

Infection – Management and Treatment in Primary Care (Antimicrobial guidelines)

Based on NICE & UKHSA (formerly PHE) guidance, and locally adapted for use in Croydon

Aims

1. To support non-medical prescribers and GPs in making appropriate decisions about antimicrobial prescribing.
2. To promote the safe, effective and economic use of antibiotics.
3. To minimise the emergence of bacterial resistance and risk of *Clostridioides difficile* (formerly *Clostridium difficile*) in the community.

Principles of Treatment:

1. This guidance is based on the best available evidence but professional judgement and involve patients in management decisions.
2. This guidance should not be used in isolation; it should be supported with patient information about safety netting, back-up antibiotics, self-care, infection severity and usual duration, clinical staff education, and audits. Materials are available on the RCGP **TARGET** website.
3. Prescribe an antibiotic only when there is likely to be clear clinical benefit, giving alternative, non-antibiotic self-care advice, where appropriate.
4. If person is systemically unwell with symptoms or signs of serious illness, or is at high risk of complications: give immediate antibiotic. Always consider possibility of sepsis, and refer to hospital if severe systemic infection.
5. Use a lower threshold for antibiotics in immunocompromised, or in those with multiple morbidities; consider culture/specimens, and seek advice.
6. In severe infection, or immunocompromised, it is important to initiate antibiotics as soon as possible, particularly if **sepsis** is suspected. If patient is not at moderate to high risk for sepsis, give information about symptom monitoring, and how to access medical care if they are concerned.
7. Where an empirical therapy has failed or special circumstances exist, microbiological advice can be obtained from **Consultant Microbiologist**, Croydon University Hospital (CUH) T: **020 8401 3421/3383** (9am-5pm). For the out-of-hour service, please contact CUH switchboard on 020 8401 3000.
8. Limit prescribing over the telephone to exceptional cases.
9. Use simple, generic antibiotics if possible. Avoid broad spectrum antibiotics (for example co-amoxiclav, quinolones and cephalosporins) when narrow spectrum antibiotics remain effective, as they increase the risk of *Clostridioides difficile*, MRSA and resistant **UTIs**.
10. Avoid widespread use of topical antibiotics, especially in those agents also available systemically (for example fusidic acid); in most cases, topical use should be limited.
11. Always check for **antibiotic allergies**. Clearly document allergies on the clinical system and where possible a description of the reaction.
12. **Avoid cephalosporins** where possible **in patient > 65years**.
13. A dose and duration of treatment for adults is usually suggested, but may need modification for age, weight and renal function. Child doses are provided when appropriate and can be accessed through the  symbol. In severe or recurrent cases consider a larger dose or longer course. Please refer to BNF for further dosing and interaction information (e.g. interaction between macrolides and statins) if needed and check for hypersensitivity.
14. Avoid use of quinolones unless benefits outweigh the risk as new 2018 evidence indicates that they may be rarely associated with long lasting disabling neuro-muscular and skeletal side effects.
15. Take microbiological specimens to inform treatment where appropriate and possible.
16. In **pregnancy** where possible avoid **tetracyclines**, **aminoglycosides**, **quinolones**, high dose **metronidazole** (2 g) unless benefit outweighs risks.
17. Refer to the **BNF** for further dosing and interaction information (for example the interaction between macrolides and statins), and check for hypersensitivity. In most cases when a short course of macrolide is prescribed concurrently with statins, the statin therapy should be withheld for the duration of the course of treatment. If concurrent administration is unavoidable, then a lower dose of statin should be considered.

- **Cross-sensitivity with other beta-lactam antibacterial:** About 0.5–6.5% of penicillin-sensitive patients will also be allergic to the cephalosporins. Patients with a history of immediate hypersensitivity to penicillin and other beta-lactams should not receive a cephalosporin. Cephalosporins should be used with caution in patients with sensitivity to penicillin and other beta-lactams.
- The most important side-effect of the penicillins is hypersensitivity which causes rashes and anaphylaxis and can be fatal. Allergic reactions to penicillins occur in 1–10% of exposed individuals; anaphylactic reactions occur in less than 0.05% of treated patients. Patients with a history of atopic allergy (e.g. asthma, eczema, hay fever) are at a higher risk of anaphylactic reactions to penicillins. Individuals with a history of anaphylaxis, urticaria, or rash immediately after penicillin administration are at risk of immediate hypersensitivity to a penicillin; these individuals should not receive a penicillin.
- Individuals with a history of a minor rash (i.e. non-confluent, non-pruritic rash restricted to a small area of the body) or a rash that occurs more than 72 hours after penicillin administration are probably not allergic to penicillin and in these individuals a penicillin should not be withheld unnecessarily for serious infections; the possibility of an allergic reaction should, however, be borne in mind. Other beta-lactam antibiotics (including cephalosporins) can be used in these patients.

Table of Contents

MENINGITIS.....	4
SUSPECTED MENINGOCOCCAL DISEASE.....	4
UPPER RESPIRATORY TRACT INFECTIONS	4
INFLUENZA.....	4
SCARLET FEVER (GROUP A STREPTOCOCCAL, GAS INFECTION)	4
ACUTE SORE THROAT	5
ACUTE OTITIS EXTERNA	5
ACUTE OTITIS MEDIA (AOM)	6
ACUTE SINUSITIS (RHINOSINUSITIS)	7
CHRONIC SINUSITIS (RHINOSINUSITIS) INFLAMMATION OF THE PARANASAL SINUSES LASTING MORE THAN 12 WEEKS.....	7
LOWER RESPIRATORY TRACT INFECTIONS (LRTI)	8
ACUTE COUGH, BRONCHITIS (LRTI)	8
ACUTE EXACERBATION OF COPD	8
COMMUNITY ACQUIRED PNEUMONIA (CAP)	9
BRONCHIECTASIS (NON-CYSTIC FIBROSIS) ACUTE EXACERBATION	10
URINARY TRACT INFECTIONS.....	11
LOWER URINARY TRACT INFECTION (UTI)	11
ACUTE PYELONEPHRITIS (UPPER URINARY TRACT)	12
ACUTE PROSTATITIS	13
RECURRENT URINARY TRACT INFECTION (PROPHYLAXIS)	14
CATHETER-ASSOCIATED URINARY TRACT INFECTION	15
GASTRO-INTESTINAL TRACT INFECTIONS.....	16
ORAL CANDIDIASIS (OROPHARYNGEAL FUNGAL INFECTIONS)	16
INFECTIOUS DIARRHOEA	16
ERADICATION OF <i>HELICOBACTER PYLORI</i> (<i>H.PYLORI</i>).....	17
TRAVELLER’S DIARRHOEA	18
THREADWORM	18
<i>CLOSTRIDIODES DIFFICILE</i>	18
ACUTE DIVERTICULITIS.....	19
GENITAL TRACT INFECTIONS.....	20
CHLAMYDIA TRACHOMATIS/ URETHRITIS	20
EPIDIDYMITIS.....	20
VAGINAL CANDIDIASIS	20
BACTERIAL VAGINOSIS	21
GENITAL HERPES SIMPLEX VIRUS (HSV)	21

GONORRHOEA	22
PELVIC INFLAMMATORY DISEASE.....	22
TRICHOMONIASIS	22
SKIN INFECTIONS	23
IMPETIGO	23
COLD SORES	23
PVL-SA (PANTON-VALENTINE LEUCOCIDIN <i>STAPHYLOCOCCUS AUREUS</i>)	24
INFECTED ECZEMA.....	24
ACNE VULGARIS	25
CELLULITIS AND ERYSIPELAS	27
LEG ULCERS	28
DIABETIC FOOT	29
BITES (HUMAN AND ANIMAL)	30
BITES (INSECT).....	31
SCABIES.....	31
MASTITIS.....	31
DERMATOPHYTE INFECTION: SKIN	32
DERMATOPHYTE INFECTION: NAIL.....	32
VARICELLA ZOSTER (CHICKEN POX) & HERPES ZOSTER (SHINGLES)	33
LYME DISEASE WITH ERYTHEMA MIGRANS	34
MRSA DECOLONISATION (SUPPRESSION)	35
MRSA TREATMENT.....	35
EYE INFECTIONS.....	36
CONJUNCTIVITIS.....	36
BLEPHARITIS.....	37
DENTAL INFECTIONS TREATED IN PRIMARY CARE OUTSIDE DENTAL SETTING	38
ORAL CANDIDIASIS.....	38
MUCOSAL ULCERATION AND INFLAMMATION	38
ACUTE NECROTISING ULCERATIVE GINGIVITIS.....	38
PERICORONITIS	39
DENTAL ABSCESS.....	39

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
MENINGITIS					
Suspected meningococcal disease	Transfer all patients to hospital immediately. If time before hospital admission, and non-blanching rash, give IV benzylpenicillin or cefotaxime Do not give IV antibiotics if there is a definite history of anaphylaxis with penicillin. A history of a rash following antibiotics is not a contraindication in this indication.	First Line IV or IM: Benzylpenicillin STAT (Penicillin based antibiotic) If Penicillin Allergy: IV or IM: Cefotaxime STAT	Adults: & Child over 10 years 1.2 g Children: Under 1 years: 300mg 1 - 9 years: 600mg Adults: & Child over 12 years 1g Children: Under 12 years: 50mg/kg (max 3g)	STAT dose (Give IM if vein cannot be found)	NICE CG102, updated Feb 2015 Nov 2017
Prevention of secondary case of meningitis: Only prescribe following advice from your local health protection specialist/consultant. PHE South London Health Protection Team: ☎: 0344 326 2052 (same number 9am- 5pm, and Out of hours for health professionals only), ✉: phe.slhpt@nhs.net; slhpt.oncall@phe.gov.uk					
UPPER RESPIRATORY TRACT INFECTIONS					
Influenza	Annual vaccination is essential for all those at risk of influenza. Antivirals are not recommended for healthy adults. Treat at risk patients with 5 days oseltamivir 75mg BD, when influenza is circulating in the community, and ideally within 48 hours of onset (36 hours for zanamivir treatment in children), or in a care home where influenza is likely. At risk: pregnant (and up to 2 weeks post-partum); children under 6 months; adults 65 years or older; chronic respiratory disease (including COPD and asthma); significant cardiovascular disease (not hypertension); severe immunosuppression; chronic neurological, renal or liver disease; diabetes mellitus; morbid obesity (BMI>40). See the PHE Influenza guidance for the treatment of patients under 13 years. In severe immunosuppression, or oseltamivir resistance, use zanamivir 10mg BD (2 inhalations by diskhaler for up to 10 days) and seek advice.				UKTIS pregnancy PHE Influenza guidance PHE website Nov 2018
Scarlet fever (Group A Streptococcal, GAS infection)	Prompt treatment with appropriate antibiotics significantly reduces the risk of complications. Optimise analgesia and give safety netting advice Vulnerable individuals [immunocompromised, those with co-morbidities (e.g. diabetes mellitus), injecting drug users, women in the puerperal period or individuals with skin lesions such as chickenpox or wounds] are at increased risk of developing complications. Consider arranging admission for urgent assessment and treatment of people who: - Have pre-existing valvular heart disease - Are significantly immunocompromised - Have a suspected severe complication of scarlet fever such as streptococcal toxic shock syndrome, acute rheumatic fever or streptococcal glomerulonephritis Advise exclusion from nursery/school/work for at least 24 hours after the commencement of appropriate antibiotic treatment Scarlet fever is a notifiable disease. If there is any suspicion of infection because of clinical features, a notification form should be completed and sent to the local Public Health England (PHE) centre within 3 days	First Line Oral: Phenoxymethylpenicillin (Penicillin based antibiotic) If Penicillin Allergy: Oral: Clarithromycin (Adults and Children) OR Oral: Erythromycin – pregnancy	Adults: 500mg QDS Children: Neonates: 12.5 mg/kg (max 65.2mg) QDS Child 1–11 mths: 62.5 mg QDS Child 1–5 years: 125 mg QDS Child 6–11 years: 250 mg QDS Child 12–17 years 250–500 mg QDS Adults: 250 - 500mg BD Children: Under 8kg: 7.5mg/kg BD under 12 8 - 11kg: 62.5mg BD years 12 - 19kg: 125mg BD 20 - 29kg: 187.5mg BD 30 - 40kg: 250mg BD 12-17 yrs: 250 – 500mg BD Adults: 250mg to 500mg QDS or 500mg to 1000mg BD	10 days 10 days 5 days 5 days 5 days	PHE: Notifiable diseases and causative organisms: how to report CKS Scarlet Fever Oct 2018

