NHS
Cambridgeshire and Peterborough
Clinical Commissioning Group

Cambridgeshire and Peterborough Clinical Commissioning Group Antimicrobial Treatment Guidelines - Primary Care February 2019

Skip to Table of Contents

FORMULARY FIRST AND SECOND LINE CHOICES FOR COMMON INFECTIONS

(Both sections and individual entries are in alphabetical order

The purpose of this document is to support the appropriate prescribing and use of antibiotics in Primary Care.

The top-line principles, in line with evidence based guidelines and **CCG** priorities, are to:

1) Promote the safe, effective and economic use of antibiotics. Antibiotics should be prescribed at an effective dose (towards the top end of the licensed dosing range for the patient) for the minimum effective duration of treatment as outlined in these guidelines.
2) Reduce the amount of antibiotics prescribed to minimise the emergence of bacterial resistance in the community. GPs should consider before prescribing whether a course of antibiotics is necessary, in order to reduce the number of patients exposed to antibiotics.
3) Manage the prescribing of antibiotics to reduce levels of healthcare associated infection (HCAI), e.g. *Clostridium difficile* infection (CDI) and MRSA infection.

Overall Principles and Aims of Treatment

- Antibiotic prescribing should only take place where consideration has been given to the origin of infection and where infection of viral origin has been precluded where possible, e.g. viral sore throat, simple coughs and colds, viral conjunctivitis.
- Antibiotics should not be prescribed following telephone consultations unless the circumstances are exceptional.
- Where possible, antibiotics should be prescribed generically. The use of newer/more expensive antibiotics (e.g.fluoroquinolones and cephalosporins) is inappropriate when well-established and less expensive antibiotics are effective.
- The antibiotic chosen should be of the narrowest spectrum possible for the identified condition.
- Topical antibiotic agents should be avoided, if possible.
- Consider using delayed antibiotic prescriptions or the RCGP antibiotic information leaflet available at http://www.rcgp.org.uk/TARGETantibiotics

These C&PCCG Antibiotic Guidelines for Primary Care, are a working document to support the Cambridgeshire and Peterborough Joint Prescribing Group Formulary.
Comments are welcome and should be made to:prescribing partnership CAPCCG.prescribingpartnership@nhs.net
Those antibiotics associated with increased risk for *C.difficile* infection are marked with the following symbol: ◄. Prescribers are encouraged to question the necessity to prescribe these drugs before doing so.
It should be noted that the Clinical Knowledge Summaries, on which these guidelines are based, are updated regularly and while these guidelines are accurate at the date given on Page 1 they may have been superseded. The Medicines OptimsationTeam will update the guidelines every three months.

Clostridium difficile Infections

1) *Clostridium difficile:* current evidence indicates that clindamycin and second or third generation cephalosporins, e.g. cefuroxime, cefixime, cefotaxime, ceftriaxone) are significantly more likely to provoke *Clostridium difficile infection* (CDI). Anecdotal evidence also incriminates fluoroquinolones, first-generation cephalosporins (e.g. cefalexin) and co-amoxiclav. These antibiotics should be used sparingly especially in the elderly, in patients in institutions with CDI and in patients previously diagnosed and treated for CDI.

2) Where possible a narrow spectrum antibiotic should be used, guided by microbiology results. The minimum effective duration of treatment should be prescribed.

3) There is evidence that the use of **Proton Pump Inhibitors (PPIs)** increases susceptibility to *C.difficile* and Campylobacter infection. GPs should ensure that all prescribing is within the recommendations of this guideline and that any prescribing is for the shortest appropriate treatment period and at the lowest effective dose.

4) Review/discontinue if possible PPIs in patients with/ or a high risk of *C.difficile* infection PHE

Antibiotics that are associated with *C. difficile* infection are highlighted in this document with the following symbol: ◄These should be used with caution in those predisposed to infection with *C.difficile* such as the elderly and those receiving anti-cancer treatment, particularly where there is a history of previous *C.difficile* infection and when cared for in units (e.g. nursing homes) with confirmed cases of *C.difficile* infection.

Dosages: The current guidance for GPs is for the dosage guidance in the BNF to be used. Follow these links:

It is the intention of Cambridgeshire and Peterborough CCG to audit for compliance against the antibiotics formulary to support judicious prescribing of antibiotics. This will be carried out by the Medicines OptimisationTeam who will be able to give help and support to practices and prescribers in achieving this.

Cambridgeshire and Peterborough CCG would like to acknowledge the help of Dr Sani Aliyu, Consultant in Medical Microbiology and Infectious Diseases (CUH), Dr Dennis Mlangeni, Consultant Microbiologist (PSHFT), Ms Nikki Phillimore, Infection Management Pharmacist (PSHFT), Ms Reem Santos Lead Pharmacist – Antibiotics (CUH) and Mark Cheeseman, Specialist Pharmacist (CCG) in the production of these guidelines.

Table of Contents

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ANTIMICROBIAL TREATMENT GUIDELINES FOR PRESCRIBING IN PRIMARY CARE.

FORMULARY FIRST AND SECOND LINE CHOICES FOR COMMONLY PRESCRIBED DRUGS

5.	Infections				
	Infection	**1st Line Formulary Choice**	**2nd Line Formulary Choice**	**Duration of Treatment (Days)**	**Rationale/ Additional Information for Treatment** **BNF** **BNFC**
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
Dental					
	Dental infections	Amoxicillin In penicillin allergy: Clarithromycin	 Metronidazole	5 5 5	**Mild** – empirical (Streptococci, anaerobic streps, bacteroides spp (but rarely penicillin resistant)) **Moderate/severe/recurrent** : (organisms as above but note possibility of penicillin-resistance) **If severe/spreading** (e.g.lymph node involvement or systemic symptoms) **consider ADDING metronidazole** CKS
Ear, Nose and Throat – Consider delayed antibiotics					
	Acute Otitis Media (only if antibiotics are indicated):	Amoxicillin In penicillin allergy: Clarithromycin or Erythromycin See BNFC for children's doses		5 5	**Optimise analgesia and target antibiotics** AOM resolves in 60% of cases in 24 hours without antibiotics. Antibiotics reduce pain only at two days (NNT15), and do not prevent deafness. **Consider 2 or 3 day delayed, or immediate antibiotics for pain relief if:** <2 years AND bilateral AOM bulging membrane, or symptom score >8 for: fever; tugging ears; crying; irritability; difficulty sleeping; less playful; eating less (0 = no symptoms; 1 = a little; 2 = a lot). All ages with otorrhoea NICE RTIs
	Acute Sore throat Consider Self Care	Fever Pain 0-1 or Centor score 0,1 or 2: Do not offer antibiotics self care	Fever pain 2-3: Consider no script or back up antibiotics	5-10	Use **FeverPAIN** Score or **Centor** score for assessing symptoms. Advise : • Sore throat can last around 1 week • Manage symptoms with self care

		Phenoxymethyl-penicillin 500mg four times daily or 1G twice daily In penicillin allergy: Clarithromycin 250-500mg twice daily Penicillin allergy in pregnancy: erythromycin 250-500mg four times daily	FeverPain 4-5 or Centor 3 or 4: Consider an immediate script or back up antibiotics	5 5	**FeverPAIN** (1 point for each) A **Fever** in last 24 hours; **P**urulence; **A**ttend rapidly under three days; severely **I**nflamed tonsils; **N**o cough or coryza. **Centor Score (1 point for each)** Tonsillar exudate,Tender anterior cervical lymphadenitis, History of fever (>38Oc), No cough **FeverPAIN score 0-1 or Centor score 0,1 or 2**: Do not offer antibiotics **FeverPAIN score 2-3**: Consider no script or a back up antibiotic prescription **FeverPAIN score 4-5 or Centor score 3 or 4**: Consider an immediate antibiotic or a back up antibiotic prescription. When <u>no antibiotic given</u>, advise: • antibiotic is not needed • seeking medical help if symptoms worsen rapidly or significantly, do not start to improve after 1 week or the person becomes very unwell With a <u>back-up antibiotic prescription</u>, advise: • antibiotic is not needed immediately • use prescription if no improvement in 3 to 5 days, or symptoms worsen • seeking medical help if symptoms worsen rapidly or significantly or the person becomes very unwell With an <u>immediate antibiotic prescription</u>, advise: • seeking medical help if symptoms worsen rapidly or significantly or the 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 • previous antibiotic use, which may lead to resistant organisms **Advise paracetamol, self-care, and safety net**. **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 : • Severe systemic infection, or • Severe complications NICE Jan 18

	Infection	**1st Line Formulary Choice**	**2nd Line Formulary Choice**	**Duration of Treatment (Days)**	**Rationale/ Additional Information for Treatment** **BNF** **BNFC**
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Acute Sinusitis	Symptoms< 10 days: **No antibiotic-self care** Symptoms >10days **no antibiotic or delayed:** Phenoxymethyl-penicillin 500mg four times daily		5	**Symptoms <10 days:** do not offer antibiotics as most resolve in 14 days without, and antibiotics only offer marginal benefit after 7 days (NNT15). **Symptoms >10 days:** no antibiotic, or **delayed antibiotic** ; if several of: purulent nasal discharge; severe localised unilateral pain; fever; marked deterioration after initial milder phase. At any time if the person is systemically very unwell, or more serious signs and symptoms or high risk of complications: **immediate antibiotic** .

		Penicillin allergy or intolerance : Doxycycline. 200mg stat, then 100mg daily Or Clarithromycin 500mg twice daily	Penicillin allergic pregnant women: Erythromycin 250-500mg four times daily or 500mg-1000mg twice daily	5	**Suspected complications:** eg sepsis, intraorbital or intracranial, refer to secondary care. **Self-care:** paracetamol/ibuprofen for pain/fever. Consider high-dose nasal steroid if >12 years. Nasal decongestants or saline may help some Consider a high dose nasal corticosteroid for 14 days for adults and children 12+ Very unwell or worsening symptoms : co-amoxiclav 500mg/125mg TDS for 5 days NICE Sinusitis (acute) July 2017
Eye					
	Conjunctivitis	Chloramphenicol 0.5% drops OR Chloramphenicol 1% ointment	Fusidic acid 1% gel	For 48 hours after resolution of infection	Many infections are viral in origin Most bacterial infections are self-limiting (64% resolve on placebo). They are usually unilateral with yellow-white mucopurulent discharge. Fusidic acid has no Gram-negative activity. **For contact lens wearers with keratitis, refer to local ophthalmology clinic for assessment and urgent treatment.** CKS
	Ocular Herpes	Refer to secondary care clinicians			*Herpes simplex – 1,2* virus On suspicion - refer immediately to eye casualty – corticosteroids should not be used in undiagnosed red eye. *Acanthamoeba* spp is a cause of corneal ulcer primarily in contact lens wearers -*refer urgently.*

	Infection	1st Line Formulary Choice	2nd Line Formulary Choice	Duration of Treatment (Days)	Rationale/ Additional Information for Treatment
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
Gastro-intestinal					
	Eradication of Helicobacter pylori For HP +ve result **All doses stated are adult doses**	Formulary PPI BD + Amoxicillin 1g BD + Clarithromycin 500mg BD or Metronidazole 400mg BD	Formulary PPI BD+ Amoxicillin 1g BD+ Clarithromycin 500mg BD or Metronidazole 400mg BD (whichever wasn't used first line) previous Metronidazole & Clarithromycin; PPI BD+ Amoxicillin 1g BD+ tetracycline 500mg QDS **or** Levofloxacin◄ 250mg bd	7 7	Do not use the clarithromycin/metronidazole or quinolone regimen if either drug used for any infection in the past year. Offer people who still have symptoms after first-line eradication treatment a 7-day course with a second line treatment. Seek advice from a gastroenterologist if eradication of *H pylori* is not successful with second-line treatment
		Penicillin Allergy Formulary PPI BD+ metronidazole 400mg BD + Clarithromycin 500mg BD	**Penicillin Allergy** Formulary PPI BD+ Metronidazole 400mg BD +Levofloxacin◄ 250mg bd	7	

	Gastroenteritis / Infective Diarrhoea	**Antibiotic therapy is not usually indicated as it only reduces diarrhoea by 1 to 2 days and can lead to antibiotic resistance**. Refer previously healthy children with acute painful or bloody diarrhoea to exclude E. coli 0157 infection. Check travel, food, hospitalisation and antibiotic history. Initiate treatment if the patient is systemically unwell. Fluid replacement is essential. Please send stool specimens from suspected cases of food poisoning or where C. difficile infection is suspected e.g. post broad spectrum antibiotic use. Notify all cases of food poisoning to the Health Protection Unit (via the statutory 'Notification of Infectious Disease or Food Poisoning' form faxed to 01480 398684) on **clinical suspicion or after seeking advice from a Public Health Doctor.** CKS			
	Infection	**1st Line Formulary Choice**	**2nd Line Formulary Choice**	**Duration of Treatment (Days)**	**Rationale/ Additional Information for Treatment** **BNF** **BNFC**
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Campylobacter (suspected)	Clarithromycin 250mg-500mg twice daily		5-7	Refer previously healthy children with acute painful or bloody diarrhoea, to exclude *E. coli* 0157 infection. **Antibiotic therapy is not usually indicated unless patient is systemically unwell.** If systemically unwell and campylobacter suspected (eg undercooked meat and abdominal pain), consider clarithromycin if treated early (within 3 days). PHE Diarrhoea
	C.difficile Infection	**Mild/Moderate** Metronidazole 400mg tds	Vancomycin (oral) 125mg qds	10-14 days	Stop any antibiotics and PPIs that do not have a clear, current indication.

		Severe CDI Vancomycin (oral) 125mg qds		10-14 days	**Discussion with a microbiologist is recommended sooner rather than later if clarity of treatment is required** Mild CDI: treatment not always needed but aim to stop all antibiotics if possible. Mild/Moderate CDI- no improvement or worsening after 7 days **or** signs of severe CDI then escalate to vancomycin 125mg QDS for 10-14 days. Consider admission if **severe**: T >38.5; WCC >15, acutely rising creatinine or signs/symptoms of severe colitis. Discuss patients with recurrent disease with Microbiology. **C&PCCG *C.difficile* Clinical Pathway** CKS PHE guidance on management and treatment of C.difficile
	Diverticulitis	Co-amoxiclav◀	**Penicillin Allergy** Ciprofloxacin◀ plus Metronidazole	At least 7 days then review	Treatment of uncomplicated diverticulitis includes a low residue diet and bowel rest. Antibacterials are recommended only when the patient presents with signs of infection or is immunocompromised, as there is no evidence to support routine administration BNF People with mild, uncomplicated diverticulitis can be managed at home with paracetamol, clear fluids, and oral antibiotics. See Management at home CKS Arrange admission for people with diverticulitis when: o Pain cannot be managed with paracetamol. o Hydration cannot be easily maintained with oral fluids, or oral antibiotics cannot be tolerated. o The person is frail or has a significant comorbidity that is likely to complicate their recovery, particularly if they are immunocompromised (for example severe infection; diabetes

					mellitus; renal failure; malignancy; cirrhosis; or the use of oral corticosteroids, chemotherapy, or immunosuppressive drugs). o The person has any of the following suspected complications: § Rectal bleeding that may require transfusion. § Perforation and peritonitis. § Intra-abdominal abscess. § Fistula. o Symptoms persist after 48 hours despite conservative management at home.
	Traveller's diarrhoea	Ciprofloxacin ◄		Stat dose or 3 days	**Private prescription for standby antibiotics** CKS
	Threadworm Consider Self Care	Mebendazole (OTC) (for adults and children over 6m) Only retreat after 14 days if infestation persists		Stat	Household contacts should be treated. Mebendazole is not licensed for use in children under 2 years of age. N.B. The PIL for mebendazole suspension states not suitable for under 2 years, warn parent to avoid confusion Advise on morning shower/baths and on hand hygiene. If an anthelmintic is contraindicated (e.g. first trimester of pregnancy, children aged less than 6 months) or if the individual does not wish to take an anthelmintic, advise physical removal of eggs, combined with hygiene measures for 6 weeks CKS
	Infection	**1st Line Formulary Choice**	**2nd Line Formulary Choice**	**Duration of Treatment (Days)**	**Rationale/ Additional Information for Treatment** **BNF** **BNFC**

Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
Genital Tract - BASHH					
	Vaginal candidiasis Consider Self Care	Clotrimazole 10% Vaginal Cream (OTC) OR Clotrimazole 500mg pessary (OTC) (see comments)	Oral fluconazole (OTC)	Stat.	All topical and oral azoles give 80-95% cure. **In pregnancy**: Use Clotrimazole 100mg pessary at night for six nights or miconazole 2% cream 5g intravaginally bd for 7 days. Avoid oral azole antifungal in pregnancy. CKS
	Bacterial vaginosis	Metronidazole PO OR Metronidazole 0.75% vaginal gel	Clindamycin 2% cream	2g Stat or 400mg BD for 7 days 5 7	A 7 day course of oral metronidazole is slightly more effective than 2g stat. Avoid 2g stat dose in pregnancy. Topical treatment gives similar cure rates but is more expensive.
	Candidal Balanitis	Topical clotrimazole 1% Oral metronidazole	Oral fluconazole (adults and children over 16 only), if candidal balanitis has not cleared after 7 days or is severe.	Until 2-3 days after clinical cure Single dose 7	An irritant balanitis is more common than infective Diagnosis of candidal balanitis is probably more common than bacterial (e.g. strep, anaerobes) and should be made on clinical grounds whilst awaiting culture results. Advise to avoid contact with any potential skin irritants (e.g. soap). Keeping area clean by bathing twice daily with a weak saline solution while symptoms persist. Children being treated for candida balanitis should receive topical anti-fungals.

	Gardnerella associated balanitis				If symptoms not improving by 7 days, a sub-preputial swab should be taken for culture, (to exclude or confirm infection type) A mild topical steroid cream may settle inflammation for irritant balanitis
	Infection	**1st Line Formulary Choice**	**2nd Line Formulary Choice**	**Duration of Treatment (Days)**	**Rationale/ Additional Information for Treatment** **BNF** **BNFC**
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Acute streptococcal balanitis	Oral amoxicillin In penicillin allergy: Clarithromycin		7	An infective complication of an underlying dermatosis should also be considered. CKS
	Chlamydia trachomatis	Azithromycin	Doxycycline **OR** Erythromycin	Stat 7 7	Tetracyclines are contra-indicated in pregnancy. Erythromycin is less efficacious than doxycycline. Treat partners and refer contacts of positive patients to Cambridge Chlamydia Screening service, Tel 01480 398787 cambridgeshirecso@nhs.net CKS
	Trichomo-niasis	Metronidazole Topical clotrimazole	Tinidazole Or Second course of Metronidazole	7	Refer to Department of Sexual Health (DOSH). Treat partners simultaneously In pregnancy avoid 2g single dose metronidazole. Topical clotrimazole gives symptomatic relief but not cure. CKS
	Pelvic Inflammatory Disease (PID)	Ceftriaxone I/M ◄ (single dose) + Metronidazole +Doxycycline	Metronidazole + Ofloxacin ◄	14	Test for *N. gonorrhoea* (as increasing antibiotic resistance) and chlamydia. Regimens containing ofloxacin are not recommended in patients with a high risk of gonococcal disease.

			(only if risk of gonnococcal infection is low)		Refer patient and contacts to Department of Sexual Helath (DOSH) CKS
	Suspected Epididymo-orchitis	*High risk of STI including gonorrhoea* Doxycycline 100mg bd plus a single dose of Ceftriaxone◄ 500mg IM *Chlamydia or other non-gonoccal organism suspected* Doxycycline 100mg bd *Enteric organisms suspected* Ciprofloxacin◄ 500mg bd	Single dose of oral Cefixime 400mg◄ may be used as an alternative to ceftriaxone if not available Ofloxacin◄200mg bd Ofloxacin◄ 200mg bd	10-14 14	Ideally, refer for same-day or next-day assessment by a sexual health specialist (if mumps orchitis is not diagnosed). Only treat if urgent referral to a sexual health service is not possible: Obtain a MSU for dipstick, microscopy and culture. Test for STI. Treat without waiting for test results for all suspected organisms. In sexually active adolescents and men younger than 35 years of age, the causative organism is likely to be *Chlamydia trachomatis* or *Neisseria gonorrhoeae* For further information including details of risk factors of likely causative organism and follow up including tracing of contacts see : CKS In men 35 years or older and adolescents and men younger than 35 years of age who are not sexually active, the causative organisms are typically enteric organisms found in lower urinary tract infections, such as *Escherichia coli*.Treat with Ciprofloxacin for 10 days or Ofloxacin for 14 days CKS

	Infection	1st Line Formulary Choice	2nd Line Formulary Choice	Duration of Treatment (Days)	Rationale/ Additional Information for Treatment BNF BNFC
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
Meningitis					
	Suspected meningio-coccal disease	Benzyl penicillin IV or IM if no access **In penicillin allergy:** Cefotaxime ◄	Chloramphenicol if history of anaphylaxis with penicillin or cephalosporins	stat	Admit immediately. Administer antibiotic prior to hospital admission. Prevention of secondary cases –contact PHE for advice 0844 2253546
Respiratory					
	Note: Avoid tetracyclines in pregnancy. Low doses of penicillins are more likely to select out resistance. The quinolones ciprofloxacin (◄) and ofloxacin (◄) have poor activity against pneumococci, however, they do have use in PROVEN Pseudomonal infections.				
	Acute Exacerbation of COPD	Doxycycline	(only where tetracyclines contraindicated) Co-amoxiclav (If penicillin intolerant, consult microbiologist for advice)	5 5	30% of cases are viral in origin, 30-50% bacterial, remainder undetermined. Antibiotics are not indicated in the absence of purulent/mucopurulent sputum. A longer antibiotic course for up to 10 days may be necessary in unwell patients with delayed clinical response In the event of treatment failure the second line drug should be considered, and a sputum specimen sent for analysis. Co-amoxiclav is only recommended where doxycycline is inappropriate or ineffective, as it may predispose patient to *C.difficile* infection. Other antibiotics should only be used on microbiological advice due to resistance of some organisms locally. CKS, NICE, BNF GOLD Local Microbiology advice based on sensitivity patterns This section is under review

	Acute Bronchitis	Amoxicillin **In Penicillin allergy:** Doxycycline or Clarithromycin	Doxycycline Clarithromycin	5 5	Antibiotics are not indicated in people who are otherwise well. Explain why antibiotics are not necessary, giving written information if necessary. CKS
	Infection	**1st Line Formulary Choice**	**2nd Line Formulary Choice**	**Duration of Treatment (Days)**	**Rationale/ Additional Information for Treatment** **BNF BNFC**
Doses: please note the doses quoted are adult doses unless otherwise stated. Refer to BNFC for children's doses					
	Community Acquired Pneumonia	CRB-65 = 0: Amoxicillin 500mg TDS CRB-65 =1 & at home: Amoxicillin 500mg TDS PLUS Clarithromycin 500mg BD	**In Penicillin allergy** CRB-65 = 0 Doxycycline 200mg on day 1, then 100mg od or Clarithromycin 500mg BD **In Penicillin allergy** CRB-65=1 & at home Doxycycline 200mg on day 1 then 100mg od thereafter	5 7-10	Consider extending the course of the antibiotic for longer than 5 days as a possible management strategy for patients with low severity CAP whose symptoms do not improve after 3 days. Patients should seek further medical advice if their symptoms do not improve within 3days or earlier if their symptoms are worsening. Use CRB-65 scoring to help guide treatment. Score 1 for each: Confusion (AMT<8), RR > 30, BP systolic<90 or diastolic ≤ 60, Age ≥ 65yrs old. Score 0 = home therapy OK, 1-2 hospital assessment or admission, 3-4 urgent hospital admission. NICE
	Bronchiectasis in non-cystic fibrosis patients	Empirical treatment: Amoxicillin	Doxycycline Clarithromycin	10 to 14 10 to 14 10 to 14	Send sputum sample for culture and sensitivity before starting antibiotic treatment (even if the patient is taking long-term antibiotics). Use most recent microbiology result to guide empiric treatment while awaiting culture results. CKS

	Seasonal Influenza	Annual vaccination for at risk patients When influenza is circulating in the community, antivirals may be prescribed as per local advice		Yearly	In otherwise healthy adults, antivirals are not recommended. Treat at risk patients only when influenza is circulating in the community, and when treatment can be started within 48 hours of onset of symptoms. NICE At risk: Pregnant (including up to two weeks post partum), 65 years or over, chronic respiratory disease (including COPD and asthma) significant cardiovascular disease (not hypertension), immunocompromised, diabetes mellitus, chronic renal disease, chronic liver disease and chronic neurological disease. DoH (Vaccination Against Infectious Diseases) HPA

	Infection	1st Line Formulary Choice	2nd Line Formulary Choice	Duration of Treatment (Days)	Rationale/ Additional Information for Treatment BNF BNFC
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
Skin and Soft Tissue					
	Acne Moderate to severe	Doxycycline 100mg OD	Lymecycline 408mg OD Erythromycin (if tetracyclines not tolerated)	At least 3 months	The tetracyclines should not be used in pregnancy, during breastfeeding, or in children under 12 years of age, as they are deposited in the teeth and bones of the unborn or developing child. Women of childbearing age should use effective contraception. CKS
	Balanitis – see under Genital Tract				
	Bites (Cat, Dog, Human)	Co-amoxiclav ◄ (Human/animal)	In penicillin allergy: **animal bite:** Metronidazole + doxycycline **human bite:** Metronidazole + Clarithromycin	7	**Antibiotic prophylaxis** (agents, dose and duration as for treatment) advised for puncture wounds; bites involving hand, foot, face, joint, tendon, ligament in immunocompromised, diabetic, elderly and asplenic patients **Antibiotic prophylaxis** (antibiotics and duration as for treatment) advised for all human bites. Human bites should be reviewed after 24 and 48 hours. Assess HIV/hepatitis B & C risk, tetanus and rabies. CKS
	Breast Abscess	Flucloxacillin	Clarithromycin	7	

	Infection	1st Line Formulary Choice	2nd Line Formulary Choice	Duration of Treatment (Days)	Rationale/ Additional Information for Treatment BNF BNFC
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Cellulitis and erysipelas	Flucloxacillin 500mg four times daily ***Penicillin allergy**:* clarithromycin 500mg twice daily ***Penicillin allergy and taking statins**:* doxycycline 200mg stat, then 100mg daily *Facial (non-dental):* co-amoxiclav 500/125mg three times daily	*Unresolving:* Clindamycin ◄300mg four times daily	7 days if slow response, continue for a further 7 days	**Class I:** patient afebrile and healthy other than cellulitis, use oral flucloxacillin alone. **If river or sea water exposure:** seek advice. **Class II:** patient febrile and ill, or comorbidity, admit for intravenous treatment,or use OPAT. **Class III:** if toxic appearance, admit. **Erysipelas:** often facial and unilateral. Use flucloxacillin for non-facial erysipelas. CREST Cellulitis BLS Cellulitis
	Chicken Pox	Aciclovir 800mg 5x/day Child doses – see BNFC		7	If pregnant seek advice (see link). Clinical value of antivirals minimal unless immunocompromised, severe pain, on steroids, secondary household case AND treatment started less than 24hours from onset of rash. If patients develop life-threatening complications (encephalitis, pneumonia or CNS deterioration) send them immediately to hospital for IV aciclovir treatment. Immunocompromised patients with severe chickenpox must always be given IV aciclovir.

					It is recommended that immunocompromised patients who come into contact with chicken pox should be given Varicella-Zoster immunoglobulin (VZIG) CKS DoH Green Book
	Infection	**1st Line Formulary Choice**	**2nd Line Formulary Choice**	**Duration of Treatment (Days)**	**Rationale/ Additional Information for Treatment** **BNF BNFC**
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Cold sores Consider Self Care	Aciclovir topical (OTC)		5	Herpes simplex virus Topical aciclovir must be started, five times a day as soon as symptoms begin, to be of any benefit, otherwise paracetamol or ibuprofen can be used for pain and pyrexia. CKS
	Dermatophyte infection of the proximal fingernail or toenail	Oral terbinafine (generic only)	Oral itraconazole (pulsed)	Fingers: 6 – 12 weeks Toes: 3 – 6 months Fingers: 7 days monthly – 2 courses Toes 7 days monthly – at least 3 courses	Take nail clippings: Start therapy only if infection is confirmed by mycological examination. Idiosyncratic liver reactions occur rarely with terbinafine. For infections with yeasts and non-dermatophyte moulds use itraconazole.Itraconazole can also be used for dermatophytes. For children seek advice CKS
	Dermatophyte infection of the skin	Topical 1% terbinafine		7	Take skin scrapings for culture. Treatment: 1 week topical terbinafine is as effective as 4 weeks of topical azole. If intractable consider oral itraconazole. Discuss scalp infections with specialist.

			Topical 1% azole	4 - 6 weeks treatment	Fungal infections body and groin- CKS Fungal infection (foot)- CKS
	Infection	**1st Line Formulary Choice**	**2nd Line Formulary Choice**	**Duration of Treatment (Days)**	**Rationale/ Additional Information for Treatment** **BNF** **BNFC**
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Genital herpes	Aciclovir (for first episode & acute recurrence)	Famciclovir or Valaciclovir	5 5	Herpes simplex virus Oral antiviral treatment should be given to people presenting within 5 days of the start of the episode, or while new lesions are still forming. If new lesions are still appearing after 5 days treatment – continue treatment. Recurrent episodes of genital herpes are often mild and may be managed by supportive measures alone. Second line drug choices should only be considered where there is recurrence **and** compliance may be an issue. CKS
	Head Lice Self Care	Hedrin (OTC)	Phenothrin or malathion. (OTC) Where phenothrin or malathion needed, choose a product with the longest contact time (i.e. not mousses or shampoos).	Two applications 7 days apart.	Hedrin (dimeticone) unlikely to provoke resistance in head lice. Permethrin is not recommended for head lice in BNF or CKS. CKS

	Infection	1st Line Formulary Choice	2nd Line Formulary Choice	Duration of Treatment (Days)	Rationale/ Additional Information for Treatment BNF BNFC
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Impetigo	Minor – topical fusidic acid Severe or extensive disease – Oral Flucloxacillin (If allergic to penicillin- Clarithromycin)	Topical Mupirocin (should be reserved for MRSA or if fusidic acid has been ineffective or not tolerated).	7 7	Topical antibiotics should only be used for very localised lesions and for a short period to prevent resistance developing. CKS
	Insect bites or stings (infected only)	Oral Flucloxacillin (If allergic to penicillin – Clarithromycin 7 days)	Try alternative first line treatment	7	CKS
	Lacerations – high risk of infection or if contaminated with high-risk material (soil, faeces, bodily fluids, or purulent exudates)	Co-amoxiclav◄	Clarithromycin +Metronidazole	5 5	For clean lacerations (no history or evidence of contamination or foreign bodies) flucloxacillin may be used (clarithromycin where there is penicillin allergy). CKS

	Infection	1st Line Formulary Choice	2nd Line Formulary Choice	Duration of Treatment (Days)	Rationale/ Additional Information for Treatment BNF BNFC
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Leg ulcers	Flucloxacillin	In penicillin allergy: Clarithromycin	7	Antibiotics do not improve healing. **Culture swabs** and antibiotics are only indicated if there is evidence of clinical infection such as inflammation/redness/cellulitis; increased pain; purulent exudate; rapid deterioration of ulcer or pyrexia. CKS *(See also Appendix B).*
	Diabetic leg ulcer	As above	As above		Seek specialist opinion if severe infection.

	Paronychia	Flucloxacillin 500mg four times daily or Clarithromycin 250-500mg (severe infections) twice daily	Penicillin allergy in pregnancy; Erythromycin 250mg-500mg four times daily	7 7	**Advise the person to apply moist heat (warm soaks)** three to four times a day to alleviate pain, localize the infection, and hasten draining of the pus ('bring to a head'). **Incision and drainage are recommended if a fluctuant pus collection or abscess has developed.** Incision and drainage may be performed in primary care if the expertise and facilities are available. Otherwise, the person should be referred to a surgical unit or Emergency department, according to local protocol. **Consider prescribing topical antibiotics,** such as fucidic acid cream, for minor, localised infection. **Consider prescribing a 7-day course of oral antibiotics** if incision and drainage: • Is not required. • Was performed, but the person has signs of cellulitis or fever, or has other comorbidities (such as diabetes or immunosuppression If there is no response to initial antibiotic, swab to confirm infecting organism and treat according to sensitivities. In the event of treatment failure consider candidal paronychia.

	Infection	1st Line Formulary Choice	2nd Line Formulary Choice	Duration of Treatment (Days)	Rationale/ Additional Information for Treatment BNF BNFC
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Otitis externa: Mild Consider Self Care if appropriate	Topical Acetic Acid 2% (Earcalm) (OTC)	Topical betamethasone +neomycin drops	7	NB: cleaning essential Topical treatment is recommended unless systemically unwell, perforated eardrum or infection is spreading N.B. *Pseudomonas aeruginosa* not covered by Flucloxacillin or clarithromycin. Seek specialist advice if spreading cellulitis outside ear canal, or where Pseudomonas infection suspected (immunocompromised, diabetic). Refer urgently if suspected malignant otitis externa.
	If severe or cellulitis or boil	Flucloxacillin	In penicillin allergy: Clarithromycin	7	CKS
	If fungal Infection	Topical clotrimazole		For 4 weeks	
	Pubic lice	Malathion 0.5% aqueous lotion or Permethrin 5% cream.		Repeat application after 7 days.	Permethrin is only suitable for patients over 18 years, and not for those who are pregnant or breast feeding. CKS
	Scabies	Permethrin 5% cream	Malathion 0.5% aqueous liquid	2 applications 1 week apart	Treat whole body including scalp, face, neck, ears, under nails. Treat all household contacts. BNF CKS

	Infection	1st Line Formulary Choice	2nd Line Formulary Choice	Duration of Treatment (Days)	Rationale/ Additional Information for Treatment BNF BNFC
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose					
	Varicella zoster / shingles	Aciclovir 800mg 5x/day	Valaciclovir Famciclovir Only use these more expensive options when there are concerns about compliance.	7 7	Treat if patient presents within 72 hours of onset of rash if: >50 years old, ophthalmic involvement, immunocompromised, non-truncal involvement, moderate to severe pain or rash. Because of the higher risk of complications, it would seem sensible to give a course of antiviral treatment to a person presenting for the first time after 72 hours, but within one week of the onset of the rash, if they have: ophthalmic involvement, predicators of post-herpetic neuralgia such as >60yr, severe pain, severe skin rash, prolonged prodromal pain, or are immunosuppressed. In pregnant women aciclovir or valaciclovir (a prodrug of aciclovir) can be given. In the immunocompromised continue treatment for two days after crusting of lesions CKS

Infection	1st Line Formulary Choice	2nd Line Formulary Choice	Duration of Treatment (Days)	Rationale/ Additional Information for Treatment BNF
Doses: please note the doses quoted are adult doses unless otherwise stated. If the antibiotic is indicated for children refer to BNFC for dose				
Urinary Tract				
URINARY TRACT INFECTIONS – refer to PHE UTI guidance for diagnosis information **Note: As antimicrobial resistance and *Escherichia coli* bacteraemia is increasing, use Nitrofurantoin First Line ; always give safety net and self-care advice, and consider risks for resistance. Give TARGET UTI leaflet.**				
UTI Lower in Adults (not pregnant)	**Nitrofurantoin 100mg Modified Release (MR) twice daily** or Trimethoprim 200mg twice daily (only if there is low risk of resistance) **Low risk of resistance:** younger women with acute UTI and no resistance risks. If first line options unsuitable : Pivmecillinam 400mg stat, then	**If treatment failure always perform cultures**	3 for women 7 for men	**Low risk of resistance:** younger women with acute UTI and no resistance risks. **Risk factors for increased resistance include:** care home resident,- recurrent UTI (2 episodes in 6 months; ≥3 episodes in 12 months), hospitalisation for >7days in the last 6 months, unresolving urinary symptoms, recent travel to a country with increased resistance, previous UTI resistant to trimethoprim, cephalosporins, or quinolones. **If risk of resistance:** send urine for culture & susceptibilities, & always safety net. **Treat women** with severe/or ≥3 symptoms. **All patients first line antibiotic:** Nitrofurantoin if GFR >45mls/min; if GFR30-45, only use if resistance and no alternative. **Women (mild/≤ 2 symptoms):** Pain relief, and consider back-up/ delayed antibiotic. If urine not cloudy, 97% NPV of no UTI.- If urine cloudy, use dipstick to guide treatment: nitrite, leucocytes, blood all negative 76% NPV; nitrite plus blood or leucocytes 92% PPV of UTI. **Men:** Consider prostatitis and send Mid Stream Specimen of Urine (MSU)

		200mg three times daily **Do not give if penicillin allergy**			OR if symptoms mild/non-specific, use negative dipstick to exclude UTI. **>65 years:** treat if fever ≥38°C or 1.5°C above base twice in 12hours AND dysuria OR ≥2 other symptoms. **Pivmecillinam is a Penicillin: Do not give if Penicillin allergy**. If complicated UTI including structural abnormality seek advice from microbiologist on treatment options. Send MSU. See Appendix A for further treatment options on the advice of microbiology. MRHA CKS
	Catheter in situ: antibiotics will not eradicate asymptomatic bacteriuria. Only treat if systemically unwell or pyelonephritis likely; do not use prophylaxis for catheter change unless history of catheter-change-associated UTI or trauma. Take sample if new onset of delirium, or two or more symptoms of UTI.				

	Lower UTI in pregnancy	Nitrofurantoin 100mg MR twice daily **Not last trimester** Trimethoprim (off label) 200mg twice daily **Not first trimester** Cefalexin ◄ 500mg twice daily		7	Send MSU for culture: start antibiotics in all with significant bacteriuria, even if asymptomatic. Short-term use of nitrofurantoin is unlikely to cause problems to the foetus. Avoid trimethoprim if low folate status or on folate antagonist. If Trimethoprim is prescribed in the first trimester, give folic acid 5mg daily CKS Nitrofurantoin is contraindicated in patients with an estimated glomerular filtration rate (eGFR) of less than 45 ml/min. However, a short course (3 to 7 days) may be used with caution in certain patients with an eGFR of 30 to 44 ml/min. MRHA CKS
	Recurrent Lower UTI (non pregnant) 2 in 6 months or ≥ 3 UTIs/year	Nitrofurantoin 100mg at night *If recent culture sensitive:* Trimethoprim 100mg at night		3-6 months; then review recurrence rate and need	Advise simple measures, incl. hydration & analgesia Post coital prophylaxis is as effective as prophylaxis taken nightly. Cephalexin ◄ can be considered for patients with prior treatment failure Consider a 6 month trial of low dose prophylactic antibiotic for recurrent cystitis not associated with sexual intercourse. CKS

	Lower UTI in Children	Trimethoprim or Nitrofurantoin		3	For children ≥ 3months and under 3years with signs and symptoms of UTI, send MSU for culture and susceptibility. Treat with antibiotics. The child should be taken for reassessment if they remain unwell after 24 – 48 hours. For children ≥ 3 years, use dipstick test – if both leukocyte/nitrite +ve, treat with antibiotics otherwise send MSU for culture and susceptibility and treat with antibiotics if appropriate. Cefalexin ◄ can be considered for patients with prior treatment failure. For children < 3months, possible UTI should be referred to the care of a paediatric specialist for treatment with parenteral antibiotics. See BNFC for children for doses CKS, NICE Guidance CG54
	Prostatitis – acute	Ciprofloxacin ◄ 500mg twice daily OR Ofloxacin 200mg twice daily	Trimethoprim 200mg twice daily	4 weeks	Send MSU for culture and start antibiotics. 4 week course may prevent chronic prostatitis. Quinolones achieve higher prostate levels CKS
	Acute pyelonephritis	Co-amoxiclav ◄500/125mg three times daily OR Ciprofloxacin◄ 500mg twice daily (Avoid in pregnancy)	Cefalexin can be used in pregnancy (10-14 days)	14 7	Send MSU for culture. If no response within 24 hours admit. Admit immediately if pregnant. Consider immediate admission if significantly dehydrated, unable to tolerate oral medications, signs of sepsis, or frail elderly in care home with recent admission/recurrent UTI CKS This section is under review

Appendix A – Urinary Tract Infections-on advice of microbiology

For recurrent infection where treatment failure has occurred despite optimal treatment with appropriate formulary antibiotics and where patient compliance has been assessed, the following process should be followed to ensure a reduction in referrals to hospital:

1) For lower urinary tract infection resistant to all other oral antibiotics, consider fosfomycin trometamol sachets:
   For uncomplicated infection, 1 x 3g sachet at night after emptying the bladder may be given (BNF 34).
   For complicated infections, 1 x 3g sachet every other night, for three doses may be given (Pullukcu H et al. *International Journal of Antimicrobial Agents* 2007; 29: 62-65). Complicated infections occur in the presence of a structural abnormality of the urinary tract, and may be suspected in recurrent UTI.

   A licensed Fosfomycin 3g sachet is now available that can be obtained from Community Pharmacies and Dispensaries.

2) For multiple relapsing complicated or severe urinary tract infections or upper urinary tract infection where microbiological assessment has shown resistance to all oral antibiotics, then intravenous or intramuscular ertapenem may be given daily for the treatment of susceptible extended spectrum beta-lactamase (ESBL) organisms, duration according to the tables given above for each condition, or according to microbiological advice.

NB. Ertapenem can be administered I/V (licensed) or I/M (unlicensed). If IM ertapenem is used, it should be reconstituted with Lidocaine 1% injection (without adrenaline)**. Primary care clinicians administering the drug by the I/M route should ensure patients are aware of this unlicensed use of a licensed medicine in line with the Cambridgeshire and Peterborough Joint Prescribing Group policy on the use of Unlicensed medicines and Unlicensed Uses of Licensed Medicines. It is advised that a risk assessment be carried out for its use. Avoid intramuscular administration in systematically unwell patients due to the risk of erratic absorption.
** www.medicinescomplete.com.

Other Recurrent Infections
For other infections shown on microbiological examination to be resistant to all oral antibiotics, then for susceptible organisms, I/M ertapenem may be administered once-daily for a treatment duration consistent with the condition, as per the guideline above.

Appendix B - *NOTES ON Methicillin Resistant *Staphylococcus aureus* (MRSA)
MRSA are resistant to all beta-lactam antibiotics (e.g. flucloxacillin, co-amoxiclav, cephalosporins) and many other first-line antibiotics. All local strains remain susceptible to the parenteral antibiotics vancomycin and teicoplanin, *most* are also susceptible to tetracyclines.
Most (87%) community *Staph*. *Aureus* infections remain sensitive to b-lactam antibiotics. Although community onset MRSA infections are common in North America most of the infections caused by MRSA in the UK are linked to hospital or residential care. Consider the possibility of MRSA infections in patients with the following risk factors:

- Recently discharged from hospital

- Nursed in residential home with MRSA-positive residents
- Infection in a known carrier of MRSA

Skin and soft tissue Infections in these patients, which may be caused by MRSA, should be managed as follows:

- Take a specimen for microbiological investigation in all cases
- Empirical treatment: mild infections – as shown in the table
- Moderately severe infections and mild infections at site of known carriage of MRSA (eg. Leg ulcer): doxycycline may be *added* to the regimens in the tables above (doxycycline monotherapy is problematic: 20-40% of streptococci are resistant)
- Severe infections – consider referral to hospital for parenteral vancomycin/teicoplanin therapy

Review empirical therapy when results of microbiological investigation are available.

If MRSA PVL is suspected please see: PVL-Staphylococcus aureus infections: diagnosis and management for primary care MRSA PVL

Document Management

Version Control

Date of Amendment	Page number and amendment detail	Amended by	Approved by
June 14	Whole document-links updated and minor grammatical changes	**DH**	**C&PJPG**
	P1. First statement changed from antibiotics should be prescribed at the lowest effective dose ….. **to** Antibiotics should be prescribed at an effective dose (towards the top end of the licensed dosing range) Statement added - Consider using delayed antibiotic prescriptions or the RCGP antibiotic information leaflet	**DH**	
	P2. Change to acknowledgments section Added 4. Review/discontinue if possible PPIs in patients with/ or a high risk of *C.difficile* infection PHE	**DH** **MD**	
	P3. Dental infections, Acute otitis media, pharyngitis – erythromycin changed to clarithromycin and duration of treatment changed to 5 days	**DH** **DH**	
	P4. Acute sinusitis – doxycycline added in as a first line option.	**DH**	

	Conjunctivitis – added to eye section (previously in skin and soft tissue). Statements added re contact lens wearers.		
	P5. Diverticulitis – removed (on micro advice)	**DH**	
	P6. Infective diarrhoea – section split to reduce potential confusion. C.diff – Vancomycin (oral) added second line for mild/moderate CDI and 1st line for Severe CDI. Threadworm – reference to Pripsen removed (discontinued by manufacturer) Campylobacteriosis-Erythromycin changed to clarithromycin	**DH** **MD** **DH**	
	P7. Vaginal candidiasis-treatment in pregnancy added	**DH**	
	P8. Chlamydia trachomatis-Amended the course length of erythromycin from 14 to 7 days (HPA)	**MD**	
	P9. COPD – Course length reduced from 7 days to 5 days (as per HPA guidance) Reference added- Local microbiology advice based on sensitivity patterns	**DH** **MD**	
	P10. CAP – Information on CRB-65 scoring added, macrolide choice restricted to clarithromycin. CRB65=1 and treated at home, length of treatment added, 7-10 days Chronic Bronchitis-macrolide choice restricted to clarithromycin	**DH** **MD** **DH**	
	P11. Acne – oxytetracycline and tetracycline removed, doxycycline made first line choice Bites – First line choice of human and animal bites changed to co-amoxiclav only, metronidazole and doxycycline (animal) and metronidazole and clarithromycin (human) listed as second line choice only. Prophylaxis comment-changed to bold type Breast abscess-erythromycin changed to clarithromycin	**DH** **MD** **DH**	
	P12. Cellulitis – Flucloxacillin adult dose added (500mg – 1g QDS) for cellulitis as doses recommended are above usual dosing range listed in BNF. Erythromycin changed to clarithromycin.	**DH**	
	P13. Dermatophyte nail infections – amorolfine lacquer removed.	**DH**	
	P14. Erysipelis – erythromycin changed to clarithromycin, penicillin V changed to amoxicillin	**DH**	
	P15. Lacerations – erythromycin changed to clarithromycin Impetigo-Erythromycin changed to clarithromycin Insect bites-Macrolide choice restricted to clarithromycin	**DH**	
	P16. Leg ulcers, paronychia – erythromycin changed to clarithromycin	**DH**	
	P17. Otitis externa – Earcalm added as first line, betamethasone + neomycin drops moved to second line, otosporin removed (discontinued by manufacturer), macrolide choice changed to clarithromycin.	**DH**	
	P19. UTI – statement added regarding nitrofurantoin and renal impairment	**DH**	
	P22. Opening hours for Peterborough City Hospital added	**MD**	
October 2014	**P3.**Added a table of contents	**MD**	**VG**
	P6. Removed Ofloxacin 0.3% eye drops for contact lens wearers	**MD**	**VG**

	P21-23. Nitrofurantoin-amended contraindication in relation to renal impairment as per MRHA Sept 14	**MD**	**VG**
November 2014	**P17** Hyperlink to CKS Lacerations guidance amended.	**VG**	**MD**
April 15	**P12.**Community Acquired Pneumonia updated in line with NICE	**MD**	**MC**
	P6. H.Pylori eradication.Upated in line with NICE	**MD**	**MC**
	P11.Suspected Epididymo-orchitis. New indication added	**MD**	**MC**
	P27. Hyperlink MRSA PVL added: