consider the extent and severity of symptoms or signs (a topical antibiotic may be more appropriate if the infection is localised and not severe; an oral antibiotic may be more appropriate if the infection is widespread or severe). o consider previous use of topical antibiotics because antimicrobial resistance can develop rapidly with extended or repeated use. • Patients should continue treatments such as emollients and topical corticosteroids. • Make patients aware that it can take time for secondary bacterial infection of eczema to resolve, and full resolution is not expected until after the antibiotic course is completed.		
	First-choice topical if a topical antibiotic is appropriate:		
	Fusidic acid 2%	Apply TDS	5–7 days
	First-choice oral if an oral antibiotic is appropriate:		
	Flucloxacillin	500 mg QDS	5–7 days
	Penicillin allergy:		
	Clarithromycin	250 mg–500 mg BD	5–7 days
	Penicillin allergy and pregnant:		
	Erythromycin	250 mg–500 mg QDS	5–7 days
	If MRSA suspected or confirmed:	**Contact microbiology consultant**	

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Panton-Valentine Leukocidin (PVL)	• Panton-Valentine Leukocidin (PVL) is a toxin produced by 2% of *Staphylococcus aureus* strains. It can rarely cause severe invasive infections in healthy people. • Send swabs if recurrent boils/abscesses. • At risk: close contact in communities or sport; poor hygiene – for details see British Association of Dermatologists patient information leaflet. • To prevent transmission of PVL: change towels every day and do not share them; change bed sheets frequently; keep house very clean especially sink and bath; do not visit gym or swimming pool until infections have healed; cover infected areas with dressings; wash hands frequently with liquid soap. • Once primary infection has resolved, PVL eradication can be achieved in line with local MRSA decolonisation guidelines. • Discuss with Consultant Microbiologist to ensure adequate treatment and eradication.		
Cellulitis and Erysipelas NICE CKS (2024) NICE NG141 (2019)	• If patient afebrile and healthy other than cellulitis, use oral flucloxacillin alone. • **If river or sea water exposure, discuss with Consultant Microbiologist.** • If febrile and ill, admit for IV treatment. • **Erysipelas**: often facial and unilateral. Use flucloxacillin for non-facial erysipelas. • 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 risk of a serious intracranial complication. For active **MRSA infection**: use antibiotic sensitivities to guide treatment; if severe infection or no response to monotherapy after 24–48 hours, seek advice from Consultant Microbiologist on combination therapy.		
	Flucloxacillin	500 mg–1 g QDS Use higher dose in obesity (BMI > 30 kg/m^2) or severe infections.	5–7 days – If slow response continue for a further 7 days.
	Penicillin allergy		
	Clarithromycin	500 mg BD	5–7 days If slow response continue for a further 7 days.
	OR		
	Doxycycline	200 mg stat, then 100 mg OD	
	OR		
	Erythromycin (if pregnant)	500 mg QDS	
			Section continued overleaf.

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Cellulitis and Erysipelas (continued) NICE CKS (2024) NICE NG141 (2019)	**MRSA known or suspected (check recent cultures and adapt therapy as needed):**		
	Doxycycline	200 mg stat, then 100 mg BD	5–7 days If slow response continue for a further 7 days.
	OR		
	Co-trimoxazole	960 mg BD	
	Facial (inside the triangle treat as below – if outside of the triangle treat as above):		
	Co-amoxiclav	625 mg TDS	7 days
	OR (if penicillin allergic)		
	Clarithromycin	500 mg BD	
	PLUS		
	Metronidazole	400 mg TDS	
Pinna chondritis/ Perichondritis	• **NB: infection of the ear lobe is not classified as Pinna chondritis/Perichondritis as it does not involve the cartilage – see cellulitis guidance.** • **Refer to ear, nose and throat team (ENT) if no response / severe cases / complications** • Refer to exclude alternative causes e.g. **Malignant otitis externa** which is a potentially **life-threatening progressive infection of the external ear canal** causing osteomyelitis of the temporal bone and adjacent structures and **requires urgent referral.** • Assess for **presence of abscess and/or necrosis,** if present then surgical intervention may be required • If discharge present – consider swab for microscopy, culture, and sensitivity (MC &S) • **REMOVE ANY PIERCINGS** • If failure of treatment or infection due to ear trauma/piercing or abscess present consider possibility of Pseudomonal infection, **discuss with Consultant Microbiologist.**		
	Flucloxacillin	500 mg–1 g QDS Use higher dose in obesity (BMI > 30 kg/m^2) or severe infections.	5–7 days – If slow response continue for a further 7 days.
			Section continued overleaf.

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Pinna chondritis/ Perichondritis (contd).	**Penicillin allergy**		
	Clarithromycin	500 mg BD	5–7 days If slow response continue for a further 7 days.
	OR		
	Doxycycline	200 mg stat, then 100 mg OD	
	OR		
	Erythromycin (if pregnant)	500 mg QDS	

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Cellulitis in patients with lymphoedema Lymphoedema Wales (2022) – Note: currently only accessible to staff within NHS Wales	**All** patients with lymphoedema/chronic oedema and cellulitis should be referred to the Lymphoedema Service. Please refer to *Cellulitis Pathway for People with Lymphoedema or Chronic Oedema in NHS* (Note: this is currently only available for staff within NHS Wales) for further information. Be aware that skin can take some time to return to what is normal for the patient Consider steroid emollient if signs of inflammation after antimicrobial treatment Consider cellulitis prophylaxis in patients with > 2 episodes of cellulitis in the past 12 months affecting limbs only.		
	First line:		
	Flucloxacillin	500 mg–1 g QDS	7–14 days.
	Penicillin allergy:		
	Clarithromycin	500 mg BD	7–14 days
	No improvement in cellulitis after initial course of antibiotics (wound or previous MRSA consider swab):		
	Clindamycin	300–450 mg QDS	7–14 days
Prophylaxis for recurrent cellulitis in lymphoedema Lymphoedema Wales (2022) – Note: currently only accessible to staff within NHS Wales	**All** patients with lymphoedema/chronic oedema and cellulitis should be referred to the Lymphoedema Service. Criteria for Lymphoedema prophylaxis: • At least 2 episodes of cellulitis in the past 12 months affecting limbs only • Patient has been referred to local Lymphoedema Service • All obvious causes for recurring cellulitis have been addressed first e.g. wounds, chronic skin conditions etc. • MRSA eradicated (dependent on swab results) • Patient is counselled in prophylaxis and consents to treatment.		
	First line:		
	Phenoxymethylpenicillin	250 mg BD (if BMI > 33 increase to 500 mg BD)	Review at 3 months for progress. Discontinue at 6 months if no further cellulitis episodes.
	Penicillin Allergic:		
	Clarithromycin	250 mg OD	Review at 3 months for progress. Discontinue at 6 months if no further cellulitis episodes.

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Leg ulcer NICE CKS (2021) NICE NG152 (2020)	• **Leg ulcers are always colonised. Antibiotics do not improve healing unless active infection is present.** • There is no evidence to support regular application of topical antimicrobials or antiseptics. • There is insufficient evidence of proven benefit from silver dressings or iodine preparations in patients with leg ulcers. Do not prescribe routinely. • Do not take a sample for microbiological testing at initial presentation. If the infection is worsening or not improving as expected, consider microbiological testing. A superficial swab is not sufficient. Physically clean the ulcer with sterile saline to remove debris from the wound bed. The best specimens for culture are curettage or tissue biopsy from the base of the ulcer after cleaning and debridement. • Review antibiotics after culture results. • For active **MRSA infection**: use antibiotic sensitivities to guide treatment; if severe infection or no response to monotherapy after 24–48 hours, seek advice from Consultant Microbiologist on combination therapy. • **Duration of antibiotics**: 7 days, but if insufficient improvement, but some improvement noted, duration can be increased to 14 days maximum. If no improvement noted try an alternative agent.		
	Active infection:		
	Flucloxacillin	500 mg – 1 g QDS Use higher doses in obesity (BMI >30 kg/m^2) or severe infections.	7 days, note advice above
	Penicillin allergy:		
	Clarithromycin	500 mg BD	7 days, note advice above
	MRSA known or suspected:		
	Doxycycline	200 mg stat, then 100 mg BD	7 days, note advice above
	OR		
	Co-trimoxazole	960 mg BD	

Infection	Recommendations
Insect bites and stings	• A rapid-onset inflammatory skin response after an insect bite/sting–redness, itchiness, or pain and swelling–is more likely to be an inflammatory or allergic reaction rather than an infection. • Skin redness and itching after bites and stings are common and can last up to 10 days. • Do **not** offer antibiotics if there are no symptoms or signs of infection. • Secondary bacterial infection is rare and most insect bites/stings will **not** need antimicrobial treatment. • If there are signs and symptoms of acute **localised** infection with a well-defined, raised margin, see All Wales primary care guidance on cellulitis and erysipelas for recommended antibiotic choice. • Consider whether the bite may be a tick bite and check whether erythema migrans is present in line with All Wales primary care guidance on management of Lyme disease. • Refer people to hospital if they have symptoms or signs suggesting a more serious illness or condition, such as a systemic allergic reaction (see NICE Clinical Guideline 134 *Anaphylaxis: assessment and referral after emergency treatment*). • Consider referral or seeking specialist advice for people if: o they are systemically unwell o they are severely immunocompromised, and have symptoms or signs of an infection o they have had a previous systemic allergic reaction to the same type of bite or sting o the bite or sting is in the mouth or throat, or around the eyes o it has been caused by an unusual or exotic insect o they have fever or persisting lesions associated with a bite or sting that occurred while travelling outside the UK.

<table>
<tr><th>Infection</th><th>Formulary choice</th><th>Adult dose
(unless otherwise specified)</th><th>Duration of treatment</th></tr>
<tr><td>Bites (human/cat /dog)
NICE CKS (2020)
NICE NG184 (2020)</td><td colspan="3">
Increased risk of wound becoming infected due to:

Nature of the bite (deep, contaminated wounds; puncture or crush wounds; significant tissue destruction)
Site of injury (e.g. hands, feet, face or genitals; areas of poor perfusion or lymphatic return; or near a prosthetic joint or implant)
Wound penetrating bone, joints, tendons, or vascular structures
Delayed presentation (> 8 hours)
Associated medical conditions (e.g. diabetes mellitus, asplenia, immunocompromised status, chronic liver disease, prosthetic heart valve or joint)
Patient age (neonates, infants and elderly patients are at higher risk of infection).

Do not offer antibiotic prophylaxis to people with a human/cat/dog bite that has not broken the skin.

Human:

Thorough irrigation is important.
Assess risk of tetanus, HIV and Hepatitis B and C.

