

Primary Care Antibiotic Guideline 2015

Aims

- To provide a simple, empirical approach to the treatment of common infections based on our local community and sensitivity patterns. □ To promote the safe, cost-effective and appropriate use of antibiotics by targeting those who may benefit most
- To minimise the emergence of bacterial resistance in the community

Principles of Treatment

1. This guidance is based on the best available evidence but its application must be modified by professional judgement, based on knowledge about individual patient co-morbidities and potential for drug interactions. This guidance should not be used in isolation, it should be supported with patient information about back-up/delayed antibiotics, infection severity and usual duration, clinical staff education, and audits. The RCGP [TARGET antibiotics toolkit](#) is available via the RCGP website.
2. The majority of this guidance provides dose and duration of treatment for **ADULTS**. Doses may need modification for age, weight and renal function. Please refer to appropriate paediatric sources for information on paediatric doses.
3. **Drugs in RED** are contra-indicated in penicillin allergy. **Drugs in GREEN** are considered safe in penicillin allergy.
4. Prescribe an antibiotic only when there is likely to be a clear clinical benefit.
5. Consider a no, or delayed, antibiotic strategy for acute self-limiting upper respiratory tract infections (e.g. acute sore throat, acute cough and acute sinusitis) and mild UTI symptoms
6. 'Blind' antibiotic prescribing for unexplained pyrexia usually leads to further difficulty in establishing the diagnosis.
7. Limit prescribing over the telephone to exceptional cases.
8. Avoid broad spectrum antibiotics (e.g. **co-amoxiclav**, **quinolones** and **cephalosporins**) when narrow spectrum antibiotics remain effective, as they increase the risk of *Clostridium difficile*, MRSA and other resistant organisms.
9. **Nitrofurantoin** is contraindicated if eGFR < 45 mL/min or if known G6PD deficiency or in acute porphyria. Refer to [Summary of Product Characteristics](#).
10. Avoid widespread use of topical antibiotics (especially those agents also available as systemic preparations).
11. If diarrhoea or vomiting occurs due to an antibiotic or the illness being treated, the efficacy of hormonal contraception may be impaired and additional precautions should be recommended.
12. **Clarithromycin** is now recommended over **erythromycin**, except in pregnancy and breastfeeding. It has fewer side-effects and twice daily rather than four times daily dosing promotes compliance. Statins should be withheld when macrolide antibiotics are prescribed.
13. In pregnancy take specimens to inform treatment; where possible avoid **tetracyclines**, **aminoglycosides**, **quinolones**, high dose **metronidazole** (2 g) unless benefit outweighs risks. Short-term use of **nitrofurantoin** (at term, theoretical risk of neonatal haemolysis) is not expected to cause fetal problems. **Trimethoprim** is also unlikely to cause problems unless poor dietary folate intake or taking another folate antagonist e.g. antiepileptic. **If you are unsure about a particular drug's use in pregnancy please contact the relevant Medicines Optimisation team for further advice.**
14. For prescribing information relating to fungal nail/skin infections, parasitic infection, other bacterial infections (e.g. otitis externa) or viral infections (e.g. influenza), please refer to the PHE Management of Infection Guidance for Primary Care.¹

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References

1. Management of Infection Guidance for Primary Care. Revised November 2014 (available from [Public Health England website](#))
 2. British National Formulary Online (available from [Medicines Complete](#))
 3. British National Formulary for Children Online (available from [Medicines Complete](#))
 4. BTS Guideline on the Management of Asthma, October 2014 (available from <http://www.brit-thoracic.org.uk/>)
 5. BTS Guidelines for the Management of Community Acquired Pneumonia in Adults, 2009 update
 6. NICE [Guideline 69](#): Respiratory Tract Infections – antibiotic prescribing, July 2008
 7. NICE [Guideline 101](#): Chronic obstructive pulmonary disease, June 2010
 8. NICE [Guideline 102](#): Bacterial meningitis and meningococcal septicaemia, Revised September 2010
 9. SIGN [Guideline 88](#): Management of suspected bacterial urinary tract infections in adults, updated July 2012 10. EAU [Guidelines](#) on Urological Infections, April 2010
 11. [Public Health England and DH](#). *Clostridium difficile* infection: How to deal with the problem, updated 2013
 12. Clinical Knowledge Summaries [website](#).
 13. [Public Health England](#). Guidance for public health management of meningococcal disease in the UK. Updated March 2012
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Approved by the Lambeth and Southwark Borough Prescribing Committees: May 2015. Review date: May 2017 (or sooner if evidence changes)

