BSW ICB Management of Infection Guidance for Primary Care

December 2024 update

Bath and North East Somerset, Swindon and Wiltshire Together

Principles of Treatment

1. This guidance is based on the best available evidence but uses professional judgement and involves patients in management decisions.
2. This guidance should not be used in isolation; it should be supported with patient information about safety netting, delayed/ back-up antibiotics, self-care, infection severity and usual duration, clinical staff education, and audits. Materials are available on the RCGP TARGET website.
3. Prescribe an antibiotic only when there is likely to be clear clinical benefit, giving alternative, non-antibiotic self-care advice, where appropriate.
4. Consider a "no", or back-up antibiotic strategy (previously called "delayed" strategy) for acute self-limiting upper respiratory tract infections,[1A+] and mild UTI symptoms. A 'back-up' prescription strategy allows reduction in unnecessary use of antibiotics while providing a safety net for people who may need antibiotics. Usual patient advice is to use the prescription if their condition deteriorates within 3 days or fails to improve after 3 to 7 days. See link for further information: https://www.rcgp.org.uk/clinical-and- research/resources/toolkits/target-antibiotic-toolkit.aspx
5. 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.
6. Where an empirical therapy has failed or special circumstances exist, microbiological advice can be obtained from our local hospital microbiology departments:
   GWH: 01793 604800 RUH: 01225 825428 SFT: 01722 429105
7. Use simple generic antibiotics if possible. Avoid broad spectrum antibiotics (e.g., co-amoxiclav, quinolones and cephalosporins) when narrow spectrum antibiotics remain effective, as they increase risk of *Clostridium difficile*, MRSA and resistant UTIs.
8. Always check for antibiotic allergies. A dose and duration of treatment for adults is usually suggested, but may need modification for age, weight and renal function, or if immunocompromised. In severe or recurrent cases consider a larger dose or longer course.
9. Child doses are provided when appropriate or see the children's BNF.
10. Refer to BNF for further dosing and interaction information (e.g., interaction between macrolides and statins) and check for hypersensitivity.
11. Have a lower threshold for initiating antibiotics exists for patients who are immunocompromised or those with multiple morbidities; consider culture/specimens and seek advice.
12. Avoid widespread use of topical antibiotics, especially those agents also available as systemic preparations, e.g. fusidic acid.
13. In pregnancy, take specimens to inform treatment. Penicillins, cephalosporins and erythromycin are not associated with increased risks. If possible, avoid tetracyclines, quinolones, aminoglycosides, azithromycin (except in chlamydial infection), clarithromycin, high dose metronidazole (2g stat) unless the benefits outweigh the risks. Short-term use of nitrofurantoin is not expected to cause foetal problems (theoretical risk of neonatal haemolysis). Trimethoprim is unlikely to cause problems unless poor dietary folate intake, or taking another folate antagonist; however, after consultation with local microbiologists, empirical use of trimethoprim in pregnancy is not included in this guidance. See link for further information about use of medicine in pregnancy. Consider referral to TOXBASE clinical toxicology database of the UK National Poisons Information Service for advice on the features and management of poisoning. See link for further information: https://www.toxbase.org/
14. **Safe Quinolones Prescribing**: Do not prescribe quinolones for non-severe or self-limiting infection, or non-bacterial conditions. Prescribers should consider the following MHRA alerts: (Reference: MHRA Jan 2024; MHRA Sept 2023, MHRA Aug 2023, : MHRA Dec 2020, MHRA Nov 2018)
    - When prescribing quinolone, advise patients to be alert to any mood changes, distressing thoughts, or feelings about suicide or harming themselves at any point during treatment.
    - People older than 60 years and for those with renal impairment or solid organ transplants are at a higher risk of tendon injury.
    - Avoid use of a corticosteroid with quinolones since co-administration could exacerbate tendinitis and tendon rupture risk.
    - Quinolones should only be used after careful benefit-risk consideration in patients at risk for aortic aneurysm and dissection, risk or condition predisposing for heart valve regurgitation.

Further information:

Algorithms for diagnosis and management of certain clinical infections (e.g. UTI diagnosis, MRSA screening/suppression etc.):

- https://www.gov.uk/government/collections/primary-care-guidance-diagnosing-and-managing-infections

List of notifiable diseases & causative organisms:

- https://www.gov.uk/guidance/notifiable-diseases-and-causative-organisms-how-to-report

RUH: Eolas Medical GWH: Eolas Medical SFT: Eolas Medical ***Requires sign up to access***

To go to the infection group you require - 'ctrl' click on the link below:

UPPER RESPIRATORY TRACT INFECTIONS [1]

LOWER RESPIRATORY TRACT INFECTIONS

MENINGITIS

URINARY TRACT INFECTIONS

GENITAL TRACT INFECTIONS

GASTRO-INTESTINAL TRACT INFECTIONS

SKIN INFECTIONS

EYE INFECTIONS

DENTAL INFECTIONS

ILLNESS	COMMENTS	DRUG	ADULT DOSE	DURATION OF TREATMENT
UPPER RESPIRATORY TRACT INFECTIONS [1]				
Influenza treatment PHE Influenza NICE Influenza **Influenza prophylaxis:** NICE Influenza	**Annual vaccination is essential for all those "at risk" of influenza.**[1D]Antivirals are not recommended for healthy adults.[1D,2A+] **Treat "at risk" patients** with five days oseltamivir 75mg BD,[1D] when influenza is circulating in the community, and ideally within 48 hours of onset (36 hours for zanamivir treatment in children),[1D,3D] or in a care home where influenza is likely.[1D,2A+] At risk: pregnant (including up to two weeks post-partum); children under six months; adults 65 years or older; chronic respiratory disease (including COPD and asthma); significant cardiovascular disease (not hypertension); severe immunosuppression; diabetes mellitus; chronic neurological, renal or liver disease; morbid obesity (BMI>40).[4D] See the PHE Influenza guidance for the treatment of patients under 13 years of age.[4D] In severe immunosuppression, or oseltamivir resistance, use zanamivir 10mg BD [5A+,6A+] (two inhalations by diskhaler for up to 10 days) and seek advice.[4D]			
Acute sore throat NICE sore throat guidance FeverPAIN	**Use FeverPAIN or Centor score**. • **FeverPAIN score 0-1 or Centor score 0, 1 or 2:** • Do not offer an antibiotic. • **FeverPAIN score 2-3:** Consider no antibiotic or offer a back-up prescription. • **FeverPAIN score 4 or 5 or Centor score 3 or 4:** Consider an immediate antibiotic or a back-up antibiotic prescription. **If the person is systemically very unwell or has symptoms and signs of a more serious illness or condition or has high risk of complications:** Offer an immediate antibiotic prescription. Refer to hospital if the patient has a severe systemic infection, or severe complications. Reassess at any time if symptoms worsen rapidly or significantly taking account of other possible diagnoses, any symptoms or signs suggesting a more serious illness or condition and previous antibiotic use, which may lead to resistance. **Self-care: Paracetamol or ibuprofen, plus fluids.**	Phenoxymethylpenicillin *Penicillin Allergy or intolerance:* Clarithromycin *Pregnant & penicillin allergy:* Erythromycin **Children:** The same antibiotic options as above would be the recommended options for children at BNF-C doses. A decision was made by NHSE **in Feb 2023** to retire the previous interim clinical guidance with reinstatement of the NICE Sore Throat (Acute) NG84 guideline for all age groups. This decision has been endorsed by RCEM, RCPCH, RCGP, and NICE.	500mg QDS OR 1G BD 250mg-500mg BD 250-500mg QDS or 500mg-1000mg BD	5-10 days Five days of phenoxymethylpenicillin may be enough for symptomatic cure, but a 10-day course may increase the chance of microbiological cure 5 days 5 days
Scarlet Fever (GAS) CKS NICE	Prompt treatment with appropriate antibiotics significantly reduces the risk of complications.[1D] Observe immunocompromised individuals (diabetes; women in the puerperal period; chickenpox) as they are at increased risk of developing invasive infection.[1D] Optimise on algesia and give safety netting advice. **Notify:** PHE South-West (Bristol) 0300 3038162 Avon Health Protection Team (Bristol): 0117 9002620 Gloucestershire Health Protection Team: 01453 829650	First-line (mild): analgesia Phenoxymethylpenicillin Penicillin allergy: Clarithromycin	500mg QDS 250-500mg BD	10 days 10 days

ILLNESS	COMMENTS	DRUG	ADULT DOSE	DURATION OF TREATMENT
Acute Otitis Media *(child doses)* NICE otitis media NG91	Acute otitis media lasts about 3 days but can last up to 1 week. **Otorrhoea in any child or young person or under 2 years with infection in both ears:** • Offer regular doses of paracetamol or ibuprofen for pain and consider whether no antibiotic is needed/back-up antibiotic or immediate antibiotic. **Without otorrhoea or under 2 with only 1 ear affected:** • Offer regular doses of paracetamol or ibuprofen for pain. • Consider eardrops containing an anaesthetic and an analgesic for pain, and there is no eardrum perforation. • Consider whether no antibiotic is needed/ back-up antibiotic. **Pregnant:** Erythromycin is preferred choices if penicillin allergy **Advice for patient/carer:** • Seek medical help if symptoms worsen rapidly or significantly, do not start to improve after 3 days or the child or young person becomes very unwell. Reassess at any time if symptoms worsen rapidly or significantly taking account of other possible diagnoses, any symptoms or signs suggesting a more serious illness or condition and previous antibiotic use which may lead to resistance. If the person is systemically very unwell or has symptoms and signs of a more serious illness or condition or has high risk of complications: Offer an immediate antibiotic prescription. Refer to hospital if the patient has a severe systemic infection, or severe complications. **Groups who may be more likely to benefit from antibiotics:** Children and young people with acute otitis media and otorrhoea Children under 2 years with acute otitis media in both ears	**Eardrops containing an anaesthetic and an analgesic:** Otigo® (phenazone/lidocaine hydrochloride) 40 mg/10 mg/g ear drops (Suitable for use in both adults and children) First choice oral antibiotic: Amoxicillin ***Penicillin Allergy or intolerance:*** Clarithromycin *(Erythromycin is an alternative- for doses see BNF-C)* **2nd line option if patient has worsening symptoms on 1st line choice for at least 2-3 days:** Co-amoxiclav *If patient has penicillin allergy, consult local microbiologist for options.*	Apply 4 drops BD or TDS for up to 7 days. Use only if an immediate oral antibiotic is not given, and there is no eardrum perforation or otorrhoea **Child doses** 1 -11 months: 125mg TDS 1-4 years: 250mg TDS 5-17 years: 500mg TDS Under 8kg: 7.5mg/kg BD 8-11kg: 62.5mg BD 12-19kg: 125mg BD 20-29kg: 187.5mg BD 30-40kg: 250mg BD CHILD 12-17 yrs: 250-500mg BD 1 to 11 months: 0.25 ml/kg of 125/31 suspension TDS 1 to 5 years: 5 ml of 125/31 suspension TDS or 0.25 ml/kg of 125/31 suspension TDS 6 to 11 years: 5 ml of 250/62 suspension TDS or 0.15 ml/kg of 250/62 suspension TDS 12 to 17 years: 250/125 mg TDS or 500/125 mg TDS	7 days Reassess treatment therapy if symptoms do not improve within 7 days or worsen rapidly at any time. 5-7 days 5-7 days 5-7 days
Acute Otitis Externa CKS OE	First line: use analgesia for pain relief[1D,2D] and apply localised heat (e.g., a warm flannel).[2D] Second-line: Topical acetic acid or topical antibiotic +/- steroid: similar cure at 7 days.[2D,3A+,4B-] **If cellulitis or disease extending outside ear canal,** start oral flucloxacillin and refer to exclude malignant Otitis Externa [1D]	*Second Line:* Topical acetic acid 2% (Ear Calm) *Self-care OTC* Neomycin sulphate with corticosteroid [2D,5A-] (Betnesol N or Otomize) If cellulitis: Flucloxacillin[6B+]	1 spray TDS[5A-] 3 drops TDS[5A-] 250mg QDS[2D] If severe: 500mg QDS[2D]	7 days 7 days min to 14 days max[1A+] 7 days

ILLNESS	COMMENTS	DRUG	ADULT DOSE	DURATION OF TREATMENT
Acute Rhinosinusitis NICE RTIs NICE Sinusitis (acute)	**Symptoms <10 days:** do not offer antibiotics **Symptoms >10 days with no improvement:** no antibiotic, or back-up antibiotic if likely to be bacterial cause. When using a back-up prescription, advise patients to use prescription if symptoms worsen rapidly or significantly, or do not improve in 7 days. Return to GP if symptoms worsen despite antibiotic. Consider high-dose nasal steroid for 14 days if >12 years (off-label use). **Systemically very unwell, or more serious signs and symptoms or high risk of complications:** immediate antibiotic. **Refer to hospital if complications present:** e.g. severe systemic infection, intraorbital, periorbital or intracranial complications. Reassess at any time if symptoms worsen rapidly or significantly taking account of other possible diagnoses, any symptoms or signs suggesting a more serious illness or condition and previous antibiotic use, which may lead to resistance. **Self-care:** paracetamol/ibuprofen for pain/fever. Nasal decongestants or saline may help some (little evidence) and can be purchased OTC. **Advice:** Sinusitis usually lasts 2-3 weeks.	Phenoxymethylpenicillin **Penicillin allergy or intolerance:** Doxycycline OR Doxycycline is contraindicated in children under 12 years Clarithromycin *(use erythromycin if pregnant)* **2nd line if worsening symptoms on 1st choice taken for at least 2-3 days:** Co-amoxiclav *If patient has a penicillin allergy, contact local microbiologist for advice.* **First choice if systemically very unwell, symptoms and signs of a more serious illness or condition, or at high risk of complications:** Co-amoxiclav **Paediatrics:** **The same antibiotic options as above would be the recommended options for children at BNF-C doses.**	500mg QDS 200mg stat then 100mg OD [6D] 500mg BD [6D] (250mg to 500mg QDS) (500mg/125mg) 625mg TDS (500mg/125mg) 625mg TDS	5 days

ILLNESS	COMMENTS	DRUG	ADULT DOSE	DURATION OF TREATMENT
LOWER RESPIRATORY TRACT INFECTIONS				
Cough (acute) NICE cough (acute) NICE RTIs	Self-care: Some people may wish to try honey (in over 1 years), cough medicines containing the expectorant guaifenesin (in over 12 years) or cough medicines containing cough suppressants (except codeine), (in over 12 years). These self-care treatments have limited evidence for the relief of cough symptoms. Advise the patient upon the following: • the usual course of acute cough (up to 3 or 4 weeks) • managing symptoms with self-care • when to seek medical help, for example if symptoms worsen rapidly or significantly, do not improve after 3 or 4 weeks, or the person becomes systemically very unwell **Acute cough with upper respiratory tract infection**: no antibiotic. **Acute bronchitis**: no routine antibiotic. **Acute cough and higher risk of complications (at face-to-face examination)**: immediate or back-up antibiotic. **Acute cough and systemically very unwell (at face-to-face examination)**: immediate antibiotic. Higher risk of complications includes people with pre-existing comorbidity; young children born prematurely; people over 65 years with 2 or more of, or over 80 years 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. Reassess patients not initially offered antibiotics if symptoms worsen rapidly or significantly, taking account of: • alternative diagnoses such as pneumonia • any symptoms or signs suggesting a more serious illness or condition, such as cardiorespiratory failure or sepsis • previous antibiotic use, which may have led to resistant bacteria	*First-line:* doxycycline *Alternative first choices:* Amoxicillin *or if penicillin allergic:* Clarithromycin OR Erythromycin* *Amoxicillin or erythromycin are preferred in women who are pregnant	200mg stat then 100mg OD 500mg TDS 250-500mg BD 500mg-1000mg QDS **Child doses**	5 days
		Paediatrics: *First-line:* amoxicillin *Alternative first choices:* Clarithromycin OR Erythromycin OR Doxycycline (only if over 12 years)	1 -11 months: 125mg TDS 1-4 years: 250mg TDS 5-17 years: 500mg TDS 1 month to 11 years: Under 8kg: 7.5mg/kg BD 8-11kg: 62.5mg BD 12-19kg: 125mg BD 20-29kg: 187.5mg BD 30-40kg: 250mg BD CHILD 12-17 yrs: 250-500mg BD 1 month to 1 year: 125 mg QDS or 250 mg BD 2 to 7 years: 250 mg QDS or 500 mg BD 8 to 17 years: 250 mg to 500 mg QDS or 500 mg to 1000 mg BD 12 to 17 years: 200 mg on first day, then 100 mg OD	5 days

ILLNESS	COMMENTS	DRUG	ADULT DOSE	DURATION OF TREATMENT
Bronchiectasis (acute exacerbation): **NICE Bronchiectasis (acute exacerbation)**	Send a sputum sample for culture and susceptibility testing. Offer an antibiotic. Consider the severity of symptoms, previous exacerbations, hospitalisations, risk of complications and previous sputum culture and susceptibility results when choosing which antibiotic to use. When sputum culture results are available, review choice of antibiotic and only change the antibiotic if bacteria are resistant and symptoms are not already improving. Tell patient to seek medical help if symptoms worsen rapidly or significantly at any time, or the person becomes systemically unwell. 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 symptoms or signs suggesting a more serious illness or condition e.g. cardiorespiratory failure or sepsis). Seek specialist advice if: • Symptoms do not improve with repeated courses of antibiotics • Bacteria are resistant to oral antibiotics • Patient is unable to take oral antibiotics <u>Prophylaxis</u>: Only start a trial of antibiotic prophylaxis on specialist advice and consider benefits vs harms. Review regularly for continued need. Where a person is receiving antibiotic prophylaxis, treatment should be with an antibiotic from a different class.	**1st choice options for empirical treatment in the absence of susceptibility data (guided by most recent sputum culture and susceptibilities where possible):** Amoxicillin (*preferred choice in pregnancy*) Doxycycline Clarithromycin **Alternative choice (if patient at higher risk of treatment failure; for empirical treatment in the absence of susceptibility data (guided by most recent sputum culture and susceptibilities where possible):** Co-amoxiclav OR seek advice from microbiology or respiratory specialist **<u>Options for children</u>:** Amoxicillin Clarithromycin Doxycycline (over 12s) **Alternative options:** Co-amoxiclav or seek specialist advice (micro/respiratory)	500mg TDS 200mg on 1st day, then 100mg OD 500mg BD 500mg/125mg TDS 1 to 11 months: 125 mg TDS 1 to 4 years: 250 mg TDS 5 to 17 years: 500 mg TDS 1 month to 11 years: Under 8 kg: 7.5 mg/kg BD 8 to 11 kg: 62.5 mg BD 12 to 19 kg: 125 mg BD 20 to 29 kg: 187.5 mg BD 30 to 40 kg: 250 mg BD 12 to 17 years, 250 mg to 500 mg BD 12 to 17 years: 200 mg on first day, then 100 mg OD 1 to 11 months: 0.25 ml/kg of 125/31 suspension TDS 1 to 5 years: 5 ml of 125/31 suspension TDS or 0.25 ml/kg of 125/31 suspension TDS 6 to 11 years: 5 ml of 250/62 suspension TDS or 0.15 ml/kg of 250/62 suspension TDS 12 to 17 years: 250/125 mg TDS or 500/125 mg TDS	7-14 days

ILLNESS	COMMENTS	DRUG	ADULT DOSE	DURATION OF TREATMENT
Acute exacerbation of COPD NICE NG115 Gold COPD NICE COPD (acute exacerbation)	Many exacerbations (including severe) are not caused by bacterial infections so will not respond to antibiotics. If upon assessment no antibiotic is given to the patient, tell patient to seek medical help without delay if symptoms worsen rapidly or significantly, do not improve in an agreed timescale, or the patient is systemically very unwell. If a sputum sample is sent for testing, when results are available, review antibiotic choice and only change antibiotic if bacteria resistant and symptoms not improving. If antibiotics are given to the patient, advise them that symptoms may not be fully resolved by completion of the course of antibiotics. They should seek medical help if symptoms worsen rapidly or significantly, or do not improve within 2-3 days (or another agreed timeframe) or the person becomes systemically very unwell. Reassess at any time if symptoms worsen rapidly or significantly, taking account of other possible diagnoses, such as pneumonia, any symptoms or signs of something more serious, such as cardiorespiratory failure or sepsis and previous antibiotic use, which may lead to resistance. Send sputum culture for testing if symptoms have not improved after antibiotics. Refer to hospital if a severe systemic infection is present or in line with NICE guidance on COPD and sepsis. Seek specialist advice if symptoms do not improve with repeated courses of antibiotics, or bacteria are resistant to oral antibiotics or the patient cannot take oral options.	**First choice empirical treatment or guided by most recent sputum culture and susceptibilities:** Doxycycline OR Amoxicillin OR Clarithromycin **Second choice (no improvement in symptoms on 1st choice taken for at least 2-3 days; guided by susceptibilities when available):** Use alternative 1st choice option from a different class above. **Alternative choice (if patient at higher risk of treatment failure; guided by susceptibilities when available):** Co-trimoxazole* Co-amoxiclav or seek advice from microbiology or respiratory specialist **Send sputum sample and check microbiological cultures if used or if person at higher risk of treatment failure*	200mg stat then 100mg OD 500mg TDS 500mg BD 960mg BD 500mg/125mg TDS	5 days

<table>
<tr><td rowspan="4">Community acquired pneumonia
NICE Pneumonia NG138 2019</td><td colspan="4">During the COVID-19 pandemic, Doxycycline is the 1st choice oral antibiotic for CAP. Doxycycline is preferred because it has a broader spectrum of cover than amoxicillin, particularly against Mycoplasma pneumoniae and Staphylococcus aureus, which are more likely to be secondary bacterial causes of pneumonia during the COVID-19 pandemic. See NICE NG165 rapid review for further information:
NICE guideline NG165 COVID-19 rapid guideline: managing suspected or confirmed pneumonia in adults in the community 3/4/2020</td></tr>
<tr><td rowspan="3">Use CRB65 score to guide mortality risk, place of care & antibiotics[1D].
Each CRB65 parameter scores 1:
Confusion (AMT<8); Respiratory rate >30/min;
BP systolic <90 or diastolic <60; Age >65;
Score of 0: Low risk, consider home-based care;
1-2: intermediate risk, consider hospital assessment; 3-4: for high severity, based on clinical judgement please consider urgent hospital admission[1D]
Always give safety net advice[1D] and likely duration of symptoms, e.g., cough 6 weeks[1D] Mycoplasma infection is rare in over 65s[2A+,3C]</td><td>CRB65=0: amoxicillin[1D,4D]

If penicillin allergic or amoxicillin unsuitable (e.g., atypicals suspected):
clarithromycin[2A+,4D,5A+]

<i>or</i> doxycycline[2A+,4D]
Doxycycline is contraindicated in children under 12 years

or erythromycin (if pregnant)[4]</td><td>500mgTDS[5A+]

500mg BD[5A+]

200mgstat then 100mg OD[6A-]

500mg QDS [4]</td><td rowspan="3">5 days;
review at 3 days;
<i>Stop antibiotic treatment after 5 days unless microbiological results suggest a longer course is needed or the person is not clinically stable.</i></td></tr>
<tr><td>If CRB65=1-2 and at HOME
(Choice guided by micro results when available)
Amoxicillin[1D,4D]
WITH (if atypical pathogens suspected)

clarithromycin[2A+,4D,5A+]
or Erythromycin (in pregnancy)

For penicillin allergy (guided by microbiological results):
Doxycycline alone[4D]

or Clarithromycin alone</td><td>500mgTDS[5A+]

500mg BD[5A+]
500mg QDS[4]

200mgstat then 100mg OD

500mg BD</td></tr>
<tr><td>If CRB65=3-4 or consider urgent hospital admission based on clinical judgement and guided by microbiological results when available:
Co-amoxiclav[4] AND Clarithromycin

or Erythromycin (if pregnant)</td><td>

500/125mg TDS and
500mg BD

500mg QDS[4]</td></tr>
</table>

Community acquired pneumonia – Children and young people over 1 month and under 18 years NICE Pneumonia NG1382019	Reassess children with community-acquired pneumonia if symptoms or signs do not improve as expected or worsen rapidly or significantly. Be aware of possible non-bacterial causes, such as flu. Send a sample (for example, a sputum sample) for microbiological testing if symptoms or signs have not improved following antibiotic treatment, and this has not been done already. Consider referring children and young people with community-acquired pneumonia to hospital or seek specialist paediatric advice on further investigation and management.	**1st line oral antibiotic if <u>non-severe symptoms</u> or signs** Amoxicillin	**1 to 11 months,** 125mg TDS **1 to 4 years,** 250mg TDS **5 to 17 years,** 500mg TDS (Higher dose can be used for all ages – see BNFc)	5 days
		Alternative oral antibiotics if non-severe symptoms or signs, for penicillin allergy or if amoxicillin unsuitable (for example, atypical pathogens suspected) Clarithromycin	**1month to 11 years,** Under 8 kg: 7.5mg/kg BD 8 to 11 kg: 62.5 mg BD 12 to 19 kg: 125 mg BD 20 to 29 kg: 187.5 mg BD 30 to 40 kg: 250 mg BD 12 to 17 years: 250 mg to 500 mg BD	
		OR Erythromycin	**8 to 17 years,** 250mgto 500mg QDS	
		OR Doxycycline	**12 to 17 years:** 200mg STAT, then 100mg OD for another 4 days	
		1st line choice if <u>severe symptoms</u> or signs; guided by microbiological results when available Co-amoxiclav	**1 to 11 months,** 0.5 ml/kg of 125/31 suspension TDS **1 to 5 years,** 10 ml of 125/31 suspension TDS or 0.5 ml/kg of 125/31 suspension TDS **6 to 11 years,** 10 ml of 250/62 suspension TDS or 0.3 ml/kg of 250/62 suspension TDS **12 to 17 years,** 500/125 mg TDS	5 days
		AND one of the following if atypical pathogen suspected Clarithromycin	Oral dose, see above, for clarithromycin.	
		OR Erythromycin	See oral doses for erythromycin.	