Cat / Dog:

Thorough irrigation is important.
Assess risk of tetanus and rabies.
Antibiotic prophylaxis is advised in the following circumstances: all cat bites; dog bite to hand / foot / face / joint / tendon / ligament; puncture wound; suspected fracture; wounds requiring surgical debridement; wounds that have undergone primary closure; immunocompromised / diabetic / asplenic / cirrhotic / prosthetic heart valve / prosthetic joint / patient at risk of serious wound infection.

Bat: Urgent treatment required. All patients should be referred to A&E and Public Health Wales Health protection team or the duty virologist (University Hospital of Wales) contacted. Please see PHE guidance (for advice on Rabies) and refer to patients to PHE PIL.

<u>When to offer antibiotics:</u>
Offer an antibiotic (see the recommendations on choice of antibiotic) for people with a human or animal bite if there are symptoms or signs of infection, such as increased pain, inflammation, fever, discharge or an unpleasant smell.
<table>
<tr><th>Type of bite</th><th>Bite has not broken the skin</th><th>Bite has broken the skin but not drawn blood</th><th>Bite has broken the skin and drawn blood</th></tr>
<tr><td>Human bite</td><td>Do not offer antibiotics.</td><td>Consider antibiotics if it is in a high-risk area* or if the person is high risk**.</td><td>Offer antibiotics.</td></tr>
<tr><td>Cat bite</td><td>Do not offer antibiotics.</td><td>Consider antibiotics if the wound could be deep.</td><td>Offer antibiotics.</td></tr>
<tr><td>Dog or other traditional pet bites</td><td>Do not offer antibiotics.</td><td>Do not offer antibiotics.</td><td>Offer antibiotics if it has caused considerable, deep tissue damage or is visibly contaminated. Consider antibiotics if it is in a high-risk area* or person at high risk**.</td></tr>
<tr><td colspan="4">* High-risk area = hands, feet, face, genitals, skin overlying cartilaginous structures or an area of poor circulation.
** High-risk Person = those at risk of serious wound infection (e.g immunosuppression, asplenia, decompensated liver disease, diabetes).</td></tr>
</table>
</td></tr>
<tr><td></td><td colspan="3">Section continued overleaf</td></tr>
</table>

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Bites (human/cat/ dog) NICE CKS (2020) NICE NG184 (2020)	**Prophylaxis or treatment:**		3 days (prophylaxis). 5 days (treatment). Course length can be increased to 7 days (with review) based on clinical assessment of the wound, for example, if there is significant tissue destruction or it has penetrated bone, joint, tendon or vascular structures.
	Co-amoxiclav	625 mg TDS	
	Penicillin allergy:		
	Metronidazole **PLUS** Doxycycline (cat/dog/human) (N.B. Not suitable for children < 12 years)	400 mg TDS 200 mg stat followed by 100 mg OD–BD	
	If child < 12 years		
	Co-trimoxazole	Dose as per BNFc	
Scabies NICE CKS (2017)	• Treat all home and sexual contacts (within the past month) within 24 hours. • Treat whole body from ear/chin downwards, pay special attention to the areas between the fingers and toes and under nails. • If under 2 years old, elderly, immunosuppressed or using malation also treat face/scalp. • If under 2 months old, seek specialist advice. • The treatment should be applied to cool dry skin (not after a hot bath) and allowed to dry before the person dresses in clean clothes. • Permethrin should be washed off after 8 to 12 hours, and malathion after 24 hours. Body areas that are washed within 8 hours of permethrin application or 24 hours of malathion application should be treated again. • Mittens can be used to prevent infants putting treated hands in their mouths. • A second application is required one week after the first. • Itching may continue for up to two weeks after successful treatment of scabies, however, if itching persists for longer than 2–4 weeks after the last treatment application, advise the person to seek follow-up. • **Note:** pregnancy and breastfeeding are not contraindications to the use of permethrin or malathion. • Permethrin is not suitable in patients with an allergy to chrysanthemum.		
	Permethrin	5% cream	2 applications, 1 week apart
		(One 30 g pack should be sufficient. Some adults may need to use an additional tube for full body coverage but should not use more than 2 tubes (60 g in total) at each application.)	
	If allergic:		
	Malathion	0.5% aqueous liquid	2 applications, 1 week apart

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Tick bites (Lyme disease) NICE CKS (2019) NICE NG95 (2018) RCGP (2021)	• Refer to NICE CKS or PHE advice for prevention of tick bites. • Prophylactic antibiotic treatment following a tick bite is not recommended. • Give safety net advice about erythema migrans and other possible symptoms that may occur within 1 month of tick removal.		
	First line treatment:		
	Doxycycline (not for use in children < 12 years)	100 mg BD	21 days
	Alternative options:		
	Amoxicillin	1 g TDS	21 days
	OR		
	Azithromycin	500 mg OD	17 days
Mastitis NICE CKS (2021)	• Refer to NICE CKS for self-care advice to manage pain and discomfort. • *Staphylococcus aureus* is the most common infecting pathogen. • Suspect if woman has a painful breast, fever/general malaise, a tender/red breast. • **Breastfeeding**: oral antibiotics are appropriate where indicated; women should continue feeding, including from the affected breast. • In lactational mastitis, prescribe an oral antibiotic if the woman has a nipple fissure that is infected, symptoms have not improved (or are worsening) after 12–24 hours despite effective milk removal.		
	Lactational mastitis:		10–14 days
	Flucloxacillin	500mg QDS	
	Penicillin allergy:		
	Erythromycin	250–500 mg QDS	
	OR		
	Clarithromycin	500 mg BD	
	Non-lactational mastitis:		
	Co-amoxiclav	625 mg TDS	
	Penicillin allergy:		
	Erythromycin PLUS Metronidazole	250–500 mg QDS 400 mg TDS	
	OR		
	Clarithromycin PLUS Metronidazole	500 mg BD 400 mg TDS	