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
Acute sore throat	Advise paracetamol, or if preferred and suitable, ibuprofen for pain. Medicated lozenges may help pain in adults. Sore throats caused by streptococcal bacteria are more likely to benefit from antibiotics. FeverPAIN or Centor criteria are clinical scoring tools that can help to identify the people in whom this is more likely. FeverPAIN criteria • Fever (during previous 24 hours) • Purulence (pus on tonsils) • Attend rapidly (within 3 days after onset) • Inflamed tonsils (severe) • No cough or coryza Each of the FeverPAIN criteria score 1 point. Higher scores suggest more severe symptoms and likely bacterial (streptococcal) cause. FeverPAIN 0-1 / Centor 0-2: no antibiotic FeverPAIN 2-3: no / back-up antibiotic FeverPAIN 4-5 / Centor 3-4: immediate / back-up antibiotic Systemically very unwell or high risk of complications: immediate antibiotic Consider hospital admission for: suspected epiglottitis, breathing difficulty, clinical dehydration, Peri-tonsillar abscess or cellulitis, parapharyngeal abscess, retropharyngeal abscess, or Lemierre syndrome (as there is a risk of airway compromise or rupture of the abscess).	<u>First Line</u> Oral: Phenoxymethylpenicillin (Penicillin based antibiotic) Avoid broad-spectrum penicillins (e.g. amoxicillin) for the blind treatment of sore throat. Maculopapular rashes occur commonly with ampicillin and amoxicillin but are not usually related to true penicillin allergy. They almost always occur in people with glandular fever which is caused by the Epstein-Barr virus	Adults: 500mg QDS or 1g BD (can be increased up to 1g QDS, in severe infections) Children: 	5 - 10 days 5 - 10 days	NICE Sore throat (acute): antimicrobial prescribing - Visual summary NICE NG84, Jan 2018 Jan 2018
		<u>If Penicillin Allergy:</u> Oral: Clarithromycin (Adults and Children) OR Oral: Erythromycin – pregnancy Macrolides have a broader spectrum of activity than phenoxymethylpenicillin and therefore more likely to drive the emergence of bacterial resistance. Cochrane review by Altamimi et al, 2012 demonstrates that a short-course (5 days) of clarithromycin is as efficacious as 10-day-penicillin for sore throat and GABHS eradication)	Adults: 250 - 500mg BD Adults: 250mg to 500mg QDS or 500mg to 1000mg BD Children: 	5 days 5 days 5 days	
		<u>OTC for adults</u> Ear Spray: Acetic acid 2%, (EarCalm® spray) Which acts as an antifungal and antibacterial in the external ear canal OR <u>First Line</u> Ear drops: Betamethasone sodium phosphate 0.1%, Neomycin sulfate 0.5% (Betnesol-N ear/eye/nose drops)	Adults & Children 12 years +: 2 drops TDS and after swimming / showering / bathing. Maximum dosage frequency one spray every 2 - 3 hours. Adults & Children: 2-3 drops TDS - QDS	7 days Max. as excessive use may result in fungal infections 7 – 14 days	
		<u>Second Line</u> Ear Spray: Neomycin sulfate 0.5%, Acetic acid glacial 2%, Dexamethasone 0.1% (Otomize® Ear spray)	Adults & Children 2 years +: 1 spray TDS	7 -14 days	
Acute Otitis Externa	In the first instance avoid antibiotic, analgesia for pain relief, self-care advice and apply localised heat (such as a warm flannel). Subsequently consider topical acetic acid or a topical antibiotic with or without a topical corticosteroid topical antibiotic +/- steroid: similar cure at 7 days. If cellulitis or disease extends outside ear canal, or systemic signs of infection, start treatment for cellulitis and refer to exclude malignant otitis externa.				PHE context references and rationale Oct 2018 CKS Otitis externa Nov 2017

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links						
Acute Otitis Media (AOM)	AOM is a self-limiting infection that mainly affects children. It can be caused by a virus and bacteria and it is difficult to distinguish between these. However, both are usually self-limiting and do not routinely need antibiotics.	Offer regular paracetamol or ibuprofen for pain.			Up to 7 days	NICE Otitis Media (acute) antimicrobial prescribing - Visual Summary NICE NG91, Mar 2022					
	Advise AOM lasts about 3 days but can be up to 1 week.	Consider eardrops containing anaesthetic and analgesic if an immediate oral antibiotic prescription is not given and there is no eardrum perforation / otorrhoea i.e Phenazone 40mg/g with lidocaine 10mg/g (Otigo®)	Apply 4 drops two or three times a day	Up to 7 days							
	Antibiotics make little difference to the number of children whose symptoms improve. Complications (e.g. mastoidosis) are rare with or without antibiotics.	<u>First Line</u> Oral: Amoxicillin (Penicillin based antibiotic)	Children: 	5 - 7 days 5 - 7 days							
	Optimise analgesia and avoid antibiotics Those with otorrhoea , or those aged less than 2 years with bilateral infection are more likely to benefit from antibiotics	<u>If Penicillin Allergy:</u> Oral: Clarithromycin	Children 	5 – 7 days 5 – 7 days							
	<table><tr><td>Systemically very unwell or high risk of complications:</td><td>Immediate antibiotic</td></tr><tr><td>Otorrhoea or under 2 years with infection in both ears:</td><td> • No antibiotics or • Back-up antibiotics or • Immediate antibiotic </td></tr><tr><td>Otherwise:</td><td> • No antibiotic or • Back-up antibiotic </td></tr></table>	Systemically very unwell or high risk of complications:	Immediate antibiotic	Otorrhoea or under 2 years with infection in both ears:	• No antibiotics or • Back-up antibiotics or • Immediate antibiotic		Otherwise:	• No antibiotic or • Back-up antibiotic	OR Oral: Erythromycin – pregnancy	Children 	5 – 7 days
	Systemically very unwell or high risk of complications:	Immediate antibiotic									
	Otorrhoea or under 2 years with infection in both ears:	• No antibiotics or • Back-up antibiotics or • Immediate antibiotic									
	Otherwise:	• No antibiotic or • Back-up antibiotic									
	With immediate antibiotic, advise: Seek medical help if symptoms worsen rapidly or significantly.	<u>Second Line</u> <u>Worsening symptoms on first choice taken for at least 2 - 3 days</u> Oral: Co-amoxiclav (Penicillin based antibiotic)	Children: 	5 – 7 days 5 – 7 days							
	With back-up antibiotic prescription, advise: Antibiotic not needed immediately. Use prescription if no improvement in 3 days or symptoms worsen. Seek medical help if symptoms worsen rapidly or significantly.	<u>Second line in penicillin allergic – Consult local microbiologist</u>									
With no antibiotic given, advise: Antibiotic is not needed. Seek medical help if symptoms worsen rapidly or significantly.											

Oct 2024

Oct 2024

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links						
Acute Sinusitis (Rhinosinusitis)	Self-care (OTC) - Consider paracetamol or ibuprofen for pain or fever - Little evidence that nasal saline or nasal decongestants help, but people may want to try them Antibiotics make little difference to how long symptoms last or the number of people whose symptoms improve:	<u>First Line</u> Oral: Phenoxymethylpenicillin (Penicillin based antibiotic)	Adults: 500mg QDS Children: 	5 days	NICE Sinusitis (acute) - Visual Summary NICE NG79, Oct 2017						
	<table><tr><td>Systemically very unwell or high risk of complications:</td><td>Immediate antibiotic</td></tr><tr><td>Symptoms with no improvement for more than 10 days</td><td>No antibiotics or Back-up antibiotics depending on likelihood of bacterial cause. Consider high-dose nasal corticosteroid (if over 12 years).</td></tr><tr><td>Symptoms for 10 days or less</td><td>No antibiotic</td></tr></table>	Systemically very unwell or high risk of complications:	Immediate antibiotic	Symptoms with no improvement for more than 10 days		No antibiotics or Back-up antibiotics depending on likelihood of bacterial cause. Consider high-dose nasal corticosteroid (if over 12 years).	Symptoms for 10 days or less	No antibiotic	<u>If Penicillin Allergy:</u> Oral: Doxycycline (not to be used in Children under 12s or in pregnancy) OR Oral: Clarithromycin (Adults and Children) OR Oral: Erythromycin – pregnancy	Adults & Children 12 years +: Adults: 250 - 500mg BD Children:  Adults: 250mg to 500mg QDS or 500mg to 1000mg BD	5 days 5 days 5 days
	Systemically very unwell or high risk of complications:	Immediate antibiotic									
	Symptoms with no improvement for more than 10 days	No antibiotics or Back-up antibiotics depending on likelihood of bacterial cause. Consider high-dose nasal corticosteroid (if over 12 years).									
	Symptoms for 10 days or less	No antibiotic									
		<u>Second choice or first choice if systemically very unwell or high risk of complications:</u> Oral: Co-amoxiclav (Penicillin based antibiotic)	Adults: 500/125mg TDS Children: 	5 days 5 days							
	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										
Chronic Sinusitis (Rhinosinusitis) Inflammation of the paranasal sinuses lasting more than 12 weeks	Discourage the use of long-term antibiotics for chronic sinusitis however there may be a place for their use for acute exacerbations in a person with chronic sinusitis (for example, purulent discharge, pain)	Seek specialist advice before long-term antibiotics are initiated because of the potential for adverse effects, the concern of increasing bacterial resistance, the low specificity of a symptomatic primary care diagnosis, and the lack of evidence of efficacy other than in selected groups			ENT UK and Royal College of Surgeons, 2016; CKS Chronic sinusitis, Jun 2018						

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links				
LOWER RESPIRATORY TRACT INFECTIONS (LRTI)									
Note: Low doses of penicillins are more likely to select out resistance, we recommend 500mg of amoxicillin. Do not use fluoroquinolones (ciprofloxacin, ofloxacin) first line because they may have long-term side effects and there is poor pneumococcal activity.									
Acute cough, bronchitis (LRTI)	Consider self-care treatments		First Line ONLY where antibiotics are indicated Oral: Doxycycline (not to be used in Children under 12s or in pregnancy) OR Oral: Amoxicillin (Penicillin based antibiotic) Alternative choices Oral: Clarithromycin (Adults and Children) OR Oral: Erythromycin – pregnancy	Adults & Children 12 years +: Adults: Children: Adults: Children: Adults:	200mg on day 1, then 100mg OD 500mg TDS  250 - 500mg BD  250mg to 500mg QDS or 500mg to 1000mg BD	5 days 5 days 5 days	NICE NG120, Feb 2019 NICE Cough (acute) – Visual Summary July 2020		
	Acute cough with upper respiratory tract infection	No antibiotic							
	Acute bronchitis	No routine antibiotic							
	Acute cough and higher risk of complications (at face-to-face examination)	Immediate or back up antibiotic							
	Acute cough and systemically very unwell (at face-to-face examination)	Immediate antibiotic							
Higher risk of complications includes pre-existing comorbidity; young children born prematurely; people over 65 with 2 or more of, or over 80 with 1 or more of: hospitalisation in previous year, type 1 or 2 diabetes, history of congestive heart failure, current use of oral corticosteroids. Do not offer a mucolytic, an oral or inhaled bronchodilator, or an oral or inhaled corticosteroid unless otherwise indicated.									
Acute exacerbation of COPD	Many exacerbations are not caused by bacterial infections so will not respond to antibiotics. Consider an antibiotic, but only after taking into account severity of symptoms (particularly sputum colour changes and increases in volume or thickness), need for hospitalisation, previous exacerbations, hospitalisations and risk of complications, previous sputum culture and susceptibility results, and risk of resistance with repeated courses. Some people at risk of exacerbations may have antibiotics to keep at home as part of their exacerbation action plan.		First Line Oral: Amoxicillin (Penicillin based antibiotic) OR Oral: Doxycycline (not to be used in Children under 12s or pregnancy) OR Oral: Clarithromycin OR Oral: Erythromycin – pregnancy	Adults: Adults: Adults: Adults:	500mg TDS 200mg on day 1, then 100mg OD 500mg BD 250mg to 500mg QDS or 500mg to 1000mg BD	5 days 5 days 5 days	NICE COPD - Visual Summary NICE NG114, Dec 2018 Dec 2018		
			Second line: Use alternative first choice						
			Alternative choice (if person at higher risk of treatment failure): Oral: Co-amoxiclav (Penicillin based antibiotic) OR Oral: Levofloxacin (Consider safety issues) OR Oral: Co-trimoxazole (Consider safety issues)			Adults: Adults: Adults:		500/125mg TDS 500mg OD 960mg BD	5 days 5 days 5 days