URINARY TRACT INFECTIONS

Note: As antibacterial resistance and *E. coli* bacteraemia is increasing, use nitrofurantoin first line,[1D] ALWAYS give safety net & self-care advice, & consider risks for resistance.[2D] Give TARGET UTI leaflet[3D] & refer to PHE UTI guidance for diagnostic information.[1D]

Always check previous urine cultures and susceptibility results, and previous antibiotic prescribing when choosing antibiotics.

Please ensure that along with the information that is sent to the microbiology laboratory, you provide information about the clinical symptoms & signs of the patient which may help the staff to interpret an unexpected or complex culture result. **Dipstick results on their own are not useful.**

People > 65 years: do not treat asymptomatic bacteriuria; it is common but is not associated with increased morbidity [1B+] Do not use a dipstick to diagnose a UTI due to frequent asymptomatic bacteriuria.

Catheter in situ: antibiotics will not eradicate asymptomatic bacteriuria.[1D, 2D,3A-] Only treat if systemically unwell or pyelonephritis likely[2D] Do not use prophylactic antibiotics for catheter changes unless history of catheter-change-associated UTI or trauma[4D,5A+] Take sample if new onset delirium, or one or more symptoms of UTI.[3A-,6B-,7D] ***Pivmecillinam:** SFT & GWH do not currently routinely test pivmecillinam but will do so if the urine sample request form states that pivmecillinam is to be prescribed.

UTI in adults: Lower (no fever or flank pain) PHE URINE SIGN TARGET UTI RCGP UTI clinical module SAPG UTI NICE UTI (lower)	Nitrofurantoin may be used with caution if eGFR 30-44ml/min, if potential benefit outweighs risk. If urine sent for culture & susceptibility, & antibiotic given, review antibiotic choice when results available & change antibiotic for pregnant women if bacteria resistant. Change antibiotic for children & young people, men & non-pregnant women if bacteria resistant &symptoms not improving. For pregnant women, men or children under 16 years, send MSU or use dipstick as per guidance. Offer Immediate antibiotic. Patients should be told to seek medical help if symptoms worsen at any time, do not improve within 48hrs of taking the antibiotic or the person becomes very unwell. If patient is given a back-up antibiotic prescription, they should be told to take the antibiotic if there is no improvement in 48hrs or symptoms worsen at any time. Reassess at any time if symptoms worsen rapidly or significantly or do not improve in 48hrs with antibiotics. Take account of other possible diagnoses, any symptoms or signs suggesting a more serious illness or condition and previous antibiotic use, which may lead to resistance. Refer to hospital if a person aged 16 or over has any Symptoms or signs suggesting a more serious illness or condition (e.g. sepsis). Refer children & young people to hospital in line with NICE guidance on UTI in under 16s.	**1st line:** nitrofurantoin[15A-] *If low risk of resistance:*[16B+] trimethoprim[17D,18A+] **If 1st line unsuitable & GFR <45ml/min:**[4A+] Pivmecillinam*[19B+, 20D, 21A+] (Do NOT use if penicillin allergic) *If organism susceptible:* amoxicillin[22A+,23A+] *If high risk of resistance or penicillin allergy:* Fosfomycin[16B+,24A+,25B-,26B-]	100mg m/r BD[27A] (or if unavailable 50mg Nitrofurantoin QDS) 200mg BD[23A+] 400mg STAT then 200mg TDS[29B+, 30B+] 500mg TDS[23A+] Women: 3g STAT dose Men: 3g STAT dose, 2nd 3g dose 3 days later (unlicensed)[26B-]	Women: 3 days[23A+,31B-,32B-,33B+,34B+,35A-,36A+] Men: 7 days[37B+,38A-]
		Low risk of resistance: younger women with acute UTI and no risk factors.[31B-,38C] **Risk factors for increased resistance include:** care home resident,[13A-,14B-] recurrent UTI (2 in 6 months; ≥3 in 12 months), hospitalisation >7d in the last 6 months, unresolving urinary symptoms, recent travel to a country with increased resistance, previous known UTI resistant to trimethoprim, cephalosporins or quinolones.[39C,40B+,41D] **If risk of increased resistance:** send urine for culture & susceptibilities, & give safety net advice.[26B-] N.B. *SFT & GWH do not currently routinely test pivmecillinam but will do so if the urine sample request formstates that pivmecillinam is to be prescribed.*		
UTI in pregnancy PHE UTI SIGN UTI	Send MSU for culture;[1D] start antibiotics in all with significant bacteriuria, even if asymptomatic.[1D] Short-term use of nitrofurantoin in pregnancy is unlikely to cause problems to the foetus[2C, 3C]	*First line:* nitrofurantoin[2A-,3D,7A+] (avoid at term) if susceptible, amoxicillin *Second line:* cefalexin [4D,8D]	100mg m/r BD[2A-,9C] (or if unavailable 50mg Nitrofurantoin QDS) 500mg TDS 500mg BD[9C]	All for 7 days[7C]

UTI in children NICE NG224 NICE NG109	**Child <3 mths**: refer urgently for assessment and treat with parenteral antibiotics as per NICE guidance on fever in under 5s. **Child ≥ 3 mths**: Dipstick urine testing of babies, children and young people who have symptoms and signs that increase the likelihood that a urinary tract infection (UTI) is present. Use positive nitrite to guide antibiotic use. Send MSU urine samples for culture if a baby or child: - Is thought to have acute upper UTI - Under 3 months old - Positive result for leukocyte or nitrite dipstick - Has recurrent UTI - Has clinical symptoms and signs but dipstick result does not correlate - Infection that does not respond to treatment within 24-48 hours - High to intermediate risk of serious illness as per NICE guidance on fever under 5. Take urine samples from children and young people before they are given antibiotics (if indicated), treatment should not be delayed if a urine sample cannot be obtained. **Imaging:** refer if child <6 months, or recurrent or atypical UTI.[1D] For children with upper UTI/acute pyelonephritis admit or consider referral as the child may need IV antibiotics.	***Lower UTI:*** ***First line:*** Trimethoprim *(if low risk of resistance)* OR Nitrofurantoin (if eGFR ≥45ml/minute) **N.B. Liquid is very high cost** **Second line** *(worsening lower UTI symptoms on 1st line option taken for at least 48hrs or 1st line is not suitable):* Cefalexin *If susceptible, amoxicillin[1A] can also be used* Amoxicillin	**CHILD DOSES:** 3-5 months: 25mg BD 6 months- 5 yrs: 50mg BD 6-11 years: 100mg BD 12-15 years: 200mg BD 3 months-11 years: 750mcg/kg QDS 12-15 years: 50mg QDS or 100mg MR BD 3-11 months: 125mg BD 1-4 years: 125mg TDS 5-11 years: 250mg TDS 12-15 years: 500mg BD 1-11months:125mg TDS 1-4years:250mg TDS 5-15years:500mg TDS	*Lower UTI* 3 days
Acute prostatitis BASHH NICE prostatitis (acute)	Send MSU for culture and start antibiotics. Review choice once results available. *The EMA's Pharmacovigilance Risk Assessment Committee has recommended restricting fluoroquinolones following a review of disabling & potentially long-lasting side-effects but they are appropriate to use in acute prostatitis. Reassess at any time if symptoms worsen rapidly or significantly taking account of other possible diagnoses, any symptoms or signs suggesting a more serious illness or condition such as acute urinary retention, prostatic abscess or sepsis and previous antibiotic use, which may lead to resistance. Refer to hospital if there are any signs or symptoms of a more serious condition, such as acute urinary retention, prostatic abscess or sepsis or if symptoms are not improving after 48hrs of antibiotics. Self-care: paracetamol/ibuprofen for pain and fluids.	Ciprofloxacin* *or* Ofloxacin* ***For people who are unable to take a fluoroquinolone:*** Trimethoprim For second line choices discuss with a specialist (See principles of treatment table for Safe Quinolones Prescribing reminders)	500mg BD 200mg BD 200mg BD	**All for 14 days** *Review after 14 days & stop or continue for a further 14 days if needed (based on history, symptoms, clinical examination, urine & blood tests)*

Acute pyelonephritis CKS (2013) NICE Pyelonephritis (acute)	If admission not needed, send MSU for culture & susceptibility testing and start antibiotics. Patient advice: Seek medical help if symptoms worsen at any time or do not start to improve within 48hrs of taking the antibiotic, or the person becomes systemically very unwell. Reassess at any time if symptoms worsen rapidly or significantly taking account of other possible diagnoses, any symptoms or signs suggesting a more serious illness or condition such as sepsis and previous antibiotic use, which may lead to resistance. Refer to hospital if there are any signs or symptoms of a more serious condition, especially if they are significantly dehydrated or unable to take oral fluids & medicines, if they are pregnant or have a higher risk of complications. Self-care: paracetamol/ibuprofen for pain and fluids. **<u>Paediatrics</u>** **<u>Children under 3 months of age</u>:** REFER children under 3 months to paediatric specialist & treat with IV antibiotics in line with the NICE guideline on fever in under 5s. **Clinical differentiation between acute pyelonephritis/upper urinary tract infection and cystitis/lower urinary tract infection (NICE CG54):** Infants and children who have bacteriuria and fever of 38°C or higher should be considered to have acute pyelonephritis/upper urinary tract infection. Infants and children presenting with fever lower than 38°C with loin pain/tenderness and bacteriuria should also be considered to have acute pyelonephritis/upper urinary tract infection. All other infants and children who have bacteriuria but no systemic symptoms or signs should be considered to have cystitis/lower urinary tract infection. [2007]	Cefalexin *(1st choice in pregnancy as well)* *if culture results available & susceptible:* Co-amoxiclav or Trimethoprim Ciprofloxacin (See principles of treatment table for Safe Quinolones Prescribing reminders) *If 1st line option cefalexin cannot be used in a pregnant patient, discuss alternative options with a microbiologist.* **<u>Paediatrics (over 3 months)</u>:** Cefalexin Co-amoxiclav (only if culture results available & susceptible)	500mg BD-TDS (up to 1-1.5g TDS-QDS for severe infections) (500/125mg) 625mg TDS 200mg BD 500mg BD **3-11 months:** 12.5mg/kg or 125mg BD **1-4 years:** 125mgTDS **5-11 years**: 250mgTDS **12-17 years**: 500mg BD-TDS *Up to 1-1.5g TDS-QDS can be used for severe infections.* **3-11 months:** 0.25ml/kg of 125/31 suspension TDS* **1-5 years**: 5ml of 125/31 suspensionTDS* **6-11years**: 5ml of 250/62 suspensionTDS* **12-15 years**: 250/125 mg or 500/125 mg TDS ***Dose may be doubled in severe infection***	7-10 days 7-10 days 14 days 7 days 7-10 days 7-10 days

Recurrent UTI TARGET UTI NICE UTI (recurrent)	**Recurrent urinary tract infection (UTI) in adults is defined as: repeated UTI with a frequency of 2 or more UTIs in the last 6 months or 3 or more UTIs in the last 12 months (European Association of Urology [EAU] guidelines on urological infections [2017]).** **Treating Current UTI** Any current episode of UTI (including acute UTI) should be treated before offering preventative treatment. **Self-care:** Advise simple measures including hydration & ibuprofen for symptom relief as well as behavioural & personal hygiene measures. **Recurrent UTI in women, or trans men or non-binary people with a female urinary system who are not pregnant:** **1st line consider vaginal oestrogen,** if experiencing perimenopause or menopause, or have already experienced menopause where behavioural or personal hygiene measures are not effective. **Review use of vaginal oestrogen at 12 months** **2nd line consider a trial of single dose antibiotic,** to be used when exposed to an identifiable trigger (for example sexual intercourse) **Review use of single-dose antibiotics management plan at 6 months.** **3rd line consider methenamine Hippurate** as an initial alternative to avoid use of daily antibiotics if 1st and 2nd line treatment are not effective or appropriate. **Review use of methenamine hipppurate within 6 months, and then every 12 months.** Methenamine hippurate works best in acidic urine and is ineffective for upper UTIs. Avoid in hepatic impairment or in renal impairment where eGFR less than 10 mL/minute/1.73 m2 **4th line consider a trial of daily antibiotics** if there has been no improvement after measures above **Review daily antibiotics prophylaxis regimen at least every 6 months, and:** - Assess the success of prophylaxis - Discuss continuing, stopping or changing prophylaxis (taking into account the risk of antimicrobial resistance) Be aware short-term & long-term use of nitrofurantoin is associated with adverse hepatic and pulmonary events. See MHRA guidance. **Refer or seek specialist advice for anyone with:** • recurrent UTI of unknown cause • recurrent UTI and suspected cancer • recurrent upper UTI • recurrent lower UTI in: men, anyone who has had gender reassignment surgery that altered the structure of the urethra, those who are aged 16 and over, pregnant women, and pregnant trans men and non-binary people, children and young people.	**Antiseptic prophylaxis** Methenamine Hippurate **Antibiotic prophylaxis:** **Choose according to recent culture and susceptibility results where possible, select a different antibiotic for prophylaxis if treating an acute UTI:** **1st choice of antibiotics:** Nitrofurantoin (if eGFR≥45ml/min. May produce neonatal haemolysis, avoid at term in pregnancy) *OR* Trimethoprim (Teratogenic risk in 1st trimester of pregnancy) **2nd choice of antibiotics:** Amoxicillin (off-label) OR Cefalexin	**Dosage*** 1000mg BD 100mg STAT when exposed to trigger or 50-100mg ON 200mg STAT when exposed to trigger or 100mg ON 500mg STAT when exposed to trigger or 250mg ON 500mg STAT when exposed to trigger or 125mg ON ***See BNFc for antibiotic dosage for children and young people under 16 years.** **Children under 3 months should be referred to a paediatric specialist.**	**Duration** **Treatment with methenamine should be reviewed at 6 months, then 12 monthly.** **Use STAT dose regimen upon exposure to trigger** **Trial of daily antibiotics prophylaxis should be reviewed every 6 months, assessing prophylaxis success. Remind about self-care. Decide whether to continue, stop or change antibiotic prophylaxis.**