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Dermatophyte infection – skin NICE CKS – Body and groin (2023) NICE CKS – Foot (2023) NICE CKS – Scalp (2025)	**Body, groin & foot** • For advice on self-care management strategies including hygiene measures and clothing, refer to NICE CKS (Body and groin) or NICE CKS (Foot and see below). • Terbinafine is fungicidal, so treatment time is shorter than with fungistatic imidazoles. • If Candida possible, use imidazole. • **If intractable, severe or extensive disease**: send skin scrapings. • **If infection is confirmed**, use **oral** terbinafine/itraconazole/griseofulvin. Consider co-prescribing a topical antifungal agent during initial oral antifungal treatment, to reduce the risk of transmission to other people.		
	Topical terbinafine 1%	BD	1–2 weeks
	OR		
	Topical imidazole	BD	For 1–2 weeks after healing (i.e. 4–6 weeks)
	Severe or extensive disease, First line:		
	Terbinafine	250 mg OD	For 4 weeks for fungal infection of the **body** For 2–4 weeks for fungal infection of the **groin** For 2–6 weeks for fungal infection of the **foot**
	Second line if terbinafine is not tolerated or is contraindicated:		
	Itraconazole	**Body & groin -** 200 mg OD **Foot -** 200mg BD	7 days
	OR		
	Griseofulvin	500 mg daily, if necessary, increase to 1000 mg daily for severe infections; reduce the dose when treatment response occurs. The daily dose may be taken once daily or in divided doses.	For at least 4 weeks, continue for at least 2 weeks after healing
	Athlete's foot only		
	Topical undecanoate (Mycota®)	BD	For 7 days after healing
			Section continued overleaf

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
	Self-care advice (Foot): • Wear well-fitting, non-occlusive footwear that keeps the feet cool and dry. Consider replacing old footwear which could be contaminated with fungal spores. • Maintain good foot hygiene by wearing a different pair of shoes every 2–3 days. • Wear cotton, absorbent socks. • Avoid scratching affected skin, as this may spread infection to other sites. • After washing the feet, dry thoroughly, especially between the toes. • Do not share towels, and wash them frequently, to reduce the risk of transmission. • Wear protective footwear when using communal bathing places, locker rooms, and gymnasiums, to reduce the risk of transmission.		
	Scalp		
	• Send skin scrapings. • Oral therapy and discuss with dermatology (e.g. advice and guidance pathway) – do not delay treatment. • For further information and advice on self-care management strategies, refer to NICE CKS.		
Cold sores NICE CKS (2016)	• Cold sores resolve after 5 days **without** treatment. • Topical antivirals applied prodromally reduce duration by 12–18hrs. • If frequent, severe and predictable triggers or patient is immunocompromised: consider oral aciclovir 400 mg BD for 5–7 days. • Do not routinely prescribe oral antivirals for healthy people.		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Varicella zoster (Chicken pox) NICE CKS (2023) UKHSA (2024)	• For symptomatic relief, self-care advice and transmission reduction measures, refer to NICE CKS. • Pregnant/immunocompromised/neonate: **seek urgent specialist advice from microbiology and relevant clinical teams**. • **Pregnant women** who present within 24 hours of onset of chickenpox rash: o **Seek urgent specialist advice – all women who have chickenpox during pregnancy need to be referred to fetal medicine for follow up scans** o **If 20 weeks +0 gestation or beyond:** PO aciclovir 800 mg **five** times a day for 7 days **& seek specialist advice**. o **If less than 20 weeks gestation: seek specialist advice &** consider use of aciclovir. o N.B. Use of aciclovir in pregnancy is not licensed and the risks and benefits of its use should be discussed with the patient. For further details, refer to Royal College of Obstetrics and Gynaecology guidelines. • **Pregnant women - post-exposure prophylaxis (PEP):** If the woman does not have a positive history of chickenpox or shingles, or not had 2 doses of varicella vaccine please contact your local microbiology service for further advice (further details refer to UKHSA guidance). If post exposure prophylaxis is indicated (after discussion with microbiology service): o **First line PEP (all susceptible pregnant women at any stage of pregnancy) –** Aciclovir 800 mg **QDS** for 7 days, starting at day 7 post-exposure. Can be started up to 14 days post-exposure if necessary. o **If aciclovir is unsuitable discuss alternative treatment options with local microbiology service**. o **Although aciclovir is not currently licensed for post-exposure prophylaxis for chickenpox, its use in the treatment of chickenpox is well established. Clinicians are able to prescribe medicines outside the terms of the licence when it is in the best interest of the patient on the basis of available evidence.** **Chicken pox (non-pregnant):** Consider aciclovir 800 mg **five** times a day for 7 days if onset of rash < 24 hours, and 1 of the following: >14 years of age; severe pain; dense/oral rash; taking steroids; smoker. Self-care advice: • 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. • Take paracetamol if pain or fever are causing distress. Avoid non-steroidal anti-inflammatory containing medication. • Topical calamine lotion to alleviate itch. • Consider chlorphenamine for treating itch associated with chickenpox for people 1 year of age or older. Avoid use in pregnancy unless considered essential by a physician.		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Herpes zoster (Shingles) NICE CKS (2024)	Offer an oral antiviral treatment within 72 hours of rash onset for people with any of the following criteria: • People who are immunocompromised (based on clinical judgement, for example, if the level of immunocompromise is not severe, the rash is localized, there is no eye involvement, the person is not systemically unwell, and they can be closely followed up). o Refer people who are severely immunocompromised for intravenous aciclovir treatment. • People aged 50 years and over. • People with non-truncal involvement (excluding the head and neck, where admission or specialist advice is indicated). • People with moderate or severe pain or moderate or severe rash. • People with predisposing skin conditions. Consider offering antiviral treatment to other people aged under 50 years with shingles of the extremities or the trunk depending on clinical judgement. If it is not possible to initiate treatment within 72 hours, consider starting antiviral treatment up to one week after rash onset, especially if the person is at higher risk of severe shingles or complications (for example continued vesicle formation, signs of cutaneous, visceral or neurological dissemination, older age, immunocompromised, or in severe pain). For immunocompetent children with shingles, antiviral treatment is not usually recommended. British HIV Association recommend testing for HIV in adult patients presenting with Herpes zoster infection. Self-care advice: • Wash hands often. • Wear loose-fitting clothes to reduce irritation. • Cover lesions that are not under clothes while the rash is still weeping. • Avoid use of topical creams and adhesive dressings, as they can cause irritation and delay rash healing. • Keep the rash clean and dry to reduce the risk of bacterial superinfection. They should seek medical advice if there is an increase in temperature, as this may indicate bacterial infection. **If treatment indicated (in line with the above), see prescribing options below.**		
	Section continued overleaf.		

Infection	Formulary choice		Adult dose (unless otherwise specified)	Duration of treatment
Herpes zoster (Shingles) (continued) NICE CKS (2024)	**Immunocompetent adults**			
	First line:	Aciclovir	800 mg five times a day	7 days
	Second line: (if compliance an issue – N.B: these agents are significantly more expensive at time of update [Jan 2025])	Famciclovir	500 mg TDS	
		OR		
		Valaciclovir	1 g TDS	
	Immunocompromised adults (if they are not systemically unwell, no eye involvement and the rash is localised)			
	First line:	Aciclovir	800 mg five times a day	7 days. Continue for 2 days after the lesions have crusted.
	Second line: (if compliance an issue – N.B: these agents are significantly more expensive at the time of update [Jan 2025])	Famciclovir	500 mg TDS	10 days. Continue for 2 days after the lesions have crusted.
		OR		
		Valaciclovir	1 g TDS	7 days. Continue for 2 days after the lesions have crusted.

<table>
<tr><th>Infection</th><th colspan="2">Formulary choice</th><th>Adult dose
(unless otherwise specified)</th><th colspan="2">Duration of treatment</th></tr>
<tr><td rowspan="5">Dermatophyte infection – nail
NICE CKS
(2018)</td><td colspan="5">• For advice on self-care management strategies e.g. suitable footwear and hygiene measures, see NICE CKS.
• Antifungal treatment is not required if appearance of nail does not trouble the patient, infection is asymptomatic, and patient has no co-morbid conditions that may increase the risk of complications.
• Take nail clippings: Material should be obtained by scraping nail material from the distal underside of the nail and then collecting all the material from the distal part of the nail bed.
• Start therapy only if infection is confirmed by laboratory.
• False-negative rates are high. Repeat the test if the result is negative, and there is high clinical suspicion that the nail is infected.
• Terbinafine is more effective than azoles.
• Liver reactions are rare with oral antifungals.
• If Candida or non-dermatophyte infection confirmed, use oral itraconazole. Topical nail lacquer is not as effective.
• For children, seek specialist advice.
• To prevent recurrence: apply weekly 1% topical antifungal cream to entire toe area.

If dermatophyte or Candida nail infection is confirmed, advise on the option of topical antifungal treatment in adults if there is:
• Up to 50% involvement of the distal nail plate without nail matrix involvement.
• Up to two affected nails.
• Early, mild distal or lateral onychomycosis.
• Superficial white onychomycosis.

Topical treatment:
Amorolfine 5% nail lacquer (this can be bought over the counter) applied once or twice weekly to the affected nail(s) after gentle nail filing. Duration of treatment: 6 months for fingernails and 9–12 months for toenails.</td></tr>
<tr><td colspan="5">If self-care measures alone and/or topical treatment is not successful or appropriate:</td></tr>
<tr><td>First line:</td><td>Terbinafine</td><td>250 mg OD</td><td>Finger nail(s):
6 weeks</td><td>Toe nail(s):
3 months</td></tr>
<tr><td rowspan="2">Second line:</td><td rowspan="2">Itraconazole</td><td rowspan="2">200 mg BD</td><td colspan="2">Pulsed course:
7 days then repeat after 21 days</td></tr>
<tr><td>Finger nail(s):
2 pulsed courses as above</td><td>Toe nail(s):
At least 3 pulsed courses as above</td></tr>
</table>

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Dosages in Children: Details of drug dosage and administration can be found in the BNFc			
Eye Infections			
Conjunctivitis NICE CKS (2022)	• Only treat if severe, as most cases are viral or self-limiting. • Bacterial conjunctivitis is usually unilateral and also self-limiting; it is characterised by red eye with mucopurulent, not watery, discharge. • 65% resolve on placebo by day five. • Fusidic acid is a narrow spectrum agent which has poor Gram-negative activity. Send a swab for MC&S before starting treatment. • Consider screening for *Chlamydia* in neonatal conjunctivitis. • Chloramphenicol eye drops can be safely administered to children aged 0 to 2 years where antibiotic eye drop treatment is indicated. See MHRA advice.		
	If severe:		
	Chloramphenicol 0.5% drop	Apply 1 drop 2 hourly for 2 days, then 4 times daily.	Continue treatment until 48 hours after symptom resolution; re-assess if symptoms not resolved within 7 days of starting treatment
	OR		
	Chloramphenicol 1% ointment	Apply 4 times daily for 2 days, then twice daily.	
	If there is no response to chloramphenicol send a swab for MC&S		
	Second line (Send a swab for MC&S before prescribing fusidic acid):		
	Fusidic acid 1% gel	BD	Continue treatment until 48 hours after symptom resolution; re-assess if symptoms not resolved within 7 days of starting treatment
Ophthalmia neonatorum	**Medical emergency: seek advice from specialist in neonatal infection.**		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Blepharitis NICE CKS – Blepharitis (2019) NICE CKS – Rosacea (2021)	**Blepharitis is a chronic, intermittent condition which requires ongoing maintenance treatment – a cure is generally not possible.**		
	First line:		
	Symptoms can usually be controlled with self-care measures such as eyelid hygiene and warm compresses. • The eyelid can be cleansed by wetting a cloth or cotton bud with cleanser (for example, baby shampoo diluted 1:10 with warm water) and gently wiping along the lid margins to clear any lid debris. • Eyelids should be cleaned twice daily initially, then once daily as symptoms improve. • In addition, a warm compress (a clean cloth warmed with hot water) should be applied to closed eyelids for 5–10 minutes once or twice daily — compresses should not be too hot as this may burn the skin. • Eyelid hygiene should be continued even when symptoms are well controlled to minimise number and severity of relapses.		
	Second line (If hygiene measures are ineffective after 2 weeks):		
	Chloramphenicol 1% ointment	BD	7 days then review and repeat if necessary. If not resolving, discuss with optometrist.
	Signs of Meibomian gland dysfunction or acne rosacea:		
	Seek optometrist advice and consider starting oral antibiotics.		
	Doxycycline	40 mg m/r OD for 8–12 weeks.	
Ophthalmic shingles	If there is concern about ophthalmic shingles please refer to shingles guidance in the ‘Skin infections’ section and seek advice from an optometrist or ophthalmologist.		

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Dosages in Children: Details of drug dosage and administration can be found in the BNFc			
Dental Infections Derived from the Scottish Dental Clinical Effectiveness Programme (SDCEP) Drug Prescribing for Dentistry Guidelines (2016), and subsequent updates (June 2017 and June 2021). This guidance is not designed to be a definitive guide to oral conditions; it is for GPs for the management of acute oral conditions pending the person being seen by a dentist or dental specialist. GPs should not routinely 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.			
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 (2021)	• Temporary pain and swelling relief can be attained with saline mouthwash. • Use antiseptic mouthwash: o If more severe and pain limits oral hygiene (to treat or prevent secondary infection). o The primary cause for mucosal ulceration or inflammation (aphthous ulcers, oral lichen planus, herpes simplex infection, oral cancer) needs to be evaluated and treated.		
	Simple saline mouthwash	Half a teaspoon of salt dissolved in a glass of warm water.	Always spit out after use. Use until lesions resolve or less pain allows oral hygiene.
	Antiseptic mouthwash (if more severe and pain limits oral hygiene:		
	Chlorhexidine mouthwash 0.2% *(Do not use within 30 minutes of toothpaste).*	Rinse mouth for 1 minute BD with 10 ml (may be diluted with 5–10 ml water).	Always spit out after use. Use until lesions resolve or less pain allows oral hygiene.
	OR		
	Hydrogen peroxide mouthwash 6%	Rinse mouth for 2 minutes TDS with 15 ml diluted in half a glass of warm water.	Always spit out after use. Use until lesions resolve or less pain allows oral hygiene.

Infection	Formulary choice		Adult dose (unless otherwise specified)	Duration of treatment
Acute necrotising ulcerative gingivitis SDCEP (2021)	• Refer to dentist for scaling and oral hygiene advice. • In most cases, treatment with local measures will be sufficient. Prescribe hydrogen peroxide 6% or chlorhexidine 0.2% mouthwash. • Recommend optimal analgesia. • Commence antibiotics if systemic signs and symptoms. Use in combination with antiseptic mouthwash.			
	Antiseptic mouthwash:			
	Chlorhexidine mouthwash 0.2% *(Do not use within 30 minutes of toothpaste).*		Rinse mouth for 1 minute BD with 10 ml (may be diluted with 5–10 ml water).	Always spit out after use. Use until lesions resolve or less pain allows oral hygiene.
	OR			
	Hydrogen peroxide mouthwash 6%		Rinse mouth for 2 minutes TDS with 15 ml diluted in half a glass of warm water.	Always spit out after use. Use until lesions resolve or less pain allows oral hygiene.
	If antibiotics indicated:			
	First line:	Metronidazole	400 mg TDS	3 days
	Second line:	Amoxicillin	500 mg TDS	3 days
Pericoronitis (inflammation around partially erupted teeth) SDCEP (2021)	• Refer to dentist for irrigation and debridement. • In most cases treatment with local measures will be sufficient. • Recommend optimal analgesia. • Antibiotics are only recommended as an adjunct to local measures where there is evidence of systemic spread (elevated temperature), severe generalised swelling, cellulitis or severe localised swelling and trismus.			
	Antiseptic mouthwash:			
	Chlorhexidine mouthwash 0.2% *(Do not use within 30 minutes of toothpaste).*		Rinse mouth for 1 minute BD with 10 ml (may be diluted with 5–10 ml water).	Always spit out after use. Use until less pain allows oral hygiene.
	If antibiotics indicated:			
	First line:	Metronidazole	400 mg TDS	3 days
	Second line:	Amoxicillin	500 mg TDS	3 days

Infection	Formulary choice	Adult dose (unless otherwise specified)	Duration of treatment
Dental abscess SDCEP (2025)	• **All patients with dental abscess should be referred to a dentist.** • Regular analgesia should be first option until a dentist can be seen for urgent drainage, as repeated courses of antibiotics for abscess are not appropriate. Repeated antibiotics alone, without drainage, are ineffective in preventing spread of infection. • Antibiotics are required only in cases of cellulitis, spreading infection or systemic involvement. • Transfer patients with significant trismus, floor-of-mouth swelling or difficulty breathing to hospital immediately as an emergency. • 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 no response to first-line drugs when referral is the preferred option. Clarithromycin and clindamycin may be indicated for patients with certain allergies. • If pus is present, this should be drained by a dentist by incision, tooth extraction or via root canal and a sample sent to microbiology. • **If spreading infection** (lymph node involvement, or systemic signs i.e. fever or malaise): ADD metronidazole.		
	First line:		
	Phenoxymethylpenicillin	500 mg QDS	5 days
	Second line (if compliance an issue):		
	Amoxicillin	500 mg TDS	5 days
	Penicillin allergy:		
	Metronidazole	400 mg TDS	5 days
	Severe or spreading infection - First line:		
	Phenoxymethylpenicillin	1 g QDS	5 days
	AND		
	Metronidazole	400 mg TDS	5 days
	Severe or spreading infection - Second line (if compliance an issue):		
	Amoxicillin	1 g TDS	5 days
	AND		
	Metronidazole	400 mg TDS	5 days
	Severe or spreading infection - Penicillin allergy:		
	Clarithromycin	500 mg BD	5 days
	AND		
	Metronidazole	400 mg TDS	5 days
	OR (if allergy to metronidazole)		
	Clindamycin monotherapy	300 mg QDS	5 days

Glossary

AWMSG	All Wales Medicines Strategy Group
BASHH	British Association for Sexual Health and HIV
BD	Twice-daily
BNF	British National Formulary
BNFc	British National Formulary for children
BP	Blood pressure
BTS	British Thoracic Society
BMI	Body Mass Index
CEPP	Clinical Effectiveness Prescribing Programme
CKS	Clinical Knowledge Summaries
COPD	Chronic obstructive pulmonary disease
CRP	C-Reactive Protein
DH&SC	Department of Health and Social Care (UK Government)
EAU	European Association of Urology
ESCMID	European Society for Clinical Microbiology and Infectious Diseases
eGFR	Estimated glomerular filtration rate
GOLD	Global Initiative for Chronic Obstructive Lung Disease
GUM	Genito-urinary medicine
IM	Intramuscular
IV	Intravenous
MC&S	Microscopy, culture and sensitivities
MHRA	Medicines and Healthcare products Regulatory Agency
M/R	Modified-release
MRSA	Methicillin-resistant *Staphylococcus aureus*
MSU	Mid-stream sample of urine
NICE	National Institute for Health and Care Excellence
NNT	Number Needed to Treat
OD	Once-daily
PVL	Panton-Valentine Leukocidin
PO	By mouth (per os)
PHE	Public Health England
PIL	Patient Information Leaflet
PHW	Public Health Wales
QDS	Four times daily
RCGP	Royal College of General Practitioners
RHIG	Respiratory Health Implementation Group
SIGN	Scottish Intercollegiate Guidelines Network
SPC	Summary of Product Characteristics
SPIRA	Server for Prescribing Information Reporting and Analysis
TDS	Three times daily
TARGET	Treat Antibiotics Responsibly, Guidance, Education and Tools
UKTIS	United Kingdom Teratology Information Service
UKHSA	United Kingdom Health Security Agency
UTI	Urinary tract infection
WFI	Water for injection

Updates

Date of update publication	Details of update
March 2022	Original guidelines document published.
June 2022	Updated the following sections: • Acute otitis media (in children) • Varicella zoster (Chicken pox)
September 2022	Updated link to Lymphoedema Wales guidance in the following sections: • Cellulitis in patients with lymphoedema • Prophylaxis for recurrent cellulitis in lymphoedema.
December 2022	Updated the following sections: • Blepharitis • Community-acquired pneumonia in children - Treatment in the community • Vaginal candidiasis in pregnancy
February 2023	Updated the 'Lower UTI in children' section to note that nitrofurantoin tablets should not be crushed.
April 2023	Updated layout of 'Acute rhinosinusitis' section and included additional guidance from NICE NG79.
May 2023	Updated paediatric doses for Cefotaxime in 'Suspected meningococcal disease' to reflect BNFc changes.
July 2023	Updated to add extra treatment options to Scarlet fever section for treatment in cases of penicillin allergy, as per updated NICE CKS. Miconazole vaginal cream treatment footnote added due to discontinuation of preparation.
September 2023	Updated paediatric doses for Cefotaxime in 'Out of hospital sepsis' to reflect BNFc changes.
January 2024	Updated quinolone statements in light of MHRA advice to 'Consider updated (January 2024) prescribing restrictions and safety issues – see MHRA advice'.
March 2024	Updated the following sections following the MHRA warning on quinolone use (January 2024): • Principles of treatment (page 5) – meningitis prophylaxis • Acute pyelonephritis (upper UTI) • Acute prostatitis • Eradication of *Helicobacter pylori* • Non-specific / non-gonococcal urethritis – first episode • Epididymo-orchitis • Pelvic inflammatory disease Further updates also made to the following sections • Conjunctivitis (amended duration of treatment to align with NICE CKS)

Date of update publication	Details of update
	• Threadworms (added clarity around the use of mebendazole in pregnancy and breastfeeding) • MHRA reminder of the risk of pulmonary and hepatic adverse drug reactions added where nitrofurantoin is mentioned as a treatment option.
August 2024	• Acute cough, bronchitis updated to align with NICE guidance. • Ophthalmic shingles, updated to include optometrist and ophthalmology following feedback from Optometry Wales. • Acute sore throat updated to align with NICE guidance. • Travellers' diarrhoea updated to reflect changes to NICE CKS. • Infectious diarrhoea updated as tinidazole no longer available in the UK.
January 2025	• Oral Candidiasis section has been updated to correct inconsistencies in the guidance and to reflect the latest NICE Clinical Knowledge Summary.
April 2025	• Lower UTI in adults section has been updated to align with recently published guidance from NICE and SIGN on the use of ibuprofen for mild symptoms. • Threadworm section has been updated to reflect hygiene measures are not always practical for women who are breastfeeding and therefore medical options have been added. • Acute rhinosinusitis sections have been updated to align with NICE guidance.
July 2025	New 'Treatment of COVID-19' and 'Prophylaxis of COVID-19' sections added to the document. Varicella zoster (Chicken pox) • Additional information added to enforce the need to engage with specialists for advice on the management of pregnant women • Added clarification of the definition of an immune naïve pregnant woman • Valaciclovir removed as treatment option to simplify guidance • Immunoglobulin removed as treatment option to align with UKHSA guidance Herpes zoster (Shingles) • Minor restructuring of guidance and alignment of wording to NICE guidance Suspected meningococcal disease

Date of update publication	Details of update
	• Reworded introductory section to align with NICE and added a link for further information on 'strongly suspected' cases • Agent of choice switched to Ceftriaxone as per NICE Out of Hospital Sepsis • Link provided for further information on 'high risk' patients • Agent of choice switched to Ceftriaxone to have one single agent for the management of Out of Hospital Meningitis and Sepsis
December 2025	Influenza • Updated to align with updated United Kingdom Health Security Agency (UKHSA) guidance. • Updated links to United Kingdom Teratology Information Service (UKTIS) information on antiviral use in pregnancy. • Added link to UK Drugs in Lactation Advisory Service (UKDILAS) information on antiviral use in breast feeding. Treatment of COVID-19 • A footnote has been added throughout the monograph to communicate that sotrovimab is being discontinued from late February 2026, and therefore will be unavailable after stocks have expired in February 2026. Oral candidiasis • Fluconazole dosing and duration updated to align with updated NICE CKS, Summary of Product Characteristics (SmPC) and British National Formulary (BNF). • Minor amendments to align with updated NICE CKS. Dermatophyte infection • Updated to align with updated NICE Clinical Knowledge Summary and British Association of Dermatologists (BAD) guidance. • More information on oral treatment options added. Dental abscess • Metronidazole agent of choice for those with penicillin allergy as per Scottish Dental Clinical Effectiveness Programme (SDCEP) guidance. • Wording amended slightly to align with updated SDCEP guidance. • Updated to align with updated SDCEP guidance providing phenoxymethylpenicillin as a treatment option, amoxicillin retained for those with compliance issues.

Date of update publication	Details of update
March 2026	Treatment of COVID-19 • Sotrovimab has been removed as an option after being discontinued, and stocks having expired in February 2026.
April 2026	Cellulitis and Erysipelas • References updated. Pinna chondritis/Perichondritis • New section added following user feedback. Community acquired pneumonia in adults – treatment in the community • Minor amendments to wording to align with updated NICE guidance • Severity assessment amended to align with updated NICE guidance (CRB-65 and clinical judgement) • Option for higher dose Amoxicillin added as per NICE guidance • Treatment option for use in pregnancy added as per NICE guidance Community acquired pneumonia in children and young people 17 years and under – treatment in the community. • Title amended to align with the definition of children as per updated NICE guidance • Minor amendments to wording to align with updated NICE guidance • Link to patient information leaflets with safety netting advice added as per other sections of this document • Severity definitions aligned to updated NICE guidance • Duration of antibiotic treatment aligned with updated NICE guidance.