July 2020

Infection	Comments	Medications	ADULT dose for child's doses click on 		Duration of treatment	References & Useful links
Bronchiectasis (non-cystic fibrosis) acute exacerbation	An acute exacerbation of bronchiectasis is sustained worsening of symptoms from a person's stable state. - Send a sputum sample for culture and susceptibility testing - Offer an antibiotic - take account of: - the severity of symptoms - previous exacerbations, hospitalisations and risk of complications - previous sputum culture and susceptibility results - When results of sputum culture are available: - review choice of antibiotic - only change antibiotic according to susceptibility results if bacteria are resistant and symptoms are not already improving, using narrow spectrum antibiotics when possible - Give oral antibiotics first line if possible - Reassess at any time if symptoms worsen rapidly or significantly, taking account of: - other possible diagnoses, such as pneumonia - symptoms or signs of something more serious, such as cardiorespiratory failure or sepsis - previous antibiotic use, which may have led to resistant bacteria - Refer to hospital if the person has any symptoms or signs suggesting a more serious illness or condition (for example, cardiorespiratory failure or sepsis). - Seek specialist advice if: - symptoms do not improve with repeated courses of antibiotics - bacteria are resistant to oral antibiotics - the person cannot take oral medicines (to explore giving intravenous antibiotics at home or in the community if appropriate)	<u>First Line:</u> When current susceptibility data available, choose antibiotics accordingly: Oral: Amoxicillin (Penicillin based antibiotic) OR Oral: Doxycycline (not to be used in Children under 12s or in pregnancy) OR Oral: Clarithromycin OR Oral: Erythromycin – pregnancy	Adults: 500mg TDS Children: 		7 – 14 days	NICE Bronchiectasis (acute exacerbation): antimicrobial prescribing - Visual Summary
		Adults: 200mg on day 1, then 100mg OD		7 - 14 days	NICE NG117, Dec 2018	
		Adults: 500mg BD Children: 		7 – 14 days		
		Adults: 250mg to 500mg QDS or 500mg to 1000mg BD				
				<u>Alternative choice (if person at higher risk of treatment failure):</u> Oral: Co-amoxiclav (Penicillin based antibiotic) OR Oral: Levofloxacin – Adults (Consider safety issues) OR Oral: Ciprofloxacin (on specialist advice) – Children	Adults: 500/125mg TDS Children: 	
		Adults: 500mg OD		7 – 14 days		
		Children: 		7 – 14 days		
<u>First choice intravenous antibiotics (if unable to take oral antibiotics or severely unwell) for empirical treatment in the absence of current susceptibility data (guided by most recent sputum culture and susceptibilities where possible)</u>						
		IV: Co-amoxiclav (Penicillin based antibiotic) OR IV: Piperacillin with Tazobactam (Penicillin based antibiotic) OR IV: Levofloxacin – Adults (Consider safety issues) OR IV: Ciprofloxacin (on specialist advice) – Children	Adults: 1.2g TDS Children: 		Review all IV antibiotic treatment in 48 -72 hours	
			Adults: 4.5g TDS Children: 			
			Adults: 500mg OD – BD			
			Children: 			

Dec 2018

Dec 2018

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links	
URINARY TRACT INFECTIONS						
Lower Urinary tract infection (UTI)	Advise paracetamol or ibuprofen for pain and drinking enough fluid to avoid dehydration. Men, Pregnant women, children or young people: - Immediate antibiotic. Women: Non-pregnant - Back up antibiotic (to use if no improvement in 48 hours or symptoms worsen at any time) or immediate antibiotic. When considering antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data. Send midstream urine for culture and susceptibility for pregnant women and men. Seeking medical help if symptoms worsen at any time, do not improve within 48 hours of taking the antibiotic, or the person becomes very unwell. Asymptomatic bacteriuria: is significant levels of bacteria in urine with no UTI symptoms - Screened for and treated in pregnant women because risk factor for pyelonephritis and premature delivery - Not screened for or treated in non-pregnant women, men, children or young people Prescribe a 5–10-day course of treatment for women who have: - Impaired renal function. - Abnormal urinary tract (e.g. renal calculus, vesicoureteric reflux (abnormal flow of urine from the bladder into the upper urinary tract), reflux nephropathy, neurogenic bladder, urinary obstruction, recent instrumentation). - Immunosuppression (for example because they have poorly controlled diabetes mellitus or are receiving immunosuppressive treatment). Nitrofurantoin has been used for many years in pregnancy [Schaefer et al, 2007; UKTIS, 2012b]. The drug is concentrated in the urinary tract. Consequently, significant transfer across the placenta does not occur. Although it is not licensed for use in pregnancy, the manufacturer of nitrofurantoin reported that the drug has been used extensively clinically since 1952 and its suitability in pregnancy has been well documented. The BNF recommends that nitrofurantoin should be avoided at term, because of the risk of neonatal haemolysis. However, the risk seems very small — significant placental transfer of nitrofurantoin does not occur.	Adults (16 year and over): Women (non pregnant) and Men				NICE UTI (lower): antimicrobial prescribing - Visual Summary NICE NG109, Oct 2018 NICE Decision Aids: NICE Decision aid: Cystitis - Taking an antibiotic, Nov 2018
		First Line: Oral: Nitrofurantoin (Nitrofurantoin if GFR <u>over</u> 45ml/min) (May be used with caution if eGFR 30-44 ml/minute to treat uncomplicated lower UTI caused by suspected or proven multidrug resistant bacteria and only if potential benefit outweighs risk)	Adults:	100mg M/R BD	Women: 3 days Men: 7 days	
		Second line: Men Consider alternative diagnoses basing antibiotic choice on recent culture and susceptibility results				
		Second line: Women Oral: Pivmecillinam (Penicillin based antibiotic)	Adults:	400mg initial dose, then 200mg TDS	3 days	
		OR Oral: Fosfomycin	Adults:	3g single dose sachet	STAT	
		Pregnant women:				
		First Line: Oral: Nitrofurantoin (avoid at term) (Nitrofurantoin if GFR <u>over</u> 45ml/min)	Adults:	100mg M/R BD	7 days	
		Second line: Oral: Amoxicillin (Penicillin based antibiotic) (Only if culture results available and susceptible)	Adults:	500mg TDS	7 days	
		OR Oral: Cefalexin (Beta-lactam antibiotic)	Adults:	500mg BD	7 days	
		Children and young people (3 months and over) Refer children under 3 months to paediatric specialist and treat with intravenous antibiotics				
		First line: Oral: Trimethoprim	Children:		3 days	
		OR Oral: Nitrofurantoin (Nitrofurantoin if GFR <u>over</u> 45ml/min)	Children:		3 days	
		Second line: Oral: Nitrofurantoin (Nitrofurantoin if GFR <u>over</u> 45ml/min and not used as first choice)	Children:		3 days	
		OR Oral: Cefalexin (Beta-lactam antibiotic)	Children:		3 days	

July 2020

Infection	Comments	Medications	ADULT dose for child's doses click on 		Duration of treatment	References & Useful links
Acute pyelonephritis (upper urinary tract)	Send a midstream urine sample for culture and susceptibility testing.	Adults (12 year and over): Women (non pregnant) and Men				NICE NG111, Oct 2018 Pyelonephritis (acute): antimicrobial prescribing: Visual Summary
	Advise paracetamol (+/- low-dose weak opioid) for pain for people over 12 and offer an antibiotic.	First line: Oral: Cefalexin (Beta-lactam antibiotic) OR	Adults:	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	7-10 days	
	When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data.	Oral: Co-amoxiclav (Penicillin based antibiotic) (only if culture results available and susceptible) OR	Adults:	500/125mg TDS	7-10 days	
	People at higher risk of complications include those with abnormalities of the genitourinary tract or underlying disease (such as diabetes or immunosuppression).	Oral: Trimethoprim (only if culture results available and susceptible) OR	Adults:	200mg BD	14 days	
	Refer children under 3 months to paediatric specialist and treat with intravenous antibiotics in line with the NICE guideline	Oral: Ciprofloxacin (consider safety issues)	Adults:	500mg BD	7days	
	For IV options please refer to Pyelonephritis (acute): antimicrobial prescribing: Visual Summary	Pregnant women:				
		First line: Oral: Cefalexin (Beta-lactam antibiotic)	Adults:	500mg BD or TDS (up to 1g to 1.5g TDS or QDS for severe infections)	7-10 days	
		Second choice antibiotics or combining antibiotics if susceptibility or sepsis a concern Consult microbiologist				
		Children and young people under 16 years Refer children under 3 months to paediatric specialist and treat with intravenous antibiotics				
		First line: Oral: Cefalexin (Beta-lactam antibiotic) OR	Children:		7-10 days	
		Oral: Co-amoxiclav (Penicillin based antibiotic) (only if culture results available and susceptible)	Children:		7-10 days	

July 2020

July 2020

Infection	Comments	Medications	ADULT dose for child's doses click on 		Duration of treatment	References & Useful links
Acute prostatitis	Acute prostatitis is a bacterial infection needing antibiotics and can occur spontaneously or after medical procedures. It can last several weeks and can lead to acute urinary retention and prostatic abscess. Advise paracetamol (+/- low-dose weak opioid) for pain, or ibuprofen if preferred and suitable. Advise drinking enough fluids to avoid dehydration Offer antibiotic and send a midstream urine sample for culture and susceptibility testing. Usual course of acute prostatitis is several weeks When results of urine culture available: - Review the choice of antibiotic, and - Change antibiotic according to susceptibility results if bacteria are resistant, using a narrow spectrum antibiotic when possible. Review antibiotic treatment after 14 days and either stop antibiotics or continue for a further 14 days if needed (based on assessment of history, symptoms, clinical examination, urine and blood tests). Quinolones achieve higher prostate levels. Admit to hospital if man has any of the following severely ill, in acute urinary retention. Consider urgent referral if man is immunocompromised or has diabetes or had a pre-existing urological condition	<u>First line:</u> To be guided susceptibilities when available: Oral: Ciprofloxacin (consider safety issues) OR Oral: Ofloxacin (consider safety issues) OR Oral: Trimethoprim (if unable to take quinolone) (off label use) <u>Second line:</u> After discussion with specialist: Oral: Levofloxacin (consider safety issues) OR Oral: Co-trimoxazole (consider safety issues)	Adults:	500mg BD	14 days then review	NICE NG110, Oct 2018 Prostatitis (acute): antimicrobial prescribing: Visual Summary July 2020
			Adults:	200mg BD	14 days then review	
			Adults:	200mg BD	14 days then review	
			Adults:	500mg OD	14 days then review	
			Adults:	960mg BD	14 days then review	

Infection	Comments	Medications	ADULT dose for child's doses click on 		Duration of treatment	References & Useful links
Recurrent urinary tract infection (prophylaxis) 16 years+: 2 in 6 months or ≥3 in a year Under 16 years: ≥2 upper UTI or 1 upper UTI plus ≥1 lower UTI or ≥3 lower UTIs in a year	Refer or seek specialist advice for: - men - trans-women and people with a male urinary system - people with recurrent upper UTI - people with recurrent lower UTI if the underlying cause of recurrent UTI is unknown - pregnant people - children under 16 years - people with suspected cancer - anyone who has had surgery structurally altering the urethra For non-pregnant women, trans-men and non-binary people with a female urinary system: - First advise about behavioural and personal hygiene measures, and self-care (with D-mannose or cranberry products) to reduce the risk of UTI. - If no improvement after behavioural or personal hygiene measures or if these are not appropriate: for those who are experiencing perimenopause, menopause, or are postmenopausal, consider vaginal oestrogen (off-licence) and review within 12 months. - If no improvement after vaginal oestrogen or if it is not appropriate: consider single-dose antibiotic prophylaxis for exposure to a trigger (review within 6 months). - If no improvement after trying vaginal oestrogen, and/or prophylaxis for triggers and/or there is no identifiable trigger: consider methenamine hippurate as an alternative to daily prophylaxis, as long as any current UTI is treated (review within 6 months, and then every 12 months, or earlier if agreed with the person). - If no improvement after antiseptic prophylaxis or if it is not appropriate: consider a trial of daily antibiotic prophylaxis (review within 6 months). Methenamine prescribing status: Red (Prescribed and administered by a specialist) - Pregnancy Amber 2 (Initiation by a specialist and review after 6 months, then continuation prescribed in primary care) - in complicated upper or lower UTI - in men, trans women and non binary people with a male genitourinary system - in children and young people Green (Suitable for prescribing in primary care); - in women, and trans men and non-binary people with a female urinary system, if: - they are not pregnant and - any current UTI has been adequately treated and they have recurrent UTI that has not been adequately improved by behavioural and personal hygiene measures &/or vaginal oestrogen (if any of these have been appropriate and are applicable)	One-off dose when exposed to identifiable trigger <u>First line:</u> Oral: Nitrofurantoin* (Nitrofurantoin if GFR <u>over</u> 45ml/min) (Avoid at term in pregnant people) <u>Second line:</u> Oral: Amoxicillin** (Beta-lactam antibiotic) OR Oral: Cefalexin** (Beta-lactam antibiotic) Antiseptic prophylaxis Oral: Methenamine* (See comments for prescribing status) Daily antibiotic prophylaxis <u>First line:</u> Oral: Nitrofurantoin* (Nitrofurantoin if GFR <u>over</u> 45ml/min) (Avoid at term) <u>Second line:</u> Oral: Amoxicillin** (Beta-lactam antibiotic) OR Oral: Cefalexin** (Beta-lactam antibiotic) * Off label use for preventing recurrent upper UTI or complicated lower UTI ** Off label use for preventing recurrent UTI	Adults: 100mg single dose Adults: 500mg single dose Adults: 500mg single dose Adults: Children 1g BD  Adults: Children 6-15yrs: 50-100mg ON  Adults: Children 6-15yrs: 250mg ON  Adults: Children 6-15yrs: 125mg ON 	Review within 6 months of initiation and annually thereafter. Review within 6 months of initiation and annually thereafter. Review at least every 6 months.	NICE NG112, Dec 2024 UTI (recurrent): antimicrobial prescribing, Visual-Summary	

Sep 2025

Sep 2025

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links		
Catheter-associated urinary tract infection	Antibiotic treatment is not routinely needed for asymptomatic bacteriuria in people with a urinary catheter. (All catheters are colonised with organisms within 48 hours on insertion). Offer an antibiotic to all catheterized patients with symptoms suggestive of a UTI. • Admit to hospital if severe • Culture the urine as MRSA, ESBL producing multi resistant E Coli infections are common in these patients. • Consider removing or, if not possible, changing the catheter if it has been in place for more than 7 days. • But do not delay antibiotic treatment. Advise paracetamol for pain. Advise drinking enough fluids to avoid dehydration. When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria and local antimicrobial resistance data. Do not routinely offer antibiotic prophylaxis to people with a short-term or long-term catheter.	Adults (16 year and over): Women (non pregnant) and Men: <u>No</u> upper UTI symptoms				NICE NG113, Nov 2018 UTI (catheter): antimicrobial prescribing: Visual Summary	
		<u>First Line:</u> Oral: Nitrofurantoin (Nitrofurantoin if GFR <u>over</u> 45ml/min) OR	Adults	100mg M/R BD	7 days		
		Oral: Trimethoprim (only if culture results available and susceptible) OR	Adults:	200mg BD	7 days		
		Oral: Amoxicillin (Penicillin based antibiotic) (Only if culture results available and susceptible) <u>Second line:</u> Oral: Pivmecillinam (Penicillin based antibiotic)	Adults:	500mg TDS	7 days		
		Adults (12 year and over): Women (non pregnant) and Men: with UPPER UTI symptoms					
		Oral: Cefalexin (Beta-lactam antibiotic) OR	Adults:	500mg BD or TDS (up to 1g to 1.5g TDS OR QDS for severe infections)	7-10 days		
		Oral: Co-amoxiclav (Penicillin based antibiotic) (only if culture results available and susceptible) OR	Adults:	500/125mg TDS	7-10 days		
		Oral: Trimethoprim (only if culture results available and susceptible) OR	Adults:	200mg BD	14 days		
		Oral: Ciprofloxacin (consider safety issues)	Adults:	500mg BD	7 days		
		Pregnant women: <u>First line:</u> Oral: Cefalexin (Beta-lactam antibiotic)					7-10 days
		Children and young people under 16 years Refer children under 3 months to paediatric specialist and treat with intravenous antibiotics					
		Oral: Trimethoprim (only if culture results available and susceptible) OR	Children:		7 to 10 days		
		Oral: Amoxicillin (Penicillin based antibiotic) (only if culture results available and susceptible) OR	Children:		7 to 10 days		
		Oral: Cefalexin (Beta-lactam antibiotic) OR	Children:		7 to 10 days		
		Oral: Co-amoxiclav (Penicillin based antibiotic) (only if culture results available and susceptible)	Children:		7 to 10 days		

July 2020

July 2020

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
GASTRO-INTESTINAL TRACT INFECTIONS					
Oral candidiasis (Oropharyngeal fungal infections)	Acute pseudomembranous candidiasis (thrush), is usually an acute infection but it may persist for months in patients receiving inhaled corticosteroids, cytotoxics or broad-spectrum antibacterials. Topical azoles are more effective than topical nystatin. Oral candidiasis is rare in immunocompetent adults; consider undiagnosed risk factors, including HIV. Use 50 mg fluconazole if extensive/severe candidiasis; if HIV or immunocompromised, use 100 mg fluconazole	<u>First line:</u> Topical: Miconazole oromucosal gel	Adults: 2.5ml of 24mg/ml (20mg/g) QDS (hold in mouth/retain near oral lesions before swallowing) (to be administered after food) Children: 	7 days; then continue for 7 days after resolved	PHE context references and rationale Oct 2018 Oct 2018
		<u>Second line:</u> If Miconazole is not tolerated: Topical: Nystatin suspension	Adults & Children: 1ml; 100,000units/mL QDS (half in each side)	7 days, and continued for 48 hours after lesions have resolved	
		<u>Third Line:</u> Oral: Fluconazole capsules	Adults: 50mg OD (100mg OD in HIV / immunocompromised) Children: 	7-14 days	
Infectious Diarrhoea	Refer previously healthy children with acute painful or bloody diarrhoea, to exclude E. coli O157 infection. Antibiotic therapy is not usually indicated unless patient is systemically unwell. If systemically unwell and campylobacter suspected (such as undercooked meat and abdominal pain), consider clarithromycin 250–500mg BD for 5–7 days, if treated early (within 3 days). If giardia is confirmed or suspected – tinidazole 2g single dose is the treatment of choice.				PHE context references and rationale Oct 2018 Oct 2018

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
Eradication of <i>Helicobacter pylori</i> (<i>H.pylori</i>)	Always test for <i>H. pylori</i> before giving antibiotics. Leave a 2-week washout period after proton pump inhibitor (PPI) use before testing for <i>H. pylori</i> with a carbon-13 urea breath test (UBT) or a stool antigen test (STA), or laboratory-based serology where its performance has been locally validated. Treat all positives, if known duodenal ulcers (DU), Gastric ulcer (GU), or low grade mucosa-associated lymphoid tissue (MALT) lymphoma (MALToma). NNT in non-ulcer dyspepsia (NUD): 14. Do not offer <i>H.pylori</i> eradication for GORD. Also note: Both <i>H. pylori</i> and NSAIDs are independent risk factors for peptic ulcers, so eradication will not remove all risk Do not use clarithromycin, metronidazole or quinolone if used in the past year for any infection. Penicillin allergy: use PPI PLUS clarithromycin PLUS metronidazole. If previous clarithromycin, use PPI PLUS bismuth salt PLUS metronidazole PLUS tetracycline hydrochloride. Relapse and previous metronidazole and clarithromycin: use PPI PLUS amoxicillin PLUS either tetracycline OR levofloxacin (if tetracycline not tolerated). Retest for <i>H. pylori</i>: post DU/GU, or relapse after second-line therapy, using UBT or SAT, consider referral for endoscopy and cultures.	Always use Oral PPI AND 2 oral antibiotics: <u>First or Second line:</u> Oral PPI WITH Oral Amoxicillin (Penicillin based antibiotic) PLUS • Either Oral Clarithromycin OR • Oral Metronidazole	Adults: Omeprazole 20 BD or Lansoprazole 30mg BD Adults: 1g BD 500mg BD 400mg BD Children: 	First line 7 days Relapse 10 days MALToma 14 days First line 7 days Relapse 10 days MALToma 14 days 10 days	PHE context references and rationale Oct 2018 PHE: Test and treat for HP in dyspepsia July 2017 NICE CG184, Updated Nov 2014
		<u>Penicillin allergy</u> Oral PPI PLUS • Oral Clarithromycin AND • Oral Metronidazole	Adults: 500mg BD 400mg BD Children: 		
		<u>Penicillin allergy and previous clarithromycin</u> Oral PPI PLUS • Oral Bismuth Subsalicylate AND • Oral Metronidazole AND • Oral Tetracycline hydrochloride	Adults: 525mg QDS 400mg BD 500mg QDS Children: 		
		<u>Relapse</u> Oral PPI PLUS • Oral Amoxicillin AND • Either Oral levofloxacin OR • Oral Tetracycline hydrochloride	Adults: 1g BD 250mg BD 500mg QDS Children: 		
		<u>Third line on advice</u> Oral PPI PLUS Oral Bismuth Subsalicylate AND Either: 2 antibiotics as above not previously used OR • Rifabutin OR • Furazolidone	Adults: 525mg QDS 150mg BD 200mg BD		

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
Traveller's diarrhoea	Prophylaxis rarely, if ever, indicated. Prophylactic antibiotics should not be recommended for most travellers. Travellers may become colonized with extended-spectrum β-lactamase (ESBL)–producing bacteria, and this risk is increased by exposure to antibiotics while abroad. Consider standby antimicrobial only for patients at high risk of severe illness, or visiting high-risk areas.	<u>Standby:</u> Oral: Azithromycin	Adults: 500mg OD	1-3 days	PHE context references and rationale Oct 2018 Oct 2018
		<u>Prophylaxis/treatment:</u> Oral: Bismuth subsalicylate	Adults: 2 tablets QDS	2 days	
Threadworm	Treat all household contacts at the same time. Advise hygiene measures for 2 weeks (hand hygiene; pants at night; morning shower, including perianal area). Wash sleepwear, bed linen, and dust and vacuum. Child <6 months , add perianal wet wiping or washes 3 hourly.	Oral: Mebendazole Not licensed for use in children under 2 years Hygiene measure only for at least 6 weeks	Adults & Children over 6 months: 100 mg for 1 dose; If reinfection occurs, second dose may be needed after 2 weeks. Children under 6 months OR Pregnant (first trimester)	STAT dose	PHE context references and rationale Oct 2018 Nov 2017
<i>Clostridioides difficile</i> (formerly <i>Clostridium difficile</i>)	For suspected or confirmed <i>C. difficile</i> infection, see Public Health England's guidance on diagnosis and reporting . Assess: whether it is a first or further episode, severity of infection, individual risk factors for complications or recurrence (such as age, frailty or comorbidities). Existing antibiotics: review and stop unless essential. If still essential, consider changing to one with a lower risk of <i>C. difficile</i> infection. Review the need to continue: proton pump inhibitors, other medicines with gastrointestinal activity or adverse effects (such as laxatives), medicines that may cause problems if people are dehydrated (such as NSAIDs). Do not offer antimotility medicines such as loperamide. Offer an oral antibiotic to treat suspected or confirmed <i>C. difficile</i> infection. For adults, consider seeking prompt specialist advice from a microbiologist or infectious diseases specialist before starting treatment. For children and young people, treatment should be started by, or after advice from, a microbiologist, paediatric infectious diseases specialist or paediatric gastroenterologist. If antibiotics have been started for suspected <i>C. difficile</i> infection, and subsequent stool sample tests do not confirm infection, consider stopping these antibiotics. For detailed information click on the visual summary.	<u>First line for first episode of mild, moderate or severe infection:</u> Oral: Vancomycin	Adults: 125mg QDS	10 days	NICE NG199, Published Nov 2019 NICE NG199 visual summary Mar 2022
		<u>Second line for first episode of mild, moderate or severe if vancomycin:</u> Oral: Fidaxomicin (very high cost) Consult local microbiologist	Adults: 200mg BD	10 days.	
		<u>For further episode within 12 weeks of symptom resolution (relapse):</u> Oral: Fidaxomicin (very high cost) Consult local microbiologist	Adults: 200mg BD	10 days	
		<u>For further episode more than 12 weeks of symptom resolution (recurrence):</u> Oral: Vancomycin OR Oral: Fidaxomicin (very high cost) Consult local microbiologist	Adults: 125mg QDS Adults: 200mg BD	10 days 10 days	
		For alternative antibiotics if first- and second-line antibiotics are ineffective or for life-threatening infection seek specialist advice (see visual summary)			

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
Acute diverticulitis	Self-care advice: - If patient is systemically well, consider not prescribing antibiotics, offer diet and lifestyle advice (see NICE guidance for recommendations), and advise the person to re-present if symptoms persist or worsen. - Offer antibiotics if systemically unwell or immunosuppressed or with significant comorbidities but does not meet the criteria for referral for suspected complicated acute diverticulitis *Only prescribe ciprofloxacin if switching from IV ciprofloxacin with specialist advice, consider safety issues - Advise on the use of analgesia, such as paracetamol as-needed. - Advise the patient to avoid NSAIDs and opioid analgesia (such as codeine) if possible, due to the potential increased risk of diverticular perforation (see CKS for further information) - Recommend clear liquids only, with a gradual reintroduction of solid food if symptoms improve over the following 2–3 days (CKS) - Consider checking bloods for raised white cell count and CRP, which may suggest infection (CKS) - If the person is managed in primary care, arrange a review within 48 hours, or sooner if symptoms worsen. - Arrange urgent hospital admission if symptoms persist or deteriorate despite management in primary care. - Consider arranging referral to a specialist in colorectal surgery if a person is managed in primary care and has frequent or severe recurrent episodes of acute diverticulitis.	<u>First line:</u> Co-amoxiclav (Penicillin based antibiotic)	Adults: 625mg TDS	5 days (a longer course may be needed based on clinical assessment)	NICE NG147, Published Nov 2019 NICE NG147 visual summary
		<u>Alternative if co-amoxiclav unsuitable:</u> Cefalexin (caution in penicillin allergy) AND Metronidazole OR	Adults: 500mg BD or TDS (up to 1-1.5g TDS/QDS in severe infection) Adults: 400mg TDS	5 days (a longer course may be needed based on clinical assessment)	
		Trimethoprim AND Metronidazole OR	Adults: 200mg BD Adults: 400mg TDS		
		Ciprofloxacin (only if switching from IV ciprofloxacin with specialist advice; consider safety issues) AND Metronidazole	Adults: 500mg BD Adults: 400mg TDS		

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
GENITAL TRACT INFECTIONS					
STI screening	People with risk factors should be screened for chlamydia, gonorrhoea, HIV and syphilis. Refer individual and partners to GUM. Risk factors: under 25 years; no condom use; recent/frequent change of partner; symptomatic partner; area of high HIV.				PHE context references and rationale Oct 2018 Nov 2017
Chlamydia trachomatis/ urethritis	Opportunistically screen all patients aged 15 to 24 years. Treat partners and refer to GUM. Test positives for reinfection at 3 months. Pregnant/breastfeeding: azithromycin is most effective. As lower cure rate in pregnancy, test for cure at least 3 weeks after end of treatment.	<u>First line:</u> Oral: Azithromycin	Adults: 1g STAT	STAT dose	PHE context references and rationale Oct 2018 BASHH guidelines Oct 2018
		OR Oral: Doxycycline	Adults: 100mg BD	7 days	
		<u>Pregnant or Breastfeeding</u> Oral: Azithromycin	Adults: 1g STAT	STAT dose	
		OR Oral: Erythromycin OR Oral: Amoxicillin (Penicillin based antibiotic)	Adults: 500mg BD or 500mg QDS Adults: 500mg TDS	7 days 14 days 7 days	
Epididymitis	Usually due to Gram-negative enteric bacteria in men over 35 years with low risk of STI. If under 35 years or STI risk, refer to GUM	Oral: Doxycycline	Adults: 100mg BD	10 – 14 days	PHE context references and rationale Oct 2018 Nov 2017
		OR Oral: Ofloxacin (consider safety issues)	Adults: 200mg BD	14 days	
		OR Oral: Ciprofloxacin (consider safety issues)	Adults: 500mg BD	10 days	
Vaginal candidiasis	All topical and oral azoles give over 80% cure. Pregnant: avoid oral azoles, the 7 day courses are more effective than shorter ones. Recurrent (>4 episodes per year): 150mg oral fluconazole every 72 hours for 3 doses induction, followed by 1 dose once a week for 6 months maintenance.	<u>First line:</u> Topical: Clotrimazole Pessary	Adults: 500mg vaginal pessary STAT	STAT	PHE context references and rationale Oct 2018 BASHH guidelines Oct 2018
		OR Topical: Fenticonazole Vaginal capsules (Pessary)	Adults: 600mg vaginal capsules (Pessary) STAT	STAT	
		OR Topical: Clotrimazole Pessary	Adults: 100mg vaginal pessary	6 nights	
		OR Oral: Fluconazole (not in pregnancy)	Adults: 150mg STAT	STAT	
		<u>Recurrent (>4 episodes per year):</u> Oral: Fluconazole (not in pregnancy)	Adults: 150mg every 72 hours THEN 150mg once a week	3 doses 6 months	

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
Bacterial vaginosis	Oral metronidazole is as effective as topical treatment, and is cheaper. 7 days results in fewer relapses than 2g stat at 4 weeks.	First line: Oral: Metronidazole	Adults: 400mg BD or 2g STAT (this dose not recommended in pregnancy)	7 days STAT	PHE context references and rationale Oct 2018 Nov 2017
	Treating partners does not reduce relapse.	Second Line: Topical: Metronidazole 0.75% vaginal gel	Adults: 5g applicator at night	5 nights	
	Pregnant/breastfeeding: avoid 2g dose.	OR Topical: Clindamycin 2% cream	Adults: 5g applicator at night	7 nights	
Genital herpes simplex virus (HSV)	Advise: Self-care: - Clean the affected area with plain or salt water - Apply Vaseline or a topical anaesthetic to lesions to help with painful micturition, if required. - Increase fluid intake to produce dilute urine (which is less painful to void). Urinate in a bath or with water flowing over the area to reduce stinging. - Avoid wearing tight clothing, which may irritate lesions. - Take adequate pain relief. - Avoid sharing towels and flannels with household members - Discuss transmission.	First line Oral: Aciclovir	Adults: 400mg TDS	5 days	PHE context references and rationale Oct 2018 Nov 2017
	First episode: Oral antivirals are the primary treatment for genital herpes simplex infection — treatment should commence within 5 days of the start of the episode, or while new lesions are forming for people with a first clinical episode of genital herpes simplex virus (HSV) and refer to GUM. BASHH recommends five days of antiviral treatment for primary genital HSV, as there is no evidence of benefit for treatment longer than this period [BASHH, 2014]. However, the WHO recommends that 10 days treatment should be provided, as follow-up visits may not be possible and symptoms of the first clinical episode may be prolonged [WHO, 2016]. Recurrent: self-care if mild, or immediate short course antiviral treatment, or suppressive therapy if more than 6 episodes per year.	Second line Oral: Valaciclovir	Adults: 500mg BD	5 days	
		OR Oral: Famciclovir	Adults: 250mg TDS	5 days	
		Recurrent Oral: Aciclovir	Adults: 800mg TDS	2 days	
	OR Oral: Famciclovir	Adults: 1g BD	1 day		

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
Gonorrhoea	Antibiotic resistance is now very high. Use IM ceftriaxone and oral azithromycin; refer to GUM. Test of cure is essential.	IM: Ceftriaxone AND Oral: Azithromycin	Adults: 500mg IM STAT 1g STAT	STAT STAT	PHE context references and rationale Oct 2018 Nov 2017
Pelvic inflammatory disease	Refer women and sexual contacts to GUM. Raised CRP supports diagnosis, absent pus cells in HVS smear good negative predictive value. Exclude: ectopic, appendicitis, endometriosis, UTI, irritable bowel, complicated ovarian cyst, functional pain. Moxifloxacin has greater activity against likely pathogens, but always culture for gonorrhoea and chlamydia, and test for Mycoplasma genitalium. If gonorrhoea likely (partner has it; sex abroad; severe symptoms), use regimen with ceftriaxone, as resistance to quinolones is high.	<u>First Line</u> Oral: Metronidazole PLUS Oral: Ofloxacin OR Oral: Moxifloxacin	Adults: 400mg BD 400mg BD 400mg OD	14 days 14 days 14 days	PHE context references and rationale Oct 2018 Oct 2018
		<u>Gonorrhoea suspected</u> IM: Ceftriaxone AND Oral: Metronidazole AND Oral: Doxycycline	Adults: 500mg IM STAT 400mg BD 100mg BD	STAT 14 days 14 days	
Trichomoniasis	Oral treatment needed as extravaginal infection common. Treat partners, and refer to GUM for other STIs. Pregnant/breastfeeding: avoid 2g single dose metronidazole Offer Clotrimazole for symptom relief (not cure) if metronidazole declined/ contra-indicated.	<u>First Line</u> Oral: Metronidazole	Adults: 400mg BD (better tolerated dose) or 2g (dose associated with more adverse effects)	5-7 days STAT	PHE context references and rationale Oct 2018 Nov 2017
		<u>Symptom relief (not cure)/pregnancy</u> Topical: Clotrimazole	Adults: 100mg pessary at night	6 nights	

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links	
SKIN INFECTIONS						
Impetigo	Localised non-bullous impetigo: Hydrogen peroxide 1% cream (other topical antiseptics are available but no evidence for impetigo). If hydrogen peroxide unsuitable or ineffective, short-course topical antibiotic. Widespread non-bullous impetigo: Short-course topical or oral antibiotic. Take account of person's preferences, practicalities of administration, previous use of topical antibiotics because antimicrobial resistance can develop rapidly with extended or repeated use, and local antimicrobial resistance data. Bullous impetigo, systemically unwell, or high risk of complications: Short-course oral antibiotic. Do not offer combination treatment with a topical and oral antibiotic to treat impetigo (not more effective, risk adverse effects and resistance). *5 days is appropriate for most, can be increased to 7 days based on clinical judgement. Consider referral to specialist or hospital if: • Symptoms or signs suggest serious illness e.g. cellulitis • Immunocompromised patient with widespread impetigo • Bullous impetigo in babies • Impetigo recurring frequently • Systemically unwell • High risk of complications <i>For detailed information click on the visual summary.</i> If PVL-SA (Panton-Valentine leucocidin Staphylococcus aureus) suspected see below.	Topical antiseptic:				NICE NG153, Published Feb 2020 <

Infection	Comments	Medications	ADULT dose for child's doses click on		Duration of treatment	References & Useful links
PVL-SA (Panton-Valentine leucocidin <i>Staphylococcus aureus</i>)	Panton-Valentine leukocidin (PVL) is a toxin produced by 20.8 to 46% of <i>S. aureus</i> from boils/abscesses. The toxin destroys white blood cells. PVL strains are rare in healthy people, but severe. Suppression therapy should only be started after primary infection has resolved, as suppression therapy is ineffective if lesions are still leaking. Risk factors for PVL: if there is more than one case in a home or close community (school children; military personnel; nursing home residents; household contacts); recurrent skin infections; invasive infections; men who have sex with men, close contact sports. Consider taking a swab of pus from the contents of the lesion if the boil or carbuncle is: - Not responding to treatment, persistent or recurrent, to exclude atypical mycobacteria or PVL-SA. - There are multiple lesions. - The person: Is immunocompromised, is known to be colonized with MRSA, Has diabetes. - If PVL-SA is suspected, this should be mentioned specifically on the laboratory form.					PHE context references and rationale Oct 2018 PHE management of PVL-SA, Nov 2008 Nov 2017
Infected Eczema	If not systemically unwell, do not routinely offer either a topical or oral antibiotic. Manage underlying eczema and flares with treatments such as emollients and topical corticosteroids, whether antibiotics are given or not. If systemically unwell offer an antibiotic. Symptoms and signs of secondary bacterial infection can include: weeping, pustules, crusts, no response to treatment, rapidly worsening eczema, fever and malaise. Not all flares are caused by a bacterial infection, so will not respond to antibiotics. Eczema is often colonised with bacteria but may not be clinically infected. Do not routinely take a skin swab at initial presentation. Consider sending a skin swab if the infection is worsening or not improving as expected. If the infection recurs frequently, send a skin swab and consider taking a nasal swab and starting treatment for decolonisation. If an antibiotic is offered, when choosing between a topical or oral antibiotic, take account of patient preferences, extent and severity of symptoms or signs, possible adverse effects, and previous use of topical antibiotics because antimicrobial resistance can develop rapidly with extended or repeated use. Consider referral or seeking specialist advice if the person has spreading infection that is not responding to oral antibiotics, is systemically unwell, is at high risk of complications, has infections that recur frequently. Refer to hospital if there are symptoms or signs suggesting a more serious illness or condition such as necrotising fasciitis or sepsis.	Topical antibiotic (if a topical is appropriate). For localised infections only:				NICE NG190, Updated 2021 NICE NG 190 visual summary July 2021
		First line: fusidic acid 2%	Adults and children:	TDS	5 – 7 days	
		Oral antibiotic:				
		First line: Flucloxacillin	Adults:	500mg QDS	5 – 7 days	
			Children:			
		If flucloxacillin unsuitable: Clarithromycin	Adults:	250mg BD		
				Children:		
If flucloxacillin unsuitable and pregnant: Erythromycin	Adults:	250mg – 500mg QD				
	Children:					
If there are symptoms or signs of cellulitis, see this section of the guideline.						
If MRSA or PVL-SA suspected or confirmed – consult local microbiologist.						

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links
Acne vulgaris (page 1 of 2)	Mild to moderate acne, this includes people who have 1 or more of: - any number of non-inflammatory lesions (comedones) - up to 34 inflammatory lesions (with or without non-inflammatory lesions) - up to 2 nodules Moderate to severe acne, this includes people who have either or both of: 35 or more inflammatory lesions (with or without non-inflammatory lesions) 3 or more nodules Self-care advice: - Wash with non-alkaline synthetic detergent cleansing product (e.g. Dove® or Aveeno® moisturising bar) twice daily; do not scrub; avoid make-up. - Patient information from the British Association of Dermatologist is available here. Do not use the following to treat acne; monotherapy with a topical antibiotic monotherapy with an oral antibiotic combination of a topical and oral antibiotic minocycline as per SWL Position Statement - Give clear information tailored to patient needs and concerns. Topics to cover include: - possible reasons for their acne - treatment options, including OTC treatments if appropriate - benefits and drawbacks of treatment - potential impact of acne - importance of adhering to treatment, as positive effects and take 6-8 weeks to become noticeable - relapses during and after treatment, including when to obtain further advice, and treatment options should a relapse occur - Refer to a consultant dermatologist if any of the following apply: - there is diagnostic uncertainty - they have acne conglobata - they have nodulo-cystic acne - they have acne fulminans (urgent referral to hospital dermatology team to be assess within 24 hours) - Consider referring to a consultant dermatologist if they have: - mild to moderate acne that has not responded to two courses of treatment - moderate to severe acne which has not responded to previous treatment that contains an oral antibiotic - acne with scarring (continued next page)	<u>Any severity (topical treatment)</u> Combination of adapalene/benzoyl peroxide 0.1%/2.5% or 0.3%/2.5% OR Combination of tretinoin / clindamycin 0.025%/1% OD OR <u>If above contraindicated / refused</u> Benzoyl peroxide 5% <u>Mild to moderate (topical treatment)</u> Combination of benzoyl peroxide/clindamycin) 3%/1% or 5%/1%	Adults: Apply thinly in the evening once a day Children 9+ years:  Adults: Apply thinly in the evening once a day Children 12+ years:  Adults: OD or BD Children 12+ years:  Adults: Apply thinly in the evening once a day Children 12+ years: 	Assess after 12 weeks	NICE NG198, Updated 2023 CKS Acne vulgaris
		<u>Moderate to severe (topical PLUS oral treatment)</u> Topical treatment Combination of adapalene/benzoyl peroxide 0.1%/2.5% or 0.3%/2.5% OR Azelaic acid * 15% gel or 20% cream AND Oral treatment Lymecycline OR Doxycycline	Adults: Apply thinly once daily, in the evening Children 12+ years:  Adults: BD Children 12+ years:  Adults: 408mg OD Children 12+ years:  Adults: 100mg OD Children 12+ years: 	Assess after 12 weeks	

Jan 2024

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links
Acne vulgaris (page 2 of 2)	○ acne with persistent pigmentary changes ○ acne contributing to persistent psychological distress or a mental health disorder • To reduce risk of skin irritation with topical treatments, start with alternate-day or short contact application (e.g. wash off after an hour). • If a person receiving treatment for acne wishes to use hormonal contraception, consider using the combined oral contraceptive pill in preference to the progestogen-only pill • Review treatment at 12 weeks and in those whose treatment includes an oral antibiotic, consider continuing treatment for up to 12 more weeks if their acne has not completely cleared (either oral and topical treatment, or topical only) • Only continue antibiotic treatment for more than 6 months in exceptional circumstances. Review every 12 weeks and stop as soon as possible. • If acne fails to respond adequately to a 12 week course of a first-line treatment option and at review the severity is: ○ mild to moderate: offer another option from the table of treatment choices. If mild to moderate acne fails to respond adequately to 2 different 12 week courses of treatment options, consider referral to a consultant dermatologist-led team ○ moderate to severe, and the treatment did not include an oral antibiotic: offer another option which includes an oral antibiotic from the table of treatment choices ○ moderate to severe, and the treatment included an oral antibiotic: consider referral to a consultant dermatologist-led team. • Consider maintenance treatment in people with a history of frequent relapse after treatment. • Consider a fixed combination of topical adapalene and topical benzoyl peroxide as maintenance treatment for acne. If this is not tolerated, or if 1 component of the combination is contraindicated, consider topical monotherapy with adapalene, azelaic acid, or benzoyl peroxide • Review maintenance treatments for acne after 12 weeks to decide if they should continue. *useful in reducing risk of hyperpigmentation in individuals with darker skin **See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information † NB: Changes made following IMOC to provide clarity	Alternative if above are contraindicated or refused (oral treatment) Erythromycin OR Clarithromycin OR Trimethoprim (following Consultant advice, off-label**)	Adults: 500mg BD Children 12+ years:  Adults: 250mg BD Children 12+ years:  Adults: 300mg BD Children 12+ years: 	Assess after 12 weeks	NICE NG198, Updated 2021 CKS Acne vulgaris
		Children under 12 years Combination of adapalene/benzoyl peroxide 0.1%/2.5% OR if above contraindicated or refused† Benzoyl peroxide 5% AND IF NEEDED Erythromycin OR Clarithromycin	Children 9+ years:  Children: OD - BD  Children: 500mg BD  Children: 250mg BD (weight ≥ 30kg) 	Review at 6-8 weeks. Continue for 3 months max	
		Pregnant women Combination of Benzoyl peroxide / clindamycin 3%/1% or 5%/1% (to be used with caution) OR if above contraindicated or refused† Benzoyl peroxide 5% (alone) AND IF ORAL TREATMENT IS NEEDED Benzoyl peroxide 5% WITH Erythromycin (preferred in pregnancy) OR Clarithromycin	Adults: Apply thinly once daily, in the evening Adults: OD or BD Adults: OD or BD Adults: 500mg BD Adults: 250mg BD	Review at 6-8 weeks. Continue for 3 months max	

Mar 2022

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links
Cellulitis and erysipelas	Exclude other causes of skin redness (inflammatory reactions or non-infectious causes e.g. chronic venous insufficiency) Consider marking extent of infection with a single-use surgical marker pen. When choosing an antibiotic, take account of: - The severity of infection - The site of infection - The risk of uncommon pathogens - Any microbiological results and MRSA status, if known Consider a swab for microbiological testing, but only if skin broken and risk of uncommon pathogen. When prescribing antibiotics for a cellulitis and erysipelas, give advice about - Possible side effects of the antibiotic(s) - Skin will take time to return to normal after finishing the antibiotics and full resolution at 5-7 days is not expected - Seeking medical help if symptoms worsen rapidly or significantly at any time, or do not start to improve within 2 to 3 days. Reassess if: - Symptoms worsen rapidly, or do not start to improve in 2 to 3 days - The person is very unwell, has severe pain, or redness or swelling beyond the initial presentation Refer to hospital if there are symptoms or signs of a more serious illness or condition such as orbital cellulitis, osteomyelitis, septic arthritis, necrotising fasciitis or sepsis. Consider referring or seeking specialist advice if the person: - Is severely unwell or has lymphangitis - Has infection near the eyes or nose - May have uncommon pathogens - Has spreading infection not responding to oral antibiotics - Cannot take oral antibiotics (to explore giving IV antibiotics at home or in the community if appropriate) - If there has been river or sea water exposure Do not routinely offer antibiotic prophylaxis to prevent recurrent cellulitis or erysipelas. Discuss any trial of antibiotic prophylaxis to ensure shared decision making and choose: - Phenoxymethylpenicillin 250mg twice a day, or - Erythromycin 250mg twice a day for penicillin allergy Review at least every 6 months.	<u>First line:</u> Oral: Flucloxacillin (Penicillin based antibiotic) <u>Penicillin allergy or flucloxacillin unsuitable:</u> Oral: Clarithromycin OR Oral: Doxycycline <u>Penicillin allergy (in pregnancy):</u> Oral: Erythromycin	Adults: 500mg to 1g QDS Children:  Adults: 500mg BD Children:  Adults: 200mg stat then 100mg BD Adults: 500mg QDS Children: 	5-7 days;	NICE NG141, Updated 2019 NICE NG19, visual summary
		<u>If infection near the eyes or nose</u> consider discussing with microbiologist Oral: Co-amoxiclav (Penicillin based antibiotic) <u>Penicillin allergy or co-amoxiclav unsuitable:</u> Oral: Clarithromycin AND Oral Metronidazole	Adults: 500/125mg TDS Children:  Adults: 500mg BD Children:  Adults: 400mg TDS Children: 	7 days	
		<u>MRSA infection suspected or confirmed or IV antibiotics required</u> discuss with microbiologist			

July 2020

July 2020

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links
Leg Ulcers	Manage any underlying conditions to promote ulcer healing. Only offer an antibiotic when there are symptoms or signs of infection (such as redness or swelling spreading beyond the ulcer, localised warmth, increase pain or fever). Few leg ulcers are clinically infected but most are colonised by bacteria. When prescribing antibiotics, take account of severity, risk of complications and previous antibiotic use. Do not take a sample for microbiological testing at initial presentation, even if the ulcer might be infected as most leg ulcers are colonised by bacteria. Give advice to seek medical help if symptoms or signs of infection: - Worsen rapidly or significantly at any time, or - Do not start to improve within 2 to 3 days of starting treatment - Person becomes systemically unwell or has severe pain out of proportion to the infection If the infection is worsening, or not improving as expected, consider microbiological testing. When microbiological results are available: - Review the antibiotic and change according to results if infection is not improving, using a narrow spectrum antibiotic if possible. Consider referring or seeking specialist advice if the person: - Has a higher risk of complications because of comorbidities such as diabetes or immunosuppression - Has lymphangitis - Has spreading infection not responding to oral antibiotics - Cannot take oral antibiotics - Has a severe infection warranting the use of IV antibiotics - MRSA colonised/infection in last 24 months Refer to existing pathways for administration of iv antibiotics if appropriate *See the General Medical Council's Good practice in prescribing and managing medicines and devices for further information. Recommended for obese/severely obese patients.	<u>First line:</u> Oral: Flucloxacillin (Penicillin based antibiotic) <u>Penicillin allergy or flucloxacillin unsuitable:</u> Oral: Doxycycline OR Oral: Clarithromycin OR <u>Penicillin allergy or flucloxacillin unsuitable (in pregnancy):</u> Oral: Erythromycin <u>Second line:</u> Oral: Co-amoxiclav <u>Penicillin allergy or co-amoxiclav unsuitable</u> Oral: Co-trimoxazole	Adults: 500mg – 1g QDS (1g dose is off-label use*) Adults: 200mg on day 1, then 100mg OD (can be increased to 200mg daily) Adults: 500mg BD Adults: 500mg QDS Adults: 625mg TDS Adults: 960mg BD	7 days	NICE NG152, Updated 2020 NICE NG152, visual summary July 2020

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links
Diabetic foot	All diabetic foot wounds are likely to be colonised with bacteria. Do not offer antibiotics to prevent diabetic foot infections. Diabetic foot infection has at least 2 of: - Local swelling or induration - Erythema - Local tenderness or pain - Local warmth - Purulent discharge Start antibiotic treatment as soon as possible. Take samples for microbiological testing before, or as close as possible to, the start of treatment. When choosing an antibiotic, take account of: - The severity of infection - The risk of complications - Previous microbiology results - Previous antibiotic use - Patient preference Severity is classed as: - Mild = local infection with 0.5cm to less than 2cm erythema - Moderate = local infection with more than 2cm erythema or involving deeper structures (e.g. abscess, osteomyelitis, septic arthritis or fasciitis). - Severe = local infection with signs of a systemic inflammatory response Refer to hospital immediately and Inform multidisciplinary foot care service if severe infection with limb or life threatening problems e.g ulceration with fever/any signs of sepsis /limb ischaemia, suspected deep-seated soft tissue or bone infection, gangrene).For all other active diabetic foot problems, refer to foot service within 1 working day. Seek Microbiologist advice when prescribing antibiotics for a suspected diabetic foot infection in - children and young people under 18 years. - MRSA infection suspected or confirmed - IV treatment required When prescribing antibiotics for a diabetic foot infection, give advice about - Possible side effects of the antibiotic(s) - Seeking medical help if symptoms rapidly or significantly at any time, or do not start to improve within 1 to 2 days. Reassess if symptoms rapidly or significantly at any time, or do not start to improve within 1 to 2 days. Take account of: - Other possible diagnoses, such as pressure sores, gout or non-infected ulcers - Symptoms or signs suggesting something more serious such as limb ischaemia , osteomyelitis, necrotising fasciitis or sepsis - Previous antibiotic use	<u>Mild infection</u> <u>First line</u> Oral: Doxycycline OR Oral: Clarithromycin AND Oral: Metronidazole <u>(In pregnancy):</u> Oral: Erythromycin AND Oral: Metronidazole	Adults: 200mg on first day, then 100mg OD (can be increased to 200mg OD) Adults: 500mg BD Adults: 400mg TDS Adults: 500mg QDS Adults: 400mg TDS	7 days then review (full resolution is not expected); if slow response, continue for a further 7 days.	NICE NG19, Updated 2019 NICE NG19, visual summary July 2020
		<u>Moderate infection</u> <u>First line</u> Oral: Co-amoxiclav (Penicillin based antibiotic) AND Oral: Metronidazole <u>Penicillin allergy:</u> Oral: Co-trimoxazole (off-label indication, see BNF for patient monitoring parameters) AND Oral: Metronidazole	Adults: 625mg TDS* Adults: 400mg TDS Adults: 960mg BD Adults: 400mg TDS	Minimum 7 days and up to 6 weeks for osteomyelitis.	
		<u>If <i>Pseudomonas aeruginosa</i> suspected or confirmed</u> discuss with Microbiologist Oral: Clindamycin AND Oral: Ciprofloxacin (consider safety issues)	Adults: 150 to 300mg QDS (can be increased to 450mg QDS) Adults: 500mg BD		

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links
Bites (Human and Animal)	Seek specialist advice from a microbiologist for bites from a wild or exotic animal (including birds and non-traditional pets) or domestic animal bites (including farm animal bites) you are unfamiliar with. Manage the wound with irrigation and debridement as necessary Offer an antibiotic treatment course for human or animal bites if there are symptoms or signs of infection, such as: - Increased pain - Inflammation, - Fever, - Discharge or - An unpleasant smell Take a swab for microbiological testing if there is discharge (purulent or non-purulent) from the wound Do not offer antibiotic prophylaxis if a human or animal bite has not broken the skin. Human bite Offer antibiotic prophylaxis if the human bite has broken the skin and drawn blood. Consider antibiotic prophylaxis if the human bite has broken the skin but not drawn blood if it is in a high-risk area or person at high risk (see below). Cat bite Offer antibiotic prophylaxis if the cat bite has broken the skin and drawn blood. Consider antibiotic prophylaxis if the cat bite has broken the skin but not drawn blood if the wound could be deep. Dog or other traditional pet bite (excluding cat) Offer antibiotic prophylaxis if the bite has broken the skin and drawn blood if it has caused considerable, deep tissue damage or is visibly contaminated (for example, with dirt or a tooth). Consider antibiotic prophylaxis if the bite has broken the skin and drawn blood if it is in a high risk area or person at high risk. High-risk areas include the hands, feet, face, genitals, skin overlying cartilaginous structures or an area of poor circulation People at high risk include those at risk of a serious wound infection because of a co-morbidity (such as diabetes, immunosuppression, asplenia or decompensated liver disease) Assess the risk of tetanus, rabies or a bloodborne viral infection and take appropriate action. Consider referral or seeking specialist advice if, for example, the person: - Is systemically unwell - Has an infection after prophylactic antibiotic - Cannot take or has an infection that is not responding to oral antibiotics *can be increased to 7 days based on assessment of wound	First line: Prophylaxis/treatment for both Human and Animal bites: Oral: Co-amoxiclav (Penicillin based antibiotic)	Adults: 375 mg - 625mg TDS Children: 	3 days for prophylaxis 5 days for treatment*	NICE NG184 Updated 2020 NICE NG184, visual summary
		Alternative to co-amoxiclav for adults and young people aged 12 to 17 years Oral: Metronidazole AND Oral: Doxycycline	Adults: 400mg TDS Children:  Adults: 200mg STAT then 100- Children: 200mg OD 	3 days for prophylaxis 5 days for treatment*	
		Alternative in pregnancy	Seek specialist advice		
		Alternative to co-amoxiclav for children under 12 years Co-trimoxazole (off-label – consider safety issues)	Children: 	3 days for prophylaxis 5 days for treatment*	

Jul 2021

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links
Bites (Insect)	Self-care advice: - Oral antihistamines and topical treatments are available from the pharmacy - Avoid scratching to reduce risk of infection - Redness and itching are common and may last up to 10 days Treat only if sign of infection, as most cases are self-limiting; most insect bites or stings will not need antibiotics Be aware that a rapid onset skin reaction is more likely to be an inflammatory or allergic reaction rather than an infection Consider referral or seeking specialist advice for people if: - they are systemically unwell - they are severely immunocompromised, and have symptoms or signs of an infection - they have had a previous systemic allergic reaction to the same type of bite or sting - the bite or sting is in the mouth or throat, or around the eyes - it has been caused by an unusual or exotic insect - they have fever or persisting lesions associated with a bite or sting that occurred while travelling outside the UK Reassess if: - symptoms or signs of an infection develop - the person's condition worsens rapidly or significantly, or they become systemically unwell - the person has severe pain out of proportion to the wound, which may indicate the presence of toxin-producing bacteria - Take account of other possible diagnoses, such as Lyme disease indicated by erythema migrans	Give self care advice – see comments section If there are symptoms or signs of infection, see the recommendations on antibiotic choice in the cellulitis and erysipelas section of this guideline			NICE NG182 Updated 2020 NICE NG182, visual summary NICE CKS: Insect bites and stings Mar 2022
Scabies	First choice permethrin: Treat whole body from ear/chin downwards, and under nails. If using permethrin and patient is under 2 years, elderly or immunosuppressed, or if treating with malathion: also treat face and scalp. Treat all home and sexual contacts: treat within 24 hours	<u>First Line:</u> Permethrin 5% cream <u>Second Line:</u> Malathion 0.5% aqueous liquid	Adults and Children Apply once weekly for 2 doses, then wash off after 8–12 hours. If hands are washed with soap within 8 hours of application, they should be treated again with cream.	2 applications, 1 week apart	PHE context references and rationale Oct 2018 Oct 2018
Mastitis	S. aureus is the most common infecting pathogen. Suspect if woman has: a painful breast; fever and/or general malaise; a tender, red breast. Breastfeeding: oral antibiotics are appropriate, where indicated. Advise the woman to continue breastfeeding if possible (including from the affected breast)	<u>First line:</u> Oral: Flucloxacillin (Penicillin based antibiotic) <u>Penicillin allergy:</u> Oral: Erythromycin OR Oral: Clarithromycin	Adults: 500mg QDS Adults: 250mg-500mg QDS Adults: 500mg BD		PHE context references and rationale Oct 2018 Nov 2017

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links
Dermatophyte infection: skin Including: - Tinea corporis (ringworm) - Tinea pedis (athlete's foot) - Tinea cruris (jock itch) - Tinea faciei (facial ringworm) - Tinea capitis (scalp ringworm)	Most cases: use topical terbinafine as fungicidal, treatment time shorter than with fungistatic imidazoles. If candida possible, use imidazole. If intractable, or scalp: send skin scrapings, and if infection confirmed: use oral terbinafine or itraconazole. It should be noted that liver reactions have been reported 0.1 to 1% with oral antifungals Scalp: oral therapy, and discuss with specialist.	<u>First Line:</u> Topical: Terbinafine 1% cream	Adults and Children: Apply thinly OD -BD	1 -2 weeks then review	PHE context references and rationale Oct 2018 Oct 2018
		<u>Second Line:</u> Topical: Imidazole e.g. Clotrimazole 1% cream OR <u>For athlete's foot only</u> Topical: Undecanoates (Mycota®)	Adults and Children: Apply BD – TDS Adults and Children: Apply BD	Continue use for 7 days after lesions have healed therefore a total of 4 – 6 weeks	
		<u>If intractable, or scalp</u> Oral: Terbinafine OR Oral: Itraconazole	Adults: 250mg OD Children:  Adults: 100mg OD Children: 	4-6 weeks 15 days then review	
Dermatophyte infection: nail	Take nail clippings; start therapy only if infection is confirmed. Oral terbinafine is more effective than oral azole. It should be noted that liver reactions have been reported 0.1 to 1% with oral antifungals. If candida or non-dermatophyte infection is confirmed, use oral itraconazole. Topical nail lacquer is not as effective. Stop treatment when continual, new, healthy, proximal nail growth To prevent recurrence: apply weekly 1% topical antifungal cream to entire toe area. Children: seek specialist advice	<u>First Line</u> Oral: Terbinafine	Adults: 250mg OD Children: 	Fingers: 6 wks Toes: 12 wks	PHE context references and rationale Oct 2018 Oct 2018
		<u>Second line:</u> Oral: Itraconazole	Adults: 200mg BD for 7 days per month Children: 	Fingers: 2 courses Toes: 3 course	

Oct 2018

Infection	Comments	Medications	ADULT dose for child's doses click on	Duration of treatment	References & Useful links
Lyme disease with erythema migrans	- Treat erythema migrans empirically; serology is often negative early in infection. - For treatment of other Lyme disease presentations see NICE guidance/seek specialist advice. - If symptoms worsen during treatment for Lyme disease, assess for an allergic reaction to the antibiotic. - Be aware that a Jarisch–Herxheimer reaction (~15% of patients) does not usually warrant stopping treatment - This causes a worsening of symptoms early in treatment - It can happen when large numbers of bacteria in the body are killed - It does not happen to everyone treated for Lyme disease - They should keep taking their antibiotics if their symptoms worsen and seek medical advice	Lyme disease without focal symptoms but with erythema migrans and /or non-focal symptoms Oral: Doxycycline (For 9 years and above, unlicensed in under 12 years)	Adults: 200mg OD Or 100mg BD Children 6+ years: 	21 days	NICE NG95 updated Oct 2018 PHE context references and rationale May 2021 CKS Lyme disease Jul 2022
		Alternative if doxycycline is not suitable (e.g. pregnancy): Oral: Amoxicillin (Penicillin based antibiotic)	Adults: 1g TDS Children: 	21 days	
		Alternative if doxycycline and amoxicillin are not suitable: Oral: Azithromycin Do not use azithromycin to treat people with cardiac abnormalities associated with Lyme disease because of its effect on QT interval	Adults: 500mg OD Children: 	17 days	

Infection	Comments	Medications	ADULT dose for child's doses click on		Duration of treatment	References & Useful links
MRSA decolonisation (Suppression)	GPs may be asked to screen and decolonise patients e.g. a patient elects to have surgery outside their area. GPs should not be routinely asked to screen patients attending Croydon University Hospital (CUH). Croydon Health Services Trust (CHS) has pre-admission clinics to select and screen patients for MRSA and to de-colonise patients if they are MRSA positive. Screen positive results available after discharge CUH: The Department of Health recommends that (adult) patients found to be colonised with MRSA should be offered decolonisation treatment. Therefore the positive MRSA screen results available after a patient has been discharged will be faxed to a patient's GP (by the infection control team) with advice to offer the patient decolonisation treatment. To reduce persistent MRSA carriage, treat underlying skin conditions (e.g. eczema, dermatitis), remove and/or replace invasive devices and treat skin breaks. Where necessary, seek advice from Dermatologist (antiseptic detergents should be used with caution on patient with dermatitis). Use both nasal and skin regimens.					For MRSA screening and suppression (decolonisation), please see full Croydon MRSA 2012 Guide :
	Nasal: Apply pea-sized amount to inner surface of each nostril using a cotton wool bud. - Patients should be able to taste mupirocin at back of throat. - Prolonged (>5 days) or repeated courses (>2 per admission) must not be given because of the risk of the development of resistance. - Mupirocin should not be given until a positive MRSA result is confirmed	<u>First Line:</u> Topical: 2% Mupirocin nasal ointment (Bactroban®) <u>If MRSA resistant to mupirocin:</u> Topical: Chlorhexidine hydrochloride 0.1%+ Neomycin sulfate 0.5% nasal cream (Naseptin®) (NB avoid in patients with peanut allergy)	Adults: TDS	5 days		
	Skin – Topical antiseptic wash: - Particularly apply to known carriage sites (axilla, groin & perineum). If possible wash hair twice weekly with antiseptic detergent. An ordinary shampoo can be used afterwards if required. - After washing, use clean towels, sheets & clothing. - Launder items separately from other family members, using as high a temperature as fabric allows	4% chlorhexidine gluconate (Hibiscrub®) antiseptic detergent Moisten skin and apply undiluted antiseptic detergent to all areas in the place of soap, leave for 3 minutes then rinse.	Adults: QDS	10 days		
			Adults: Daily	5 days		
MRSA Treatment	Do not use clindamycin For active MRSA infection, confirmed by lab results Use antibiotic sensitivities to guide treatment. If severe infection or no response to monotherapy after 24-48 hours, seek advice from microbiologist on combination therapy and use of linezolid.	Doxycycline alone OR Trimethoprim	Adults:	100mg BD 200mg BD	7 days 7 days	

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
EYE INFECTIONS					
Conjunctivitis	First line: bath/clean eyelids with cotton wool dipped in sterile saline or boiled (cooled) water, to remove crusting. Reassure the person that most cases of acute, infectious conjunctivitis are self-limiting and do not require antimicrobial treatment — viral (non-herpetic) conjunctivitis usually resolves within one to two weeks without treatment. Treat only if severe, as most cases are viral or self-limiting. Bacterial conjunctivitis: usually unilateral and also self-limiting. It is characterised by red eye with mucopurulent, not watery discharge. 65% and 74% resolve on placebo by days 5 and 7. Advise the person that most cases of bacterial conjunctivitis are self-limiting and resolve within 5–7 days without treatment. Treat with topical antibiotics if severe or circumstances require rapid resolution. A delayed treatment strategy may be appropriate — advise the person to initiate topical antibiotics if symptoms have not resolved within 3 days. Arrange urgent assessment by ophthalmology if the person has: • Ophthalmia neonatorum (sticky eye with redness in a neonate). • Infection with a sexually transmitted pathogen is confirmed • Suspected gonococcal or chlamydial conjunctivitis. • Possible herpes infection. • Suspected periorbital or orbital cellulitis. • Severe disease, for example, corneal ulceration, significant keratitis or presence of pseudomembrane. • Recent intraocular surgery. • Conjunctivitis associated with a severe systemic condition such as rheumatoid arthritis or immunocompromised. • Corneal involvement associated with soft contact lens use: Do not give antibiotics in the interim as this may interfere with corneal culture. Advise the person to take their contact lenses with them to eye casualty as special diagnostic tests may be required.	<u>First line: If severe:</u> Topical: Chloramphenicol 0.5% drop (can be purchased OTC in pharmacy) OR Topical: Chloramphenicol 1% ointment (Pregnancy and breastfeeding - Avoid chloramphenicol unless essential) (Neonates - Avoid chloramphenicol unless essential)	Adults and Children over 1 month old: Apply 1 drop to the effected eye every 2 hours then reduce frequency as infection is controlled to 3–4 times daily. Adults and Children over 1 month old: Apply daily, at night	48 hours after resolution	PHE context references and rationale Oct 2018
	Third line: Fusidic acid as it has less Gram-negative activity. Fusidic Acid (Fucithalmic®) 1% Viscous Eye Drops eye drop brand has been discontinued. This should be reserved as a treatment option for patients who: are pregnant or breastfeeding, have a personal or family history of blood dyscrasias (such as aplastic anaemia), are intolerant of chloramphenicol or patients that may require assistance in applying drops e.g. young children or elderly people (Fusidic acid requires twice daily administration).	<u>Second line</u> Topical: Fusidic acid 1% modified-release eye drops (High cost)	Adults & Children: Apply twice daily	48 hours after resolution	

Oct 2018

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	Referances & Useful links
Blepharitis	First instance: lid hygiene for symptom control, including: warm compresses; lid massage and scrubs; gentle washing; avoiding cosmetics. Topical antibiotics if hygiene measures are ineffective after 2 weeks. Signs of meibomian gland dysfunction, or acne rosacea: consider oral antibiotics.	<u>If indicated: First line</u> Topical: Chloramphenicol 1% ointment	Adults & Children: Apply twice daily	6 weeks trial	PHE context references and rationale Oct 2018 Nov 2017
		<u>Second line</u> Oral: Oxytetracycline OR Oral: Doxycycline	Adults 500mg BD (initial) for 4 weeks then 250mg BD (maintenance) 8 weeks Children:  Adults: 500mg BD (initial) for 4 weeks then 250mg BD (maintenance) 8 weeks Children: 	4 weeks 8 weeks 4 weeks 8 weeks	

Infection	Comments	Medications	ADULT dose for child's doses click on 	Duration of treatment	References & Useful links
DENTAL INFECTIONS TREATED IN PRIMARY CARE OUTSIDE DENTAL SETTING					
- Derived from the Scottish Dental Clinical Effectiveness Programme (SDCEP) 2013 Guidelines. This guidance is not designed to be a definitive guide to oral conditions, as GPs should not be involved in dental treatment. Patients presenting to non-dental primary care services with dental problems should be directed to their regular dentist, or if this is not possible, to the NHS 111 service (in England), who will be able to provide details of how to access emergency dental care. Antibiotics do not cure toothache. First line pain treatment is with paracetamol and/or ibuprofen; codeine is not effective for toothache.					
Oral candidiasis	See under Gastrointestinal tract infections section				
Mucosal ulceration and inflammation (simple gingivitis)	Temporary pain and swelling relief can be attained with saline mouthwash (½ tsp salt in warm water). Use antiseptic mouthwash if more severe, and if pain limits oral hygiene to treat or prevent secondary infection. The primary cause for mucosal ulceration or inflammation (aphthous ulcers; oral lichen planus, herpes simplex infection; oral cancer) needs to be evaluated and treated.	<u>First line:</u> Topical: Simple saline mouthwash <u>Second line:</u> Topical: Chlorhexidine 0.12 - 0.2% (Do not use within 30 mins of toothpaste) OR Topical: Hydrogen peroxide 6%	Adults & Children: Rinse mouth with ½ tea spoon salt dissolved in glass warm water Adults: Rinse mouth with 10 mL BD for about 1 minute  Adults: Rinse mouth with 15ml diluted in in ½ glass warm water for 2 – 3 mins BD - TDS 	Always spit out after use. Use until lesions resolve or less pain allows oral hygiene	PHE context references and rationale Oct 2018 Nov 2017
Acute necrotising ulcerative gingivitis	Refer to dentist for scaling and hygiene advice. Antiseptic mouthwash if pain limits oral hygiene. Commence metronidazole if systemic signs and symptoms.	Topical: Chlorhexidine 0.12 - 0.2% (Do not use within 30 mins of toothpaste) OR Topical: Hydrogen peroxide 6% Oral: Metronidazole	Adults: Rinse mouth with 10 mL BD for about 1 minute  Adults: Rinse mouth with 15ml diluted in in ½ glass warm water for 2 – 3 mins BD - TDS  Adults: 400mg TDS 	Always spit out after use. Until pain allows for oral hygiene 3 days	PHE context references and rationale Oct 2018 Nov 2017

Nov 2017