UTI (catheter associated) NICE (catheter) **Catheter in situ: antibiotics will not eradicate asymptomatic-bacteriuria.** **Only treat if systemically unwell or pyelonephriti -s likely**. Do not use prophylactic antibiotics for catheter changes unless history of catheter-change-associated UTI or trauma. Take sample if new onset delirium, or one or more symptoms of UTI.	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. Send a urine sample for culture & susceptibility testing. When results are available review choice of antibiotic. Self care: Advise paracetamol for pain and fluids to avoid dehydration. Advise patient to seek medical help if symptoms worsen at any time or do not start to improve within 48hrs, or the person become systemically very unwell. Reassess at any time if symptoms worsen rapidly or significantly taking account of other possible diagnoses, any symptoms or signs suggesting a more serious illness or condition such as sepsis and previous antibiotic use, which may lead to resistance. Refer to hospital if there are any signs or symptoms of a more serious condition, especially if they are significantly dehydrated or unable to take oral fluids & medicines, if they are pregnant, have a higher risk of complications, have a recurrent catheter-associated UTI or have bacteria resistant to oral antibiotics. **Do not routinely offer antibiotic prophylaxis to people with short-term or long-term catheters.** For children under the age of 3 months, refer to paediatric specialist and treat with IV antibiotics in line with NICE guideline on fever in under 5s. *The EMA's Pharmacovigilance Risk Assessment Committee has recommended restricting fluoroquinolones following a review of disabling & potentially long-lasting side-effects.	**1st line (no upper UTI symptoms):** Nitrofurantoin *(if eGFR >45ml/min)* Trimethoprim (if low risk of resistance) Amoxicillin (if culture results available & susceptible) **2nd line (no upper UTI symptoms & 1st line not suitable):** Pivmecillinam (Do NOT use if penicillin allergic) **1st line: UPPER UTI symptoms:** Cefalexin *(1st line in pregnancy as well)* **If culture results available & susceptible:** Co-amoxiclav Trimethoprim OR Ciprofloxacin* (See principles of treatment table for Safe Quinolones Prescribing reminders) **PAEDIATRIC OPTIONS** (over 3 months of age): Trimethoprim (if low risk of resistance) Amoxicillin (if culture results available & susceptible) Cefalexin Co-amoxiclav (If culture results available & susceptible) ***Double doses if severe infection**	100mg M/R BD (or if unavailable 50mg Nitrofurantoin QDS) 200mg BD 500mg TDS 400mg STAT then 200mg TDS 500mg BD-TDS (up to 1-1.5g TDS or QDS for severe infections) 500/125mg TDS 200mg BD 500mg BD **CHILD DOSES:** 3-5 months: 25mg BD 6 months-5 yrs: 50mg BD 6-11 years: 100mg BD 12-15 years: 200mg BD 3-11 months: 125mg TDS 1-4 years: 250mg TDS 5-15 years: 500mg TDS 3-11 months: 125mg BD 1-4 years: 125mg TDS 5-11 years: 250mg TDS 12-15 years: 500mg BD 3-11 months: 0.25ml/kg of 125/31 suspension TDS* 1-5 years: 0.25ml/kg of 125/31 suspension TDS or 5ml of 125/31 suspension TDS* 6-11 years: 0.15ml/kg of 250/62 suspension TDS or 5ml of 250/62 suspension TDS* 12-15 years: 250/125mg or 500/125mg TDS	7 days 7-10 days 14 days 7 days 7-10 days

MENINGITIS

Suspected meningococcal disease NICE Meningitis PHE Meningo	**Transfer all patients to hospital immediately.**[1D] If time before hospital admission,[2D,3A+] if suspected meningococcal septicaemia or non-blanching rash,[2D,4D] give IV benzylpenicillin[1D,2D,4D] unless definite history of anaphylaxis;[1D] rash is not a contra-indication.[1D]	IV or IM benzylpenicillin[1D,2D]	Age 10+ years: 1200mg[5D] Children 1 - 9 yr: 600mg[5D] Children <1 yr: 300mg[5D]	STAT dose[1D] (Give IM if vein cannot be accessed)[1D]
Prevention of secondary case of meningitis: Only prescribe following advice from PHE Health Protection team (Bristol): ☎0300 3038162 Expert advice is available for managing clusters of meningitis. Please alert the appropriate organisation to any cluster situation. Public Health England, Colindale(☎:0208200 4400)				

GASTRO-INTESTINAL TRACT INFECTIONS

Acute Diverticulitis **NICE NG147 2019**	Considering offering antibiotics if the patient is systemically unwell but does not meet the criteria for complicated acute diverticulitis referral. Offer antibiotics if the patient is systemically, immunosuppressed or has significant comorbidity. For people with acute diverticulitis who are systemically well, consider a no antibiotic prescribing strategy, offer simple analgesia, for example paracetamol, as needed if the person has ongoing abdominal pain. Advise patient to re-present if symptoms persist or worsen. Do not offer antibiotics to prevent recurrent acute diverticulitis. Ciprofloxacin is only recommended if advised to prescribe by a specialist, most likely when switching from IV ciprofloxacin in secondary care.	1st choice Co-amoxiclav If penicillin allergy or co-amoxiclav unsuitable; offer one of the following combinations. Cefalexin **AND** Metronidazole Trimethoprim **AND** Metronidazole	500/125mg TDS 500mg BD or TDS (up to 1-1.5g TDS or QDS if severe infection) 400mg TDS 200mg BD 400mg TDS	5 days course A longer course may be needed based on clinical assessment, up to 14 days in people with CT confirmed diverticular abscess
Oral candidiasis **CKS (2013)**	Topical azoles are more effective than topical nystatin.[1A+] Oral candidiasis is rare in immunocompetent adults;[2D] consider undiagnosed risk factors including HIV.[2D] Use 50mg fluconazole if extensive/severe candidiasis;[3D,4D] if HIV or immunocompromised use 100mg.[3D,4D] *See BNF for children's doses.*	Miconazole oral gel[1A+,4D,5A-] *If not tolerated:* nystatin suspension[2D,6D,7A-] Oral fluconazole	2.5ml QDS (hold in mouth after food)[4D] 1ml of 100,000 units/ml QDS[2D,4D,7A-] 50mg OD or 100mg OD[3D,6D,8A-]	7 days;[4D,6D] and continue further 7 days after symptoms resolve 7 days and continue further 2 days after symptoms resolve 7-14 days[-]
Eradication Of Helicobacter pylori NICE CG184 PHE *H. pylori*	Offer eradication treatment for people who tested positive for Helicobacter pylori. Take into account previous exposure to clarithromycin or metronidazole use. **Penicillin allergy**: use PPI plus clarithromycin & MTZ. If previous exposure to clarithromycin, consider use PPI plus bismuth & metronidazole & tetracycline. Retest for H. pylori post DUGU or relapse after second line therapy. Using breath or stool test, consider referral for endoscopy & culture.	**First line treatment:** A Proton Pump Inhibitor (PPI) **AND** Amoxicillin **AND** Clarithromycin **OR** Metronidazole ***For Penicillin allergy:*** A PPI **AND** Clarithromycin **AND** Metronidazole ***For Penicillin allergy & previous exposure to clarithromycin:*** A PPI ***AND*** Bismuth subsalicylate **AND** Metronidazole **AND** Tetracycline	 1g BD 500mg BD 400mg BD 500mg BD 400mg BD 525mg QDS 400mg BD 500mg QDS	 7days

Clostridium difficile infection (CDI) PHE NICE NG199	For Suspected or confirmed C. *difficile* infection, see Public Health England's guidance on diagnosis & reporting. Assess: -Whether it is a first or further episode CDI -Severity of infection - Individual factors such as age, frailty or comorbidities, which may affect the risk of complication or recurrence Prescribing consideration: - Review existing antibiotics and stop unless essential - Review the need of PPI or other medicines with GI activity i.e. laxatives - Stop and do NOT offer antimotility medicines such as loperamide - Review risk of dehydration and review medicines that may cause problems if pt is dehydrated such as NSAID Consider seeking prompt specialist advice before starting treatment. If oral medicines cannot be taken, seek specialist advice about other enteral routes for antibiotics. *Ensure a Clostridium *difficile* infection A3Ay2diagnosis code is recorded, particularly when a person transfers from one care setting to another. Advice: Ensure adequate fluids intake to avoid dehydration, preventing spread of infection and seeking medical help if symptoms worsen rapidly or significantly at any time. Do not advise people taking antibiotics to take prebiotics or probiotics to prevent C. *difficile* infection. If antibiotics have been started for suspected C. difficile and subsequent stool sample test do not confirm CDI, consider stopping these antibiotics. Retesting: If original sample tested *C. difficile* toxin negative. Consider repeating after 24 hours if diarrhoea persists and is suggestive of *C. difficile* infection (green and smell). If original sample test is positive, retesting is not required if the symptoms abate.	**Mild**: Normal WCC, typically associated with fewer than 3 episodes of loose stools per day **Moderate**: Raised WCC but <15x10^9/L, typically associated with 3-5 loose stools per day. **First line treatment for 1st episode of mild to moderate C. *difficile* infection** Consider seeking prompt specialist advice before starting treatment Vancomycin **Second line treatment if vancomycin is ineffective:** Fidaxomicin (For the treatment of C. difficile on microbiologist advice only) *Use clinical judgement to determine whether antibiotic treatment for C. *difficile* is ineffective. It is not usually possible to determine this until day 7 because diarrhoea may take 1 to 2 weeks to resolve. **Severe**: Raised WCC > 15x10^9/L or an acutely increased serum creatinine (greater than 50% increase above baseline) or temperature > 38.5°C or evidence of severe colitis. Number of stools may be a less reliable indicator of severity. **Life-threatening infection**: symptoms of hypotension, partial or complete ileus, toxic megacolon or CT evidence of severe disease. **Further episode of C. difficile infection** **Relapse** (within 12 weeks of initial symptom resolution) 1st line Fidaxomicin **Recurrence** (more than 12 weeks after initial symptoms resolution) Vancomycin **OR** Fidaxomicin	125mg orally QDS 200mg orally BD Seeking prompt specialist advice for suspected C. *difficile* management plan, consider hospital referral. 200mg orally BD 125mg orally QDS 200mg orally BD	10 days 10 days
Travellers diarrhoea CKS	Only consider standby antibiotics for people at high-risk of severe illness[2D] or visiting remote/high risk areas.[1D,2D] If standby treatment appropriate give: azithromycin[1D,3A+] 500mg once a day for 1-3 days (private Rx).[1D,2D, 3A+] If prophylaxis/treatment required consider bismuth subsalicylate[1D,4A-] (Pepto Bismol®) 2 tablets QDS[1D,2D] as prophylaxis[2B+] or for 2 days treatment[1D,2D,4A+]			

Infectious diarrhoea Gov BNF	Check travel, food, hospitalisation and antibiotic history. Fluid replacement is essential. Refer previously healthy children with acute painful or bloody diarrhoea to exclude *E. coli* 0157 infection. **Antibiotic therapy usually not indicated unless systemically unwell.** If systemically unwell and campylobacter suspected (e.g. undercooked meat and abdominal pain), consider clarithromycin 250-500mg BD for 5-7 days, if treated early (within 3 days). If giardia is confirmed or suspected, Metronidazole 2g once daily for 3 days is the antigiardial treatment choice. Please discuss treatment options with a microbiologist and notify PHE Health Protection team. PHE South-West (Bristol) 0300 303 8162			
Threadworm CKS EMC	Treat all household contacts at the same time[1D] PLUS advise hygiene measures for 2 weeks[1D] (hand hygiene,[2D] pants at night, morning shower (include perianal area)[1D,2D] PLUS wash sleepwear, bed linen, dust, and vacuum on day one[1D] Child <6 months add perianal wet wiping or washes 3 hourly during the day.[1D]	>6 months of age: mebendazole (as per BNF-C) **NOTE:** *Prescribers should be aware that mebendazole products are not licensed for use in children under the age of 2. This is because it has not been extensively studied below this age. However, the BNF-C does support its use in children over 6 months of age.* < 6mths of age or pregnant or breastfeeding: 6 wks hygiene measures alone[1D]	100mg stat[3B-]	Stat,[3B-] but repeat in 2 weeks if infestation persists.[3B-]