These guidelines have been developed by NHS Southwark CCG, NHS Lambeth CCG, Department of Microbiology and Pharmacy Departments at KCH and GSTFT, Southwark and Lambeth Public Health, and are based on the Public Health England Management of infection guidance for primary care, revised October 2014. Please direct any comments or queries to Medicines Optimisation: NHS Southwark CCG 020 7525 3253, NHS Lambeth CCG 020 3049 4197

Infection	Comments	Likely Pathogen	First Choice Antibiotics		Pregnancy and Breastfeeding	
			No allergy	Penicillin allergy	No allergy	Penicillin allergy
UPPER RESPIRATORY TRACT INFECTIONS						
Pharyngitis / sore throat / tonsillitis	No or delayed antibiotics should be considered. Self-limiting to one week in 90% of people. Patients who are unwell and present with Centor score 3 or 4 (history of fever, purulent tonsils, cervical adenopathy, absence of cough) or history of documented recurrent otitis media may benefit from antibiotics. Antibiotics on average only shorten duration of symptoms by 8 hours. Unilateral sore throat may be pericoronitis or quinsy.	Majority viral (70%) β haemolytic <i>Streptococcus</i> (e.g. groups A & G)	Penicillin V 500 mg QDS for 10 days Or 1G BD (use QDS when severe)	Clarithromycin 250 mg – 500 mg BD for 5 days	Penicillin V 500 mg QDS for 10 days	Erythromycin 250 mg – 500 mg QDS for 7 – 10 days.

Acute Sinusitis	<p>No or delayed antibiotics should be considered. Most are viral and 80% resolve without antibiotics compared to 84% resolving with antibiotics. Symptomatic benefit of antibiotics is small. Reserve for severe or persistent (>7 days) symptoms. Nasal decongestants and analgesics also relieve symptoms.</p>	<p><i>Strep pneumoniae</i>, <i>H. influenzae</i>, <i>Staph aureus</i>, anaerobes, <i>Moraxella catarrhalis</i></p>	<p>Amoxicillin 500 mg (1g if severe) TDS for 7 days OR Doxycycline 200 mg STAT on day 1, then 100 mg OD for 6 days</p> <p>If failure to respond use alternative first line antibiotic</p> <p>In persistent infection use an agent with anti-anaerobic activity e.g. co-amoxiclav 625mg TDS for 7 days.</p>	<p>Doxycycline 200 mg STAT on day 1, then 100 mg OD for 6 days OR Clarithromycin 250 mg – 500 mg BD for 7 days</p> <p>If failure to respond use alternative 1st line antibiotic</p>	<p>Amoxicillin 500 mg TDS for 7 days OR Erythromycin 250 mg – 500 mg QDS for 7 days</p>	<p>Erythromycin 250 mg – 500 mg QDS for 7 days</p> <p>For 2nd line contact local trust infection department</p>
Acute otitis media (AOM)	<p>No or delayed antibiotics should be considered.</p> <p>Optimise analgesia and target antibiotics AOM resolves in 60% in 24hrs without antibiotics, which only reduce pain at 2 days and does not prevent deafness. Consider 2 or 3-day delayed or immediate antibiotics for pain relief if:</p> <ul style="list-style-type: none"> <2 years AND bilateral AOM or bulging membrane and ≥ 4 marked symptoms All ages with otorrhoea outcomes are similar. 	<p><i>H. influenzae</i>, <i>Strep. pneumoniae</i>, <i>Moraxella</i> or viral</p>	<p style="text-align: center;">Paediatric dosing only</p> <p>Amoxicillin for 5 days Child 1 month–1 year 125 mg TDS; increased if necessary up to 30 mg/kg TDS Child 1–5 years 250 mg TDS; increased if necessary up to 30 mg/kg TDS Child 5–12 years 500 mg TDS; increased if necessary up to 30 mg/kg (max. 1 g) TDS Child 12–18 years 500 mg TDS; in severe infection 1 g TDS</p> <p style="text-align: center;">See BNF for adult doses</p>		<p>Clarithromycin for 5 days 1 month - 12 yrs Body weight under 8kg: 7.5mg/kg BD Body weight 8-11kg: 62.5mg BD Body weight 12-19kg: 125mg BD Body weight 20-29kg: 187.5mg BD Body weight 30-40kg: 250mg BD Child 12-18years: 250 mg BD, increased if necessary in severe infections to 500 mg BD</p>	<p style="text-align: center;">See BNF for adult doses.</p>