GENITAL TRACT INFECTIONS

STI screening	People with risk factors should be screened for chlamydia, gonorrhoea, HIV, syphilis.[1D] **Refer individual and partners to GUM service for treatment.**[1D] **Risk factors:** <25yr, no condom use, recent (<12mth)/frequent change of partner, symptomatic partner, area of high HIV.[2B-]			
Chlamydia trachomatis / urethritis BASHH (sept 18) PHE, BASHH statement on use of azithro in pregnancy	Opportunistically screen all aged 15-24 years[1B-] Treat partners and refer to GUM service[2D,3A+] If chlamydia, test for reinfection at 3 to 6 months following treatment if under 25 years; or consider if over 25 years and high risk of re-infection. Advise patient with chlamydia to abstain from sexual intercourse until doxycycline is completed or for 7 days after treatment with azithromycin. (or 14 days after azithromycin started and until symptoms resolved if urethritis). **Pregnancy/breastfeeding**: Azithromycin is the most effective option.[5A+,6D,7A+,8A+,9D] Due to lower cure rate in pregnancy, test for cure no earlier than 3 weeks after end of treatment[3A+,1B-]	1st line Doxycycline 2nd line Azithromycin *Pregnant or breastfeeding:* Azithromycin[3A+,7A+,8A+,9D] *or* erythromycin[3A+,6D,7A+,8A+] *or* amoxicillin[6D,7A+,8A+]	100mg BD 1g STAT then 500mg OD for 2 days 1g (off-label use) STAT then 500mg once daily for 2 days 500mg QDS OR 500mg BD 500mg TDS	7 days (total 3 days) 7 days 14 days 7 days
Epididymo-orchitis CKS BASH	If symptoms are severe, person is systemically unwell, or there is suspected serious complication, arrange emergency hospital admission. If hospital admission is not needed, identify the most likely causative organism: If an STI such as chlamydia or gonorrhoea is most likely causes, advise urgent referral to local GUM clinic. Most probably due to an enteric pathogen: - Older age over 35 years - Low risk sexual history - Previous urological procedure or UTI - No urethral discharge - Positive urine dipstick for leucocytes and nitrites - Men with known abnormalities of urinary tract - Men who engage in insertive anal intercourse If an enteric organism is most likely cause, ensure a urine dipstick and MSU sample for microscopy and culture.	*If an STI is most likely cause:* *Refer to local GUM clinic.* *If enteric organism infection is most likely:* Ofloxacin If quinolone antibiotic is contraindicated: Co-amoxiclav If there is any uncertainty about management in primary care, seek urgent specialist advice. See principles of treatment table for Safe Quinolones Prescribing reminders.	200mg BD 500/125mg TDS	14 days 10 days

Vaginal Candidiasis BASHH PHE,CKS	All topical and oral azoles give over 80% cure **In pregnancy:** avoid oral azoles[1A+,3D] and use intravaginal treatment for 7 days[4A+] **Recurrent (>4 episodes/yr):**[5D] 150mg oral fluconazole every 72hrs for 3 doses induction,[1A+] followed by 1 dose once a week for 6 months maintenance.[1A+,5D]	Clotrimazole [1A+,5D] miconazole[1A+] *or* oral fluconazole[1A+,3D] Recurrent: fluconazole (induction/maintenance)[1A+]	500mg pessary[1A+] or 10% cream[1A+] 2% vaginal cream 150mg orally[1A+,3D] 150mg every 72hrs THEN 150mg once a week	Stat[1A+] Stat[1A+] Stat[1A+,3D] Stat 3 doses[1A+] 6 months
Bacterial Vaginosis BASHH PHE	Oral metronidazole (MTZ) is as effective as topical treatment[1A+] but is cheaper.[2D] Less relapse with 7 days than 2g stat at 4 wks [1A+,2D] **Pregnant/breastfeeding**: avoid 2g stat [3A+,4D] Treating partners does not reduce relapse[5A+]	Oral metronidazole[1A+,3A+] *OR* metronidazole 0.75% vaginal gel[1A+,2D,3A+] OR clindamycin 2% cream [1A+,2D]	400mg BD *or* 2g stat 5g applicator at night 5g applicator at night	7 days Stat 5 nights 7 nights
Trichomoniasis BASHH PHE	Oral treatment needed as extra vaginal infection common.[1D] Treat partners[1D] and refer to GUM service[1D] **In pregnancy or breastfeeding:** avoid 2g single dose MTZ.[2A+,3D] Consider clotrimazole for symptom relief (not cure) if MTZ declined[2A+,4A-,5D]	Metronidazole[1A+,2A+,3D,6A+] Pregnancy for symptoms: Clotrimazole[2A+,4A+,5D]	400mg BD[1A+,6A+] or 2g stat[6A+] (more adverse effects) 100mg pessary at night[5D]	5-7 days [1A+] Stat [1A+,6A+] 6 nights[5D]
Gonorrhoea PHE NICE	Antibiotic resistance is now very high. Use IM ceftriaxone if susceptibility not known prior to treatment. (Ceftriaxone is available in certain community pharmacies, see Emergency Access to Medicines Scheme for more information) Use Ciprofloxacin ONLY if susceptibility is known prior to treatment and the isolate is sensitive to ciprofloxacin at all sites of infection. Refer to GUM. Test of cure is essential.	Ceftriaxone **OR** Ciprofloxacin (only if known to be sensitive) (See principles of treatment table for Safe Quinolones Prescribing reminders)	1000mg IM 500mg	STAT STAT
Pelvic Inflammatory Disease NICE CKS BASHH2019 update	If a woman has a suspected diagnosis of PID, Arrange urgent hospital admission if: - The woman is pregnant or ectopic pregnancy is suspected. - Severe systemic symptoms and/or an adnexal mass suggesting a possible complication. Consider seeking advice from specialist if: - A woman has HIV, liaise with her infectious specialist as needed. - A woman has intrauterine contraceptive and actinomyces-like organisms detected. - Suspected complication i.e., perihepatitis Refer woman and sexual contacts to GUM service for STI screening, treatment and contact racing. If the woman is unable or unwilling to attend, consider prescribing antibiotics in primary care. Always culture for gonorrhoea and chlamydia if gonorrhoea likely (partner has it, severe symptoms, sex abroad).	If the risk of gonococcal infection is **high:** Ceftriaxone IM PLUS Doxycycline PLUS Metronidazole If the risk of gonococcal infection is **low**, the following regimens options can also be considered, taking into account of any contraindications, drug availability: Ofloxacin PLUS Metronidazole (See principles of treatment table for Safe Quinolones Prescribing reminders)	 1000mg STAT 100mg BD 400mg BD 400mg BD 400mg BD	 14 days 14 days

SKIN INFECTIONS See RCGP skin infections online training.[1D] For MRSA, discuss therapy with microbiologist[1D]				
Impetigo **NICENG153**	For extensive, severe, or bullous impetigo, use oral antibiotics [3D] Reserve topical antibiotics for very localised lesions to reduce the risk of resistance[1D,2B+] If MRSA suspected or confirmed – consult local microbiologist Reserve mupirocin for MRSA[1D,3D,4A+] **Combination treatment** Do not offer combination treatment with a topical and oral antibiotic to treat impetigo. **Microbiological Testing** If an oral antibiotic is unsuccessful consider sending a skin swab for microbiological testing. If a skin swab has been sent for microbiological testing, review and change antibiotic according to results if symptoms are not improving, using narrow-spectrum antibiotic if possible. For impetigo that recurs frequently: • send a skin swab for microbiological testing **and** • consider taking a nasal swab and starting treatment for decolonisation	**Topical treatment** 1st line for localised non-bullous impetigo*:* Topical Hydrogen peroxide 1% cream (Crystacide®) if unsuitable or ineffective Topical fusidic acid 2% [2D,3B+,4A+] ***MRSA:*** *topical* mupirocin 2% ointment[4A+] **Oral treatment** Flucloxacillin *If penicillin allergic:* oral clarithromycin[1D,5D] erythromycin (in pregnancy) **Paediatrics:** **The same antibiotic options as above would be the recommended options for children at BNF-C doses.**	Apply BD or TDS Thinly TDS[5D] TDS[4A] 500mgQDS[4A+] 250mgBD[5D] (500mg BD can be used for severe infections) 250- 500mg QDS	A 5-day course is appropriate for most people with impetigo but can be increased to 7 days based on clinical judgement, depending on the severity and number of lesions.

Eczema (Secondary bacterial infection) NICE NG 190	Manage underlying eczema and flares with treatments such as emollients and topical corticosteroids whether antibiotics are given or not. Do not routinely offer either a topical or oral antibiotic for secondary bacterial infection of eczema in people who are not systemically unwell. **For non-severe and localised infection;** • Consider topical Fusidic acid 2% TDS for 5 -7 days. **For people who are systemically unwell, offer an oral antibiotic;** • Consider use of oral Flucloxacillin (or Clarithromycin if penicillin allergic or unsuitable, or Erythromycin in pregnancy) • See dose and duration as per impetigo section for more information. Consider sending a skin swab if the infection is worsening or not improving as expected. If the infection recurs frequently; also consider taking a nasal swab and starting treatment for decolonisation. Consult a microbiologist if meticillin-resistant *Staphylococcus aureus* is suspected or confirmed.			
Boils, carbuncles NICE CKS	Arrange for urgent incision and drainage for large and/or fluctuant boils. Consider admission for intravenous antibiotics if the person: - Is systemically unwell. - Patient is immunocompromised. **For people not requiring referral or admission:** To apply moist heat three to four times a day to alleviate pain. When a small boil drained spontaneously, advise patient to cover the lesion with a sterile dressing to help prevent autoinoculation. Seek specialist advice if there is a possibility or confirmation of: - MRSA, suspect if person has history of MRSA infection or recent hospitalised history. - PVL-SA, suspect if patient experience with severe or recurrent boils, or who reside in household or institutional setting where outbreaks of boils have been noted. **Take a swab from the boil or carbuncle from the lesion if:** - Not responding to treatment. - Persistent or recurrent, to exclude atypical mycobacteria or Panton-Valentine leucocidin Staphylococcus aureus (PVL-SA). - Multiple lesions - Patient is immunocompromised or diabetes. - Known to be colonized with MRSA. Offer written information, such as the British Association of Dermatologist's patient information leaflet on boils: link	Course of oral antibiotic should be considered for boils/carbuncles if the person: - Has a fever - Lesion is on the face - In pain or severe discomfort - Has other comorbidities such as diabetes or immunosuppression. **First line:** Flucloxacillin **If penicillin allergy:** Clarithromycin OR Erythromycin preferred in pregnancy and breastfeeding. **Paediatrics:** The same antibiotic options as above would be the recommended options for children, consult BNF-C for further dosage information.	500mg QDS 250mg BD (500mg BD can be used for severe infection) 250mg -500mg QDS	7 days

Infected Laceration Wound **CKS**	**A laceration** is a tearing or splitting of the skin commonly caused by blunt trauma, or an incision in the skin caused by a sharp object, such as a knife or broken glass. The risk of infection is high in people with a laceration contaminated with soil, faeces, body fluids, or pus. The risk of infection is increased further with factors such as: • Wound length of more than 5 cm. • Foreign body present before cleaning of wound. • Diabetes mellitus. • Oral corticosteroid treatment and other causes of immunosuppression. • Age older than 65 years. • Stellate shape or jagged wound margins. • Wound location on the lower extremity • Presentation more than 6 hours after injury (although there is some evidence that this may not be as important as previously thought) The risk assessment requires clinical judgement, but as a guide: • A person with a single risk factor for infection, unless it is unusually severe, is not likely to be at high risk of infection. • A person with two or more risk factors, unless these risk factors are unusually mild, is likely to be at high risk of infection. **Assess the wound to determine the need for admission or referral. Consider Admit if** the person has signs or symptoms of tetanus (generalised rigidity and spasm of skeletal muscles, including lockjaw) and has had a laceration in the previous days or weeks.	**Take a detailed history and ascertain whether the wound was originally contaminated with high-risk material (soil, faeces, saliva, or purulent exudates)** 1st line for contaminated wounds: Co-amoxiclav If allergic to penicillin: Erythromycin **OR** Clarithromycin **AND** Metronidazole 1st line for clean wounds: **(With no history or evidence of contamination or foreign bodies)** Flucloxacillin **If allergic to penicillin:** Erythromycin OR clarithromycin	250/125 every 8 hours, increased in severe infection to 500/125 every 8 hours 250–500 mg QDS *or* 500mg–1000 mg BD. In Severe infection, dose may be increased to 500 mg–1000 mg QDS 250 mg BD, increased in severe infections to 500 mg BD 400mg every 8 hours 250 -500mg QDS Refer to macrolide dosage information as per above	5-7 days

Cellulitis & erysipelas NICE NG141	**Class I:** patient afebrile and healthy other than cellulitis, use oral flucloxacillin alone [1D,2D,3A+] **Class II:** If febrile and ill, or comorbidity, admit for IV treatment[1D] **Class III**: toxic appearance: admit.[1D] Erysipelas: often facial and unilateral.[4B+] Use flucloxacillin for non-facial erysipelas.[1D,2D,3A+] If river or sea water exposure, discuss with microbiologist.[1D]	<u>*Non* facial</u>: Flucloxacillin [1D,2D,3A+] *If penicillin allergic:* Clarithromycin[1D,2D,3A+,5A+] Or Erythromycin (in pregnancy) *Penicillin allergy & taking statins:* doxycycline[2D]	500mg to 1g QDS[1D,2D] 500mg BD[1D,2D] 500mg QDS [5] 200mg stat then 100mg OD[2D]	5-7 days If slow response continue for a further 7 days
	If MRSA infection suspected or confirmed, patient may require combination of IV antibiotics therapy. Please consider referral to secondary care for expert advice if appropriate.	*Unresolving:* Clindamycin[3A+]	150-300mg QDS [1D,2D] (can be increased to 450mg QDS under microbiologist advice)	7 days
	For all treatment of cellulitis, a longer course (up to 14 days in total) may be needed based on clinical assessment. However, skin does take time to return to normal, and full resolution at 5 to 7 days is not expected	<u>*Facial (non-dental)*</u>*:* *Co-amoxiclav*[6B-] Alternative antibiotics for facial cellulitis if penicillin allergic: Clarithromycin AND Metronidazole	500/125mg TDS[1D] 500mg BD 400mg TDS	7 days.[5]
	<u>Choice of antibiotic for treatment: Children and young people under 18 years</u>; Children under 1 month – antibiotic choice based on specialist advice.	1st choice antibiotic for children 1 month and over: Flucloxacillin	**1 month to 1 year,** 62.5 mg to 125 mg QDS **2 to 9 years,** 125 mg to 250 mg QDS **10 to 17 years,** 250 mg to 500 mg QDS	
		Alternative if penicillin allergy Clarithromycin OR	**1 month to 11 years:** Under 8 kg: 7.5 mg/kg BD 8 to 11 kg: 62.5 mg BD 12 to 19 kg: 125 mg BD 20 to 29 kg: 187.5 mg BD 30 to 40 kg: 250 mg BD 12 to 17 years: 250 to 500 mg BD	5-7 days
		Erythromycin	**8 to 17 years,** 250mg to 500mg QDS	
		Alternative 1st choice if flucloxacillin unsuitable or if infection near eyes or nose Co-amoxiclav (Not in penicillin allergy)	**1 to 11 months,** 0.25 ml/kg of 125/31 suspension TDS **1 to 5 years,** 0.25 ml/kg or 5 ml of 125/31 suspension TDS **6 to 11 years,** 0.15 ml/kg or 5 ml of 250/62 suspension TDS Dose doubled in severe infection **12 to 17 years,** 250/125 or 500/125 mg TDS	

Cellulitis & erysipelas Continued CREST Cellulitis BLS Cellulitis NICE NG141		Alternative antibiotics for facial cellulitis if penicillin allergic: Clarithromycin AND Metronidazole (if anaerobes suspected)	Clarithromycin dose, see above **1 month**, 7.5 mg/kg BD; **2 months to 11 years,** 7.5 mg/kg TDS (maximum per dose 400 mg **12 to 17 years**, 400 mg TDS	7 days
Diabetic foot infection **NICE NG19 2019**	All foot wounds are likely to be colonised with bacteria. Do not offer antibiotics to prevent diabetic foot infection. Choosing antibiotic treatment depends on the severity of infection, previous microbiological results, previous antibiotic use and the risk of complications. Take samples for microbiological testing before the start of antibiotic treatment. Review the choice of antibiotic when sensitivity results are available. **Moderate to severe diabetic foot infections should not be treated in primary care without a discussion/review with a diabetic foot infection specialist. See page overleaf for information.** Superficial wound swabs are of little clinical value in rationalising antibiotics for the treatment of diabetic foot infections, as the organisms cultured are likely to represent colonisation. Deep samples are encouraged. **Refer to hospital immediately and inform multidisciplinary foot care service if there are limb- or life-threatening problems such as:** • ulceration with fever or any signs of sepsis, or • ulceration with limb ischaemia, or • suspected deep-seated soft tissue or bone infection, or • gangrene For all other active diabetic foot problems, refer to foot service within 1 working day. **Severity is classified as:** • **Mild** - local infection with 0.5 to less than 2 cm erythema • **Moderate** - local infection with more than 2 cm erythema or involving deeper structures (such as abscess, osteomyelitis, septic arthritis or fasciitis) • **Severe** - local infection with signs of a systemic inflammatory response	Mild infection: 1st choice Flucloxacillin If penicillin allergy or if flucloxacillin unsuitable Clarithromycin OR Erythromycin (if pregnant) OR Doxycycline Moderate or severe infection (discuss with a specialist): Flucloxacillin with or without Metronidazole OR Co-amoxiclav If penicillin allergy: Co-trimoxazole with or without Metronidazole	500mg to 1g QDS 500mg BD 500mg QDS 200mg STAT, then 100mg OD (Can be increased to 200mg daily) 1g QDS 400mg TDS 500/125mg TDS 960mg BD 400md TDS	7 days A long course (up to further 7 days) may be needed based on clinical assessment. However, skin does take time to return to normal, and full resolution at 7 days is not expected Minimum 7 days and up to 6 weeks for osteomyelitis based on clinical assessment **Patient should be told to *seek medical help if symptoms worsen rapidly or significantly at any time, or do not start to improve within 1 to 2 days***

<table>
<tr><td>Insect bites and stings
NICE NG182 2020</td><td colspan="3">A rapid-onset skin reaction is likely to be an inflammatory or allergic reaction rather than an infection. Most insect bites or stings will not need antibiotics. Assess the type and severity of bite or sting to identify a local inflammatory or allergic skin reaction. Be aware that erythema migrans (bullseye rash) a sign of Lyme disease; For people with a known or suspected tick bite, follow primary care management of Lyme disease (p25-27).
Note that community pharmacists can advise about self-care treatments and may consider oral antihistamines (in people aged over 1 year) to help relieve itching. Skin redness and itching are common and may last for up to 10 days. For people with an insect bite or sting who have symptoms or signs of an infection, see recommendations on choice of antibiotic in cellulitis & erysipelas section (p17).
Consider referral or seeking specialist advice for people with an insect bite or sting if;
Systemically unwell, severely immunocompromised and have signs of infection, previous systemic allergic reaction to the same type of bite or sting, bite or sting locate in the mouth or throat or around the eyes, it has been caused by unusual or exotic insect, or if they have fever or persisting lesions associated with a bite or sting that occurred while travelling outside the UK.
Reassess if signs of infection develop, if they have severe pain out of proportion to wound (which may indicate toxin producing bacteria) or if their condition worsen rapidly/significantly. See NICE guideline on anaphylaxis for further information on systemic allergic reaction.</td></tr>
<tr><td rowspan="4">Leg Ulcer
NICE NG152 2020</td><td rowspan="4">Ulcers always colonised.[1C,2A+] Antibiotics do not improve healing unless active infection[2A+] and may put patient at risk of C difficile infection.
Do not take a sample for microbiological testing at initial presentation, even if the ulcer might be infected
If the infection is worsening or not improving as expected, consider microbiological testing. Review antibiotics after culture results.

Refer to hospital if there are symptoms or signs of a more serious illness, MRSA suspected or conditions such as sepsis, necrotising fasciitis or osteomyelitis.
Consider referring or seeking specialist advice if the person:
• has 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 (to explore possible options for intravenous or intramuscular antibiotics at home or in the community)</td><td colspan="3">Active infection: cellulitis/increased pain/pyrexia/purulent exudate/odour[4D]</td></tr>
<tr><td>1st line for active infection:
Flucloxacillin[5D]

if penicillin allergy or unsuitable consider;

or Clarithromycin[5D]
or Erythromycin(in pregnancy)
or Doxycycline</td><td>500mg – 1g QDS

500mg BD[5D]
500mg QDS
200mg STAT, then 100mg OD</td><td rowspan="2">7 days</td></tr>
<tr><td>2nd line antibiotics:
Co-amoxiclav

or if penicillin allergy
Co-trimoxazole</td><td>500/125mg TDS

960mg BD</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>PVL-SA PHE ICID pathology handbook</td><td colspan="3">Panton-Valentine Leukocidin (PVL) is a toxin produced by 20.8-46% of S. aureus from boils/abscesses.[1B+,2B+,3B-] These strains are considered to be rare in healthy people, but can cause severe infections.[2B+] Suppression therapy is likely to be ineffective if skin lesions are still leaking,[4D] so should only be started after the primary infection has resolved.[4D] Risk factors for PVL: recurrent skin infections,[2B+] invasive infections,[2B+] MSM,[3B-] if there is more than one case in a home or close community[2B+,3B-] (school children;[3B-] military personnel;[3B-] nursing home residents;[3B-] household contacts)[3B-].</td></tr>
</table>

Human and animal bites CKS NICE NG184 2020	Assess the type and severity of the bite, including what animal caused the bite, the site and depth of the wound, and whether it is infected. Assess the risk of tetanus, rabies, or blood borne viral infection. Manage the wound with irrigation and debridement as necessary. Seek specialist advice from a Microbiologist if; Bites from a wild or exotic animal (including birds and non-traditional pets). Bites from domestic animal bites (including farm animal bites) you are unfamiliar with. ***Treating infected bites*** Offer an antibiotic for people with a human or animal bite if there are symptoms or signs of infection, such as increased pain, inflammation, fever, discharge or an unpleasant smell. Take a swab for microbiological testing to guide treatment if there is discharge (purulent or non-purulent) from the human or animal bite wound. Review antibiotic choice based on swab results. ***Prophylaxis for uninfected bites*** **<u>Bite has not broken the skin</u>:** Do not offer antibiotics for human or animal bites that have not broken the skin. **<u>Bite has broken the skin but NOT drawn blood</u>:** **Human bites:** Consider antibiotics if in high-risk area or person at high risk **Cat bites:** Consider antibiotics if the wound could be deep **Dog or other traditional pet bites:** Do not offer antibiotics **<u>Bite has broken the skin AND drawn blood</u>:** **Human bites:** Offer antibiotics **Cat bites:** Offer antibiotics **Dog or other traditional pet bites:** Consider offering antibiotics if. -Bite has caused deep tissue damage or is visibly contaminated e.g., with dirt or a tooth -Bite in a high-risk area or person at high risk* * High risk areas include the hands, feet, face, genitals, skin overlying cartilaginous structures or 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 /asplenic/decompensated liver disease Reassess if there is no improvement within 24 to 48 hours after starting treatment. Consider referral if the person is systemically unwell, cannot take, or an infection is not responding to oral antibiotics. Refer to hospital if there are signs of severe cellulitis, abscess, septic arthritis, necrotising fasciitis, sepsis, osteomyelitis or penetrating wound involving bones or vascular structure.	**Choice of oral antibiotic for prophylaxis and treatment in adults aged 18Ys and over** co-amoxiclav *Penicillin allergic or if co-amoxiclav is unsuitable:* metronidazole AND doxycycline Seek specialist advice in pregnancy if penicillin allergy or if co-amoxiclav is unsuitable **First-choice oral antibiotic for children aged 1 month and over** Co-amoxiclav Alternative first-choice oral antibiotic for children under 12 years for penicillin allergy or if co-amoxiclav is unsuitable Co-trimoxazole (Off label use; see BNF for children for information on monitoring) Alternative first-choice oral antibiotics for young people aged 12 to 17 years for penicillin allergy or if co-amoxiclav is unsuitable Doxycycline AND Metronidazole	375-625mg TDS 400mg TDS 200mg STAT, then 100mg OR 200mg OD 1 month to 11 months: 0.25 ml/kg of 125/31 suspension TDS 1 year to 5 years: 0.25 ml/kg or 5 ml of 125/31 suspension TDS 6 years to 11 years: 0.15 ml/kg or 5 ml of 250/62 suspension TDS 12 years to 17 years: 250/125 mg or 500/125 mg TDS 6 weeks to 5 months: 120 mg or 24 mg/kg BD 6 months to 5 years, 240 mg or 24 mg/kg BD 6 years to 11 years, 480 mg or 24 mg/kg BD 200mg STAT, then 100mg or 200mg OD 400mg TDS	3 days for prophylaxis course OR 5 days for treatment course A 5-day course is appropriate for treating most human or animal bites, but course length can be increased to 7 days (with review) based on clinical assessment of the wound, for example, if there is significant tissue destruction or it has penetrated bone, joint, tendon or vascular structures.

Mastitis CKS	Antibiotics not always required. *S.aureus* is the most common infecting pathogen.[1D] Suspect if woman has: a painful breast;[2D] fever &/or general malaise;[2D] a tender, red breast.[2D] **Breastfeeding:** oral antibiotics are appropriate, where indicated.[2D,3A+] Women should continue feeding,[1D,2D] including from the affected breast.[2D] Continuation of breastfeeding or expressing will aid resolution of mastitis. Also use simple analgesia. **Breast abscess:** Refer woman with a breast abscess to general surgeon for confirmation of diagnosis. Surgical drainage and culture of fluid from the abscess will be used to guide the choice of antibiotics. See different scenarios on the CKS link for correct treatment of each category and for more information.	**Non-lactational mastitis:**		
		Co-amoxiclav *If penicillin allergic:* Erythromycin OR Clarithromycin PLUS Metronidazole	500/125 mg TDS 250–500 mg QDS 500mg BD 500mg TDS	10-14 days
		Lactational mastitis: Prescribe an oral antibiotic if the woman has a nipple fissure that is infected, symptoms have not improved (or are worsening) after 12–24 hours despite effective milk removal. If breast milk culture results are available, treat with an antibiotic that the organism is sensitive to. **For lactating women, if no breastmilk culture is available to guide treatment consider empirical regimen as follow:**		
		Flucloxacillin *If penicillin allergic:* Erythromycin OR Clarithromycin	500mg QDS 250–500 mg QDS 500mg BD	10-14 days
Scabies NHS Scabies	Treat whole body from ear/chin downwards[1D,2D] and under nails.[1D,2D] If under 2 years/elderly, also treat face/scalp [1D,2D] Treat all home and sexual contacts within 24hrs[1D]	Permethrin[1D,2D,3A+] *If permethrin allergy:* malathion[1D]	5% cream[1D,2D] 0.5% aqueous liquid[1D]	2 applications, 1 week apart [1D]
Dermatophyte infection-skin PHE Fungal skin and nail infections	**Topical treatment for most fungal skin and nail infections are a low clinical priority for BSW ICB and is suitable for self-care.** Terbinafine is fungicidal:[1D] treatment time shorter than with fungistatic imidazole's.[1D,2A+,3A+] If candida possible, use imidazole[4D] **If intractable, or scalp:** send skin scrapings;[1D] and **If infection confirmed:** use *oral* terbinafine[1D,3A+,4D]/itraconazole[2A+,3A+,5D] **Scalp:** oral therapy,[6D] & discuss with specialist.[1D]	Topical terbinafine[3A+,4D] *or* topical imidazole[2A+,3A+] *For athlete's foot:* topical undecanoates (e.g., Mycota®)[2A+] *Patients should be asked to buy these products themselves OTC from a pharmacy.*	1% OD-BD[2A+] 1% OD-BD[2A+] OD-BD[2A+]	1-4 weeks[3A+] 4-6wks[2A+,3A+]
Dermatophyte infection-nail CKS	**Topical treatment for most fungal skin and nail infections are a low clinical priority for BSW ICB and are suitable for self-care.** Take nail clippings;[1D] start therapy only if infection is confirmed.[1D] Oral terbinafine is more effective than oral azole.[1D,2A+,3A+,4D] Liver reactions 0.1 to 1% with oral antifungals.[3A+] If candida or non-dermatophyte infection is confirmed, use oral itraconazole.[1D,3A+,4D] Topical nail lacquer is not as effective.[1D,5A+,6D] **To prevent recurrence:** apply weekly 1% topical antifungal cream to entire toe area.[6D] **Children:** seek specialist advice.[4]	*First line:* terbinafine[1D,2A+,3A+,4D,6D] *Second line:* itraconazole[1D,3A+,4D,6D] Treatment successful when continual, new, healthy, proximal nail growth.[6D]	250mg OD[1D,2A+,6D] fingers toes 200mg BD Fingers Toes	6 weeks 12 weeks 1week/month 2 courses 3 courses
Varicella zoster/chicken pox PHE Varicella **Herpes Zoster/Shingles** PCDS Herpes zoster	**Pregnant/immunocompromised/neonate:** seek urgent specialist advice.[1D] **Chicken pox:** IF onset of rash <24hrs[3A+] & one of the following: >14 years of age;[4D] severe pain;[4D] dense/oral rash;[4D,5B+] taking steroids;[4D] smoker[4D,5B+] consider aciclovir[2A+,3A+,4D] **Shingles:** treat if >50 years[6A+,7D] (PHN rare if <50 years[8B+]) and within 72 hrs of rash,[9A+] or if one of the following: active ophthalmic;[10D] Ramsey Hunt;[4D] eczema;[4D] non-truncal involvement;[7D] moderate or severe pain;[7D] moderate or severe rash.[5B+,7D] **Shingles started outside 72 hours:** consider starting antiviral drug up to 1 week after rash onset,[11B+] if high risk of severe shingles[11B+] or complications[11B+] (continued vesical formation;[4D] older age;[6A+,7D,11B+] immunocompromised;[4D] severe pain).[7D,11B+]	Aciclovir[3A+, 6A+,9A+,12B+,13A-,14A+] *Second line for shingles* ***if compliance a problem:*** valaciclovir[7D,13A-,15A-] PRESCRIBE GENERICALLY	800mg five times a day[15A-] 1g TDS[13A-] *(NB: Use the 500mg tablets, DO NOT use 250mg tablets due to cost)*	7 days[13A-,15A-] 7 days[13A-,15A-]
Cold Sores CKS Cold Sores	Cold sores resolve after 5 days without treatment.[1A-,2A-] Topical antivirals applied prodromally reduce duration by 12-18hrs [1A-,2A-,3A-] Provide self-care advice. Patients can purchase topical antiviral products OTC from community pharmacies. Consider oral prophylaxis, if frequent, severe, and with predictable triggers.[4D,5A+] Use aciclovir 400mg BD for 5-7 days.[5A+,6A+]			

Lyme Disease	See full guidance on page 25-27.

EYE INFECTIONS				
Conjunctivitis AAO conjunctivitis PHE: Guidance on Infection Control in Schools and other Childcare Settings	**Only treat if severe,[2A+] as most viral[3D] or self-limiting.[2A+]** Bacterial conjunctivitis is usually unilateral and self-limiting.[2A+,3D] It is characterised by red eye with mucopurulent, not watery, discharge.[3D] 65% and 74% resolve on placebo by day 5 & 7. **Chloramphenicol eye drops are not licensed in age <2s. Note MHRA Drug Safety Update advice for the use in under 2s:** Following a review of the available toxicological data and a calculation of daily exposure to boron from a typical dosing regimen, MHRA have concluded that the balance between the benefits and risks of chloramphenicol eye drops containing borax or boric acid remains positive for children aged 0 to 2 years. Chloramphenicol eye drops **can be safely administered to children aged 0 to 2 years** where antibiotic eye drop treatment is indicated. For more information click here: MHRA Drug Safety Update	First-line: Self-care[1D] Second-line: Chloramphenicol[1D,2A+,4A-,5A+] 0.5% drop[1D,2A+] OR 1% ointment[1D,5A+] **OR** Fusidic acid eye drop Use should be restricted to people who: - Are pregnant - Have a personal or family history of blood dyscrasias, such as aplastic anaemia - Are intolerant of chloramphenicol - Need a twice-a-day treatment for infective conjunctivitis See CKS topic for more information	2 hourly for 2 days,[1D,2A+] then reduce frequency[1D] 3-4 times daily,[1D] or just at night if using eye drops together[1D] Instil ONE drop into affected eye(s) BD	Treatment should be continued for at least 48 hours after resolution
Blepharitis CKS	**First line:** lid hygiene[1D,2A+] for symptom control,[1D] including: warm compresses;[1D,2A+] lid massage and scrubs;[1D] gentle washing;[1D] avoiding cosmetics.[1D] **Second line:** topical antibiotics if hygiene measures are ineffective after 2 weeks.[1D,3A+] Consider oral antibiotics[1D] if signs of Meibomian gland dysfunction[3D] or acne rosacea.	First-line: self-care[1D] Second-line: Chloramphenicol[1D,2A+, 3A-] 1% ointment[2A+,3D] Third line: Oxytetracycline[1D,3D] OR Doxycycline[1D,2A+,3D]	BD[2A+,3D] 500mg BD[3D] initially 250mg BD[3D] maintenance 100mg OD[3D] initially 50mgOD[3D] maintenance	6-week trial[3D] 4 weeks[3D] 8 weeks[3D] 4 weeks[3D] 8 weeks[3D]

DENTAL INFECTIONS

GPs should not routinely be involved in dental treatment and, if possible, advice should be sought from the patient's dentist, who should have an answer-phone message with details of how to access treatment out-of-hours, or telephone 111 (NHS 111 service in England).

PRIMARY CARE MANAGEMENT OF LYME DISEASE

Specialist Advice is required in the following circumstances (NICE NG95):

- If an adult with Lyme disease has focal symptoms, consider a discussion with or referral to a specialist, without delaying treatment. Choose a specialist according to the person's symptoms, for example, an adult infection specialist, rheumatologist or neurologist.
- Discuss the diagnosis and management of Lyme disease in children and young people under 18 years with a specialist, unless they have a single erythema migrans lesion and no other symptoms. Choose a specialist appropriate for the child or young person's symptoms dependent on availability, for example, a paediatrician, paediatric infectious disease specialist or a paediatric neurologist.

Non-focal symptoms:

Fever and sweats/Swollen glands/Malaise/Fatigue/Neck pain or stiffness/Migratory joint or muscle aches and pain/Cognitive impairment such as memory problems and difficulty concentrating (sometimes described as "brain fog")/Headache/Paraesthesia

Focal symptoms:

- Neurological symptoms (such as facial palsy or other unexplained cranial nerve palsies, meningitis, mononeuritis multiplex or other unexplained radiculopathy, or, rarely, encephalitis, neuropsychiatric presentations, or unexplained white matter changes on brain imaging)
- Inflammatory arthritis affecting one or more joints that may be fluctuating and migratory
- Cardiac problems such as heart block or pericarditis
- Eye symptoms such as uveitis or keratitis
- Skin rashes such as acrodermatitis chronica atrophicans or lymphocytoma

When to test:

- See NICE laboratory investigations and diagnosis algorithm: https://www.nice.org.uk/guidance/ng95/resources/visual-summary-pdf-4792272301
- If recent tick bite without erythema migrans but feel unwell (flu like symptoms without significant respiratory involvement), defer antibiotic treatment and do ELISA test. If there is a positive result offer Immunoblot test, if this is positive, treat with antibiotics, if negative, consider alternative diagnosis +/- seek specialist advice/referral. If there isa negative result and Lyme disease is suspected, repeat ELISA in 4 to 6 weeks after the first test.

ILLNESS	COMMENTS	DRUG		DOSE	DURATION OF TREATMENT
Lyme Disease **NICE NG95 2018** **PHE patient info leaflet** **PHE clinician advice** **NICE: Lyme disease laboratory investigations and diagnosis visualsummary** **BMJ Lyme disease antibiotic treatment visual summary (April 2018)**	**Antibiotic treatment options for adults and young people (aged 12 and over) diagnosed with lyme disease according to symptoms** **PREGNANCY:** *Ensure appropriate antibiotic is chosen if patient is pregnant (do not use doxycycline in pregnancy or breastfeeding). See NICE NG95 for further information about treatment in pregnancy & discuss treatment options with a microbiologist.*				
	Tick bite with no symptoms	**Do not treat** & supply PHE patient "Tick Aware" leaflet to prevent future infection		N/A	N/A
	Lyme disease without focal symptoms *Erythema migrans &/or non-focal symptoms* *Only use this option if 1st & 2nd line are not suitable as azithromycin does not penetrate the blood brain barrier which may be important for the prevention of later disseminated disease.*	1st line: Doxycycline 2nd line: Amoxicillin		100mg BD or 200mg OD 1g TDS	21 days 21 days
		3rd line: Azithromycin*		500mg OD	17 days
	Lyme disease with focal symptoms *Lyme disease affecting the cranial nerves or peripheral nervous system* • *Consider seeking specialist advice in adults.* • *Seek advice in patients aged 12-18.*	1st line: Doxycycline 2nd line: Amoxicillin		100mg BD or 200mg OD 1g TDS	21 days 21 days
	Lyme disease affecting the central nervous system **Lyme disease arthritis** **Acrodermatitis chronic atrophicans** **Lyme carditis*** **Lyme carditis & haemodynamically unstable**	Refer for specialist advice and perform an ELISA test (see NICE labor atory investigations and diagnosis algorithm). For further information see NICE NG95.			
	Antibiotic treatment options for children (under 12) diagnosed with Lyme disease according to symptoms[a,b,c] *Discuss the diagnosis and management of Lyme disease in children and young people under 18 years with a specialist, unless they have a single erythema migrans lesion and no other symptoms.* *Childrenweighing more than the amounts specified should be treated according to section above for children over 12 and adults.*				
	Tick bite with no symptoms	**Do not treat** & supply PHE patient "Tick Aware" prevention leaflet		N/A	N/A
	Lyme disease without focal symptoms *Erythema migrans &/or non-focal symptoms*	9-12 years	1st line: Doxycycline[a] for children <45kg Dose according to BNF may be different compared with the SmPC. 2nd line: Amoxicillin for children ≤33kg	5mg/kg in 2 divided doses on day 1 followed by 2.5mg/kg daily in 1 or 2 divided doses For severe infections: Up to 5mg/kg OD 30mg/kg TDS	21 days 21 days

ILLNESS	COMMENTS	DRUG		DOSE	DURATION OF TREATMENT
Lyme Disease **NICE NG95 2018** **PHE patient info leaflet** **PHE clinician advice** **NICE: Lyme disease laboratory investigations and diagnosis visualsummary** **BMJ Lyme disease antibiotic treatment visual summary (April 2018)**	**Lyme disease without focal symptoms continued** *Erythema migrans &/or non-focal symptoms* *Only use azithromycin if 1st & 2nd line are not suitable as azithromycin does not penetrate the blood brain barrier which may be important for the prevention of later disseminated disease.*	9-12 years	3rd line: Azithromycin*,d for children ≤50kg	10mg/kg OD	17 days
		Under 9 years	1st line: Amoxicillin for children ≤33kg 2nd line: Azithromycin*,d for children ≤50kg	30mg/kg TDS 10mg/kg OD	21 days 17 days
	Lyme disease with focal symptoms *Lyme disease affecting the cranial nerves or peripheral nervous system* *Seek specialist advice.*	9-12 years	1st line: Doxycyclinea for children <45kg 2nd line: Amoxicillin for children ≤33kg	5mg/kg in 2 divided doses on day 1 followed by 2.5mg/kg daily in 1 or 2 divided doses For severe infections: Up to 5mg/kg OD 30mg/kg TDS	21 days 21 days
		Under 9 years	1stline: Amoxicillin for children ≤33kg *Seek microbiology advice if patient is penicillin allergic*	30mg/kg TDS	21 days
	Lyme disease affecting the central nervous system **Lyme arthritis or Acrodermatitis chronica Atrophicans** **Lyme carditis* (both haemodynamically stable and unstable)**	Refer for specialist advice and perform an ELISA test (see NICE labo atory investigations and diagnosis algorithm). For further information see NICE NG95.			
PRESCRIBING NOTES	*Do not use azithromycin to treat people with cardiac abnormalities associated with Lyme disease because of its effect on the QT interval a) Currently, (April 2018), doxycycline does not have a UK marketing authorisation for this indication in children under 12 years and is contraindicated. The use of doxycycline for children aged 9 years and above in infections where doxycycline is considered first line in adult practice is accepted specialist practice. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information. b) Discuss management of Lyme disease in children and young people with a specialist, unless they have a single erythema migrans lesion with no other symptoms, see NICE NG95 recommendation 1.3.2. c) Children weighing more than the amounts specified should be treated according to adult dosage table. d) Currently, (April 2018), azithromycin does not have a UK marketing authorisation for this indication in children under 12 years. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines for further information. **Use of doxycycline in children aged 9-12 years (**NICE NG95 full guidance) p48-49**:** "The guideline committee was aware that specialists in the UK do offer doxycycline in children aged 9 years and above as a result of indirect evidence from the United States and Scandinavia despite no licence or BNFC dose. There is also increasing indirect evidence from use in other conditions in the United States and Canada that **doxycycline does not cause teeth staining when used for short course (less than 4 weeks) in children aged 2 years and older** and international practice is moving to recommend use above 2 years."				
ON-GOING SYMPTOMS	If symptoms that may be related to Lyme disease persist, do not continue to improve or worsen after antibiotic treatment, review the person's history and symptoms to explore: • possible alternative causes of the symptoms • if re-infection may have occurred • if treatment may have failed • details of any previous treatment, including whether the course of antibiotics was completed without interruption • if symptoms may be related to organ damage caused by Lyme disease, for example, nerve palsy. If the person's history suggests re-infection, offer antibiotic treatment for Lyme disease according to their symptoms (as per tables above). Consider a second course of antibiotics for people with ongoing symptoms if treatment may have failed. Use an alternative antibiotic to the initial course. If a person has ongoing symptoms following 2 completed courses of antibiotics for Lyme disease do not routinely offer further antibiotics **and** consider discussion with a national reference laboratory or discussion or referral to a specialist. Explain to people with ongoing symptoms following antibiotic treatment for Lyme disease that: • continuing symptoms may not mean they still have an active infection • symptoms of Lyme disease may take months or years to resolve even after treatment • some symptoms may be a consequence of permanent damage from infection • there is no test to assess for active infection and an alternative diagnosis may explain their symptoms.				
Further reading	Lyme disease: summary of NICE guidance. BMJ 12th April 2018;361:k1261 https://www.bmj.com/content/361/bmj.k1261?hwoasp=authn%3A1524670673%3A5762771%3A182198390%3A0%3A0%3A2orIFbSXyV9iNoJCoAz8Xw%3D%3D				

References:

For the evidence base surrounding the choice of antibiotics in this guidance, please see original document from Public Health England (p11-61):

- https://www.gov.uk/government/publications/managing-common-infections-guidance-for-primary-care

Other useful resources:

PHE Health protection in schools and other childcare facilities September 2017:

- https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities

Version number	Author	Purpose/change	Date
1.1	Rachel Hobson	Revisions in line with new primary care antibiotic guidance from PHE (May/August 17): • Links updated • Removal of reference to CENTOR score in sore throat section • Changed clarithromycin to erythromycin for sore throat penicillin allergic patients and in pregnancy • *H.pylori*: Removed reference to use of De-Nol (unavailable) replaced with bismuth subsalicylate (Pepto Bismol). • Erythema chronicum migrans section completely re-written and updated. • Principles of prescribing section (page 1) updated pregnancy advice • UTI in adults: First line nitrofurantoin and trimethoprim only to be used if low risk of resistance • Conjunctivitis: removal of Fusidic acid eye ointment as an option. • Acute sinusitis: new 1st line pen V. Clarithromycin new alternative if pen allergy. • For recurrent *C. Difficile* Vancomycin is no longer an option, just fidaxomicin. • New section on blepharitis.	13/8/17
June 2018	Rachel Hobson	• New section on Lyme Disease	2/6/18
December 2018	Rachel Hobson	• Updated the following sections so that they are in-line with new NICE guidance: ○ Otitis media (acute) ○ Sore throat (acute) ○ Sinusitis (acute) ○ UTI (lower) ○ Prostatitis (acute) ○ Pyelonephritis (acute) ○ UTI (recurrent) • NEW section as per NICE: UTI (catheter)	4/12/18
January 2019	Rachel Hobson	• Updated chlamydia section in-line with updated BASHH guidance, to extend duration of azithromycin treatment and to position doxycycline above azithromycin.	
Oct 2019	Marco Yeung	• Updated the following sections so that they are in-line with the new Summary of antimicrobial prescribing guidance, managing common infections.	08/11/2019

		○ Community acquired pneumonia ○ Cellulitis & erysipelas ○ UTI (lower) ○ UTI (pregnancy) ○ UTI (catheter associated) ○ Meningitis ○ Chlamydia trachomatis/urethritis ○ Conjunctivitis	
Jan 2020	Marco Yeung	• Updated the following sections so that they are in-line with the new Summary of antimicrobial prescribing guidance, managing common infections. ○ Diabetic foot infection ○ Diverticular disease	05/12/2019
Feb 2020	Marco Yeung	• Updated the community acquired pneumonia sections. Added in extra wording for atypical CAP as per national guidance.	10/02/2020
March 2020	Marco Yeung	• Updated the leg ulcer sections in-line with the new Summary of antimicrobial prescribing guidance	17/02/2020
April 2020	Marco Yeung	• CAP 1st line management during COVID19 as per NICE NG165	28/04/2020
May 2020	Marco Yeung	• Updated Impetigo sections as per the new summary of antimicrobial prescribing guidance.	11/05/2020
September 2020	Marco Yeung	• New section on Insect bites and stings as per NICE NG182	23/09/2020
December 2020	Marco Yeung	• Updated Human and animal bites sections as per NICE NG184	02/12/2020
Feb 2021	Marco Yeung	• Updated management of mastitis guidance as per CKS summary Jan 2021	09/02/2021
April 2021	Marco Yeung	• Updated management of secondary bacterial infection of eczema as per NICE NG190 • Updated off label wording about use of mebendazole in age <2 in line with revised product SPC. • Updated Helicobacter pylori section typo, amend bismuth direction to QDS to in line with NICE summary of antimicrobial prescribing guidance • Updated conjunctivitis section, added in contraindication notes for chloramphenicol in age<2 and alternative treatment options	08/04/2021
Jul 2021	Marco Yeung	• Re worded the use of chloramphenicol eye drops in age <2 as per MHRA Drug Safety Update Jul 2021.	14/07/2021
September 2021	Marco Yeung	• Updated C *difficilie* infection session as per NICE NG 199 guidance. • Updated bacterial candidiasis section, replace miconazole 1200mg pessaries to 2% vaginal cream as part of alternative	07/09/2021

		treatment options as per BASHH guidance 2019 and in line with formulary choice	
November 2021	Marco dia	• Principle of treatment and acute trusts Microguide hyperlink session update • Acute Rhinosinusitis section: Doxycycline contraindication update; reminder added not to be prescribed under 12 years old. Minor change in format. • Cough session, highlighted Amoxicillin or erythromycin are the preferred choice in pregnant population. • Bronchiectasis section, children prescribing options added as per NICE guidance. • Community acquired pneumonia section, Doxycycline contraindication reminder. Added new CAP session for children and young people as per NICE guidance. • Recurrent UTI section, Methenamine added for re-current UTI initiated by Micro or Urologist advice with restricted prescribing criteria • Oral candidiasis section, update and clarify on products strength & dosing • Threadworm section, update statement on pregnant and BF advice. • Vaginal Candidiasis section, update antifungal statistic cure rate as per latest data from BASH. • Impetigo section, update wording on 1st line treatment, specify for localised non-bullous impetigo. • Eczema section, update abx choice where Flucloxacillin is unsuitable. • Cellulitis section, flucloxacillin dosage update, 1g QDS no longer list as off-label indication by BNF. Added children abx prescribing choices as per NICE. • Diabetic foot infection section, flucloxacillin dosage update. • Leg ulcer section, re wording abx choice statement for penicillin allergy or where flucloxacillin unsuitable. • Human and animal bites section, children abx prescribing choice added as per NICE guidance. • Shingles section, re-wording on shingles treatment timeframe statement. • Conjunctivitis section, update on fusidic acid prescribing advice as per formulary information. • Lyme disease section, inform doxycycline dose may different between BNF and SmPC. BNFc indicates 5mg/kg for Lyme disease,SPC indicates 4.4mg/kg for acute infection	23/11/2021

Jan 2022	Marco Yeung	• Added Infected Laceration Wound section as per CKS	15/12/2021
April 2022	Marco Yeung	• Updated AOM section as per NICE NG 91, added phenazone/lidocaine hydrochloride ear drops for use only if an immediate oral antibiotic is not given, and there is no eardrum perforation or otorrhoea	21/03/2022
September 2022	Marco Yeung	• Updated Children lower UTI diagnosis and management section as per NG 224 July 2022. • Queried with NICE team re the most up-to-date antimicrobial prescribing guidance for CAP – local formulary pending further update	07/09/2022
December 2022	Marco Yeung	• In response to increased notification of scarlet fever and invasive group A Strep disease in children, added wording and hyperlink to NHSE/UKGSA interim guidance on GAS for children to the main guidance and child summary page.	13/12/2022
February 2023	Marco Yeung	• As per NHSE update on group A strep infection, retire the interim clinical guidance with reinstatement of the NICE Sore Throat (Acute) NG84 guideline for all age groups	16/02/2023
November 2023	Marco Yeung	• Update Methenamine context in Recurrent UTI section to reflect formulary TLS changes. • PID management section as per CKS update Oct 2023 • Add new topic under skin section, Boils and carbuncles	07/11/2023
Jan 2024	Marco Yeung	• Add Quinolones MHRA alert warning to prompt safe quinolones prescribing. • Reviewed current Quinolones treatment option to ensure recommendation is in line with NICE or other national guidance. • Update giardia treatment option under infectious diarrhoea session. Tinidazole has been discontinued and BNF recommended Metronidazole as treatment option.	25/01/2024

March 2024	Marco Yeung	• Update Epidiymo-orchitis session and antibiotics choice as per CKS Feb 2024	13/03/2024
December 2024	Marco Yeung	• Update Recurrent UTI session as per NICE NG112 Dec update • Strengthen consideration advice for vaginal oestrogen product and option of methenamine huppurate.	30/12/2024