Infection	Comments	Likely Pathogen	First Choice Antibiotics		Pregnancy and Breastfeeding	
			No allergy	Penicillin allergy	No allergy	Penicillin allergy
LOWER RESPIRATORY TRACT INFECTIONS (1 of 2)						

<p>Uncomplicated Community Acquired Pneumonia</p>	<p>Use CRP or CRB65 score in conjunction with clinical judgement to help guide and review: Each scores 1: Confusion (AMT≤8); Respiratory rate ≥30/min; BP systolic<90 or diastolic ≤ 60, Age ≥65. Score 0: suitable for home treatment; Score 1-2: consider hospital assessment or admission; Score 3-4: urgent hospital admission.</p> <p>Start antibiotics immediately. If no response in 48 hours consider hospital admission or add clarithromycin or doxycycline to amoxicillin if atypical pneumonia suspected or hospital admission likely, to cover Mycoplasma infection. Review of patients in the community with CAP is recommended after 48 hours or earlier if clinically indicated.</p> <p>When life threatening infection, GP should administer antibiotics. Benzylpenicillin 1.2 gram IV or amoxicillin 1 gram orally are preferred agents.</p> <p>The CRB65 score may be underestimated in younger patients.</p>	<p>Majority <i>Strep. pneumoniae</i></p>	<p>If CRB65=0: Amoxicillin 500 mgTDS for 7 days</p> <p>If CRB65=1 (and at home): Amoxicillin 500 mg TDS AND Clarithromycin 500 mg BD for 7days</p> <p>OR Doxycycline alone 200 mg STAT on day 1 then 100 mg OD for 6 days</p> <p>Refer to hospital if CRB65 > 1</p>	<p>If CRB65=0: Clarithromycin 500mg BD for 7 days OR Doxycycline 200mg STAT on day 1, then 100mg OD for 6 days</p> <p>If CRB65=1 (and at home): Clarithromycin 500 mg BD for 7 days OR Doxycycline 200 mg STAT on day 1 then 100 mg OD for 6 days</p> <p>Refer to hospital if CRB65 > 1</p>	<p>If CRB65=0: Amoxicillin 500 mg TDS for 7 days</p>	<p>If CRB65=0: Erythromycin 250 mg – 500 mg QDS for 7 days</p>
<p>Acute asthma</p>	<p>Routine prescription of antibiotics is not indicated for patients with acute asthma.</p>					
<p>Acute cough, bronchitis</p>	<p>No or delayed antibiotics should be considered.</p> <p>Systematic reviews indicate benefits of antibiotics are marginal in otherwise healthy adults. Symptom resolution can take 3 weeks.</p> <p>Consider immediate antibiotics if > 80yr and ONE of: hospitalisation in past year, oral steroids, diabetic, congestive heart failure OR > 65yrs with 2 of above.</p>	<p>Viral. May be secondary bacterial infection</p>	<p>Amoxicillin 500 mg TDS for 5 days</p>	<p>Doxycycline 200 mg STAT, then 100 mg OD (total 5 days treatment)</p>	<p>Amoxicillin 500 mg TDS for 5 days</p>	<p>Erythromycin 250 mg – 500 mg QDS for 7 days</p>
<p>Infection</p>	<p>Comments</p>	<p>Likely Pathogen</p>	<p>First Choice Antibiotics</p>		<p>Pregnancy and Breastfeeding</p>	
			<p>No allergy</p>	<p>Penicillin allergy</p>	<p>No allergy</p>	<p>Penicillin allergy</p>

LOWER RESPIRATORY TRACT INFECTIONS (2 of 2)					
Acute exacerbation of COPD	<p>Many cases are viral –consider whether antibiotics are needed.</p> <p>Treat exacerbations promptly with antibiotics if purulent sputum and increased shortness of breath and/or increased sputum volume.</p> <p>Risk factors for antibiotic resistant organisms include comorbid disease, severe COPD, frequent exacerbations, antibiotics in last 3 months.</p> <p>Previous microbiology should be reviewed if risk factors are present</p> <p>Antibiotics are not indicated in the absence of purulent or mucopurulent sputum, unless there is consolidation on a chest radiograph or clinical signs of pneumonia – in which case follow treatment guidance for pneumonia.</p> <p>Oral corticosteroids should be considered in patients with a significant increase in breathlessness which interferes with daily activities.</p>	<p><i>Strep. pneumoniae</i> <i>H. influenzae</i> <i>M. catarrhalis</i></p>	Rescue Pack (for initial management of exacerbation)		
			<p>Prescribe prednisolone 5mg tablets - Take SIX tablets in the morning for 7 days and Doxycycline 100mg capsules (unless allergic/pregnant/breastfeeding – see below for antibiotic choice) - Take TWO capsules once a day for 7 days. <i>NB: this dosing schedule differs from the dosing schedule for acute bronchitis</i></p> <p>If a patient is using two or more packs in a year they need a specialist review.</p> <p>For access to the Lambeth and Southwark integrated guideline for the management of COPD, click here: Lambeth and Southwark integrated guideline for the management of COPD</p>		<p>Doxycycline 200 mg OD for 7 days</p> <p>If risk factors present: Co-amoxiclav 625mg TDS for 7days</p>

Infection	Comments	Likely	First Choice Antibiotics	Pregnancy and Breastfeeding
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		Pathogen	No allergy	Penicillin allergy	No allergy	Penicillin allergy
URINARY TRACT INFECTIONS (1 of 3)						
Lower urinary tract infections	<p>UTI in ADULTS (no fever or flank pain): Women treat if severe / ≥ 3 symptoms. If mild / ≤ 2 symptoms AND</p> <p>a) Urine NOT cloudy 97% negative predictive value (NPV), do not treat unless other risk factors for infection. b) If cloudy urine use dipstick to guide treatment. Nitrite plus blood or leucocytes has 92% positive predictive value; nitrite, leucocytes, blood all negative 76% NPV c) Consider a back-up / delayed antibiotic option</p> <p>Men: Consider prostatitis and send pre-treatment MSU OR if symptoms mild/non-specific, use negative dipstick to exclude UTI.</p> <p>In treatment failure: always perform culture</p> <p>Risk factors for increased resistance include: care home resident, recurrent UTI, hospitalisation >7days in the last 6 months, unresolving urinary symptoms, recent travel to a country with increased antimicrobial resistance (outside Northern Europe and Australasia) especially health related, previous known UTI resistant to trimethoprim, cephalosporins or quinolones If resistance risk send culture for susceptibility testing & give safety net advice.</p> <p>If GFR is 30-45ml/min: only use nitrofurantoin if resistance & no alternative.</p> <p>People > 65 years: do not treat asymptomatic bacteriuria; it is common but is not associated with increased morbidity</p>	<i>E. coli Staph. saprophyticus</i>	<p>First line: Nitrofurantoin 100mg MR twice daily if GFR over 45ml/min. Use nitrofurantoin 1st line as resistance and community multi-resistant Extendedspectrum Beta-lactamase <i>E. coli</i> are increasing. If GFR is 30-45ml/min: only use nitrofurantoin if resistance & no alternative.</p> <p>Alternative 1st line agents: Trimethoprim 200 mg BD (if low risk of resistance) OR Pivmecillinam 400mg STAT then 200mg TDS</p> <p>If GFR<45 or elderly consider pivmecillinam or fosfomycin (3g stat in women plus 2nd 3g dose in men 3 days later). NOTE: Fosfomycin is not licensed in the UK and should only be prescribed on the advice of a microbiologist following culture sensitivity results.</p>	<p>Prompt treatment for seven days to prevent progression to pyelonephritis. Send MSU for culture and review antibiotics already prescribed based on results.</p> <p>Do not prescribe trimethoprim for pregnant women with established folate deficiency, or low dietary folate intake, or those taking folate antagonists (e.g. antiepileptics or proguanil)</p> <p>Short-term use of nitrofurantoin in pregnancy is unlikely to cause problems to the foetus.</p>		
			<p>Treatment duration:</p> <p>Women: 3 days</p> <p>Men: 7 days. Referral to hospital may be indicated in non-responding, severe or recurrent infection or suspicion of underlying urinary tract abnormality</p> <p>Send MSU for culture and start antibiotics.</p>	<p>Treat for 7 days: 1st line: Nitrofurantoin 100mg m/r BD (OR if susceptible Amoxicillin 250 mg TDS)</p> <p>2nd line: Trimethoprim 200 mg BD (off-label). Give folic acid 5 mg daily if it is the first trimester of pregnancy).</p> <p>3rd line: Cefalexin 500 mg BD</p>	<p>Treat for 7 days: Nitrofurantoin 100mg m/r BD OR Trimethoprim 200 mg BD (offlabel). Give folic acid 5 mg daily if it is the first trimester of pregnancy).</p>	

Infection	Comments	Likely Pathogen	First Choice Antibiotics		Pregnancy and Breastfeeding	
			No allergy	Penicillin allergy	No allergy	Penicillin allergy
URINARY TRACT INFECTIONS (2 of 3)						
	<p>Recurrent UTI in non-pregnant women (≥ 3 UTIs/year) To reduce recurrence first advise simple measures including hydration, cranberry products. Then standby or post-coital antibiotics. Prophylaxis to start after eradication of bacteria with full dose antibiotic course guided by sensitivity. Post coital prophylaxis as effective as prophylaxis taken nightly. Nightly prophylaxis reduces UTIs but adverse effects and long term compliance poor. Check sensitivities of organisms cultured from MSU. Proteus always resistant to nitrofurantoin.</p>	<p><i>E. coli</i> <i>Staph. saprophyticus</i> <i>Proteus spp</i> <i>Klebsiella spp</i></p>	<p>Prophylactic: Nitrofurantoin 50mg – 100mg or Trimethoprim 100mg</p> <p>Take STAT post-coital [off-label] or prophylaxis once daily at night. Review at 6 months.</p> <p>Consider stand-by antibiotics</p>		<p>Contact local trust infection department for advice on treating recurrent UTIs in pregnant and breastfeeding women.</p>	
	<p>UTI in children Children ≤ 3 months refer urgently for assessment If ≥ 3 months, use positive nitrite to start antibiotics. Send pre-treatment MSU for all.</p> <p>Imaging: only refer if child <6 months, or recurrent or atypical UTI</p>		<p>See BNF-C for doses Lower UTI: Trimethoprim OR Nitrofurantoin If susceptible, amoxicillin nd 2 line: Cefalexin</p> <p>3 days treatment</p>	<p>See BNF-C for doses Trimethoprim OR Nitrofurantoin</p> <p>3 days treatment</p>		
Upper urinary tract infections	<p>Upper UTI in children Double dose if severe. Children ≤ 3 months refer urgently for assessment If ≥ 3 months, use positive nitrite to start antibiotics. Send pre-treatment MSU for all.</p> <p>Imaging: only refer if child <6 months, or recurrent or atypical UTI</p>		<p>See BNF-C for doses Co-amoxiclav 2nd line: cefixime</p> <p>7-10 days treatment</p>	<p>Refer to specialist for advice/input</p>		
Catheter insitu	<p>In the presence of a catheter, antibiotics will not eradicate asymptomatic bacteriuria; only treat if systemically unwell or pyelonephritis likely. Do not use prophylactic antibiotics for catheter changes unless history of catheter-change-associated UTI or trauma or currently being treated for a UTI.</p>					

Infection	Comments	Likely Pathogen	First Choice Antibiotics		Pregnancy and Breastfeeding	
			No allergy	Penicillin allergy	No allergy	Penicillin allergy
URINARY TRACT INFECTIONS (3 of 3)						
Acute prostatitis	Send MSU for culture and start antibiotics. 4-wk course may prevent chronic prostatitis Quinolones achieve higher prostate levels		Treatment duration: 28 days 1 st line: Ciprofloxacin 500mg BD or ofloxacin 200mg BD 2nd line: trimethoprim 200mg BD			
Complicated urinary tract infection or acute pyelonephritis	Take MSU before starting antibiotics and send for culture. Avoid nitrofurantoin.		Ciprofloxacin 500 mg BD for 7 days OR Co-amoxiclav	Ciprofloxacin 500 mg BD for 7 days	Refer pregnant women to hospital In breastfeeding: Cefalexin 500mg TDS for 10 to 14 days	
					In breastfeeding: Contact local infection dept for breastfeeding women.	

	<p>Review MSU result once available and adjust treatment appropriately if necessary. Arrange admission if there is any clinical deterioration or the person does not respond to treatment.</p> <p>If extended-spectrum beta-lactamases (ESBL) risk discuss with microbiology. Risk factors include male sex, recent hospitalisation, institutionalisation, diabetes, recurrent UTI, age >65years, recent antibiotic use, residence in a long term care facility, comorbidity (Ref:2009 & 2012)</p>		<p>625 mg TDS for 7 days OR if MSU results show susceptibility consider switch to: Trimethoprim 200 mg BD for 14 days.</p>	<p>OR if susceptible, Trimethoprim 200 mg BD for 14 days. Refer to hospital if 2nd line agent required.</p>	
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Infection	Comments	Likely Pathogen	First Choice Antibiotics		Pregnancy and Breastfeeding	
			No allergy	Penicillin allergy	No allergy	Penicillin allergy

SKIN INFECTIONS (1 of 2)

Refer to local infection department for all patients with known or suspected MRSA where oral antibiotics are required

Impetigo	<p>A systematic review indicates topical and oral treatment produces similar results.</p> <p>Reserve topical antibiotics for very localised lesions to reduce the risk of resistance. Treatment for 7 days is usually adequate; max. duration of topical treatment 10 days.</p> <p>For extensive, severe, or bullous impetigo, use oral antibiotics</p> <p>If infection widespread, use oral treatment for 7 days.</p>	<p><i>Staph. aureus</i> <i>Strep. pyogenes</i></p>	<p>Flucloxacillin 500 mg QDS for 7 days</p> <p><u>Topical</u> <i>Fusidic acid</i> TDS for 5 days</p> <p><i>Mupirocin</i> TDS for 5 days (if MRSA)</p>	<p>Clarithromycin 250 mg – 500 mg BD for 7 days</p>	<p>Flucloxacillin 500 mg QDS for 7 days</p>	<p>Erythromycin 250 mg – 500 mg QDS for 7 days</p>
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Cellulitis	<p>If febrile and ill, unstable co-morbidities, in severe pain or rapidly deteriorating, then admit.</p> <p>If river or sea water exposure, discuss with microbiologist.</p> <p>Deep pain may indicate severe streptococcal sepsis and will require IV therapy. Admit patients urgently in such circumstances for early surgical review. Do not prescribe topical antibiotics. There is no published evidence to support their use, and widespread use is likely to increase antibiotic resistance.</p>	<p><i>Strep. pyogenes</i> <i>Staph. aureus</i></p>	<p>Flucloxacillin 500 mg QDS for 7 days</p>	<p>Clarithromycin 500 mg BD for 7days OR Clindamycin 300mg450 mg QDS for 7days</p>	<p>Flucloxacillin 500 mg QDS for 7days</p>	<p>Erythromycin 250 mg – 500 mg QDS for 7days – be particularly alert to deteriorating disease, carry out an early review</p>
			<p>Facial cellulitis: Co-amoxiclav 625 mg TDS for 7days</p>	<p>Stop clindamycin if diarrhoea occurs.</p>	<p>Review patient at 7 days, in case of treatment failure. For higher risk patients, e.g. diabetes, review after 48hours</p>	
Diabetic foot infections	Refer for specialist opinion unless mild, superficial wound margins. If diagnosis of mild cellulitis is suspected, treat as above. Refer MRSA and treatment failure cases.					

Infection	Comments	Likely Pathogen	First Choice Antibiotics		Pregnancy and Breastfeeding
			No allergy	Penicillin allergy	
SKIN INFECTIONS (2 of 2)					
Acne (requiring treatment with oral antibiotics)	<p>Oral antibiotics should be added to non-antibiotic topical therapy in moderate to severe acne. <u>Avoid concomitant treatment with oral and topical antibacterials (to reduce anti-microbial drug resistance)</u></p> <p>Erythromycin is best reserved for patients in whom other antibiotics are unsuitable, as propionibacterial resistance to this drug is relatively common.</p> <p>During adolescence, pregnancy and breastfeeding, use Erythromycin</p> <p>Minocycline is for secondary care initiation only</p>	<p><i>Propionibacterium acnes</i></p>	<p>1st Line: Doxycycline 100 mg OD</p> <p>Alternative 1st line: Lymecycline 408mg OD especially in patients experiencing photosensitivity/ ADRs/contraindication/intolerance/inefficacy with doxycycline Alternative choice: Oxytetracycline 500mg BD</p> <p>Maintenance therapy with topical retinoid (+/- benzoyl peroxide/azelaic acid)</p> <p>Treatments need to be used for 3 months before treatment failure can be assumed. Maximum improvement occurs after 4 - 6 months. For access to the Guidelines for the management of acne, click here</p>	<p>Erythromycin 500 mg BD</p>	

Eczema	If no visible signs of infection, use of antibiotics (alone or with steroids) encourages resistance and does not improve healing. In eczema with visible signs of infection, use treatment as in impetigo.				
Human or animal bites	<p>Ensure thorough cleaning of wound and check tetanus status. For further information and advice on tetanus schedule please refer to Immunisation against Infectious Disease(The Green Book): https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book</p> <p>Assess rabies risk. For advice on rabies prophylaxis, contact South East London Health Protection Team (HPT) on 0203 764 0804. Surgical toilet most important.</p> <p>Human bites: Assess HIV/hepatitis B/hepatitis C risk. Antibiotic prophylaxis is recommended. Animal bites: Antibiotic prophylaxis advised for cat bite/puncture wound; bite involving hand, foot, face, joint, tendon, ligament; immunocompromised, diabetics, elderly, asplenic, cirrhotic, presence of prosthetic valve or prosthetic joint Review at 24 and 48 hours.</p> <p>People with severely infected wounds or who are systemically unwell may require referral to A&E for IV antibiotics. See CCG guidance on incidents involving potential exposure to blood-borne viruses, or contact the South East London HPT on 0203 764 0804.</p>	<p>Human: URT aerobes and anaerobes</p> <p>Animal: <i>Pasteurella multocida</i>, <i>Capnocytophaga canimorsus</i>, anaerobes</p>	<p>First line animal or human prophylaxis and treatment: Co-amoxiclav 625 mg TDS for 7 days (longer if severely infected)</p> <p>Children with bites should also be treated with: Co-amoxiclav. See BNF for Children for doses.</p> <p>Antibiotic prophylaxis advised.</p>	<p>Animal bite: Metronidazole 400 mg TDS PLUS doxycycline 100 mg BD for 7 days</p> <p>Human bite: Metronidazole 400 mg TDS PLUS Either doxycycline 100 mg BD OR clarithromycin 250 – 500 mg BD for 7 days</p> <p>Animal or human bites in children under 12 years: Metronidazole AND clarithromycin. See BNF-C for doses. Seek local micro advice if necessary.</p>	<p>Clindamycin – AND seek advice from the local Microbiologist</p>
Infection	Comments	Likely Pathogen	Antibiotic treatment		
SEXUALLY TRANSMITTED INFECTIONS (STIs): Refer to the Lambeth and Southwark STI management guidelines for primary care					
GASTROINTESTINAL INFECTIONS					
Infectious diarrhoea (or gastroenteritis)	<p>Normal feeding should be restarted as soon as possible; there is no evidence that fasting will have any benefit.</p> <p>Fluid replacement is essential.</p> <p>Travel history should be reported if stool sample sent.</p> <p>Refer previously healthy children with acute painful or bloody diarrhoea to exclude E. coli 0157 infection.</p>	<p>Majority caused by <i>Campylobacter</i> As well as <i>Rotavirus</i>, <i>Salmonella</i>, <i>Shigella</i>, <i>E. coli (including 0157)i</i>, <i>Norovirus</i></p>	<p>Antibiotic therapy usually not indicated unless systemically unwell as it only reduces diarrhoea by 1-2 days and can cause resistance. Initiate treatment, on advice of microbiologist. 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).</p> <p>Please notify suspected cases of food poisoning to, and seek advice on exclusion of patients from, South East London HPT on 0203 764 0804. Send stool samples in these cases.</p>		

<p>Antibiotic-associated diarrhoea/pseudomembranous colitis</p>	<p><i>Clostridium difficile</i> (CD) has been identified as a causative organism in pseudomembranous colitis/antibiotic-associated diarrhoea.</p> <p>The vast majority of patients will be managed in a secondary care setting due to the severity of the condition and associated risk factors as well as low community colonisation and subsequent symptom progression prevalence.</p> <p>Stop unnecessary antibiotics and/or PPIs to reestablish normal flora. Stop any antidiarrhoeal agents in patients who are proven CD toxin positive.</p> <p>Fluids and electrolytes should be replaced.</p>	<p><i>Clostridium difficile</i></p>	<p>Some patients with recurrent <i>C. difficile</i> infections (CDI) may continue their treatment in a primary care setting, due to long-duration and/or tapering courses of vancomycin and attempts to avoid long hospital stays.</p> <p><i>1st episode:</i> Oral metronidazole 400 mg TDS for 10-14 days</p> <p><i>2nd episode/Severe CDI:</i> Oral/NG (for information only): vancomycin 125 mg QDS for 10-14 days If severe symptoms or signs (see below) should treat with oral vancomycin, review progress closely and/or consider hospital referral.</p> <p>Severe if T > 38.5°C; WCC > 15 x10⁹/L, rising creatinine (> 50% increase above baseline) or signs/symptoms of severe colitis (abdominal or radiological).</p> <p>Subsequent recurrences and all cases of severe CDI will require admission. If the patient is well enough to avoid admission to hospital, but has diarrhoea and there is a suspicion of CDI, for the first and second episodes, send a stool sample, rehydrate and consider treatment as above.</p>
<p>MENINGITIS</p>			
<p>Suspected meningococcal disease</p>	<p>Transfer all patients to hospital immediately.</p> <p>Keep supply of benzylpenicillin and check expiry dates.</p> <div data-bbox="389 922 725 1034" style="border: 2px solid black; background-color: yellow; padding: 5px; text-align: center; margin: 10px auto; width: fit-content;"> <p>ARRANGE URGENT TRANSFER TO HOSPITAL</p> </div>	<p><i>Neisseria meningitidis</i></p>	<p>IF time before hospital admission, and non-blanching rash, administer benzylpenicillin prior to admission, unless history of true anaphylaxis reaction to previous penicillin; Ideally administer IV bolus but IM if a vein cannot be found. Adults and children:</p> <p>10 yr and over: 1200 mg (1.2grams) Children 1 - 9 yr: 600 mg Children <1 yr: 300 mg</p> <p>Past history of allergic responses other than anaphylaxis, such as a rash is not a contraindication to an urgent penicillin injection in this situation.</p> <p>No alternative antibiotic is indicated in patients with anaphylactic reactions to penicillin.</p>
<p>METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA)</p>			
<p>MRSA infections</p>	<p>Guidelines for the prophylaxis and treatment of MRSA infections in the UK are available here.</p> <p>For support in prophylaxis and treatment of MRSA infections please contact Infection Prevention and Control Teams (IPCT) at either: Guy's and St Thomas' NHS Foundation Trust 020 7188 3153 or King's College Hospital NHS Foundation Trust 0203 299 4374.</p> <p>Severe MRSA infections would be better treated in secondary care, on an individual case basis, working closely with the IPCT.</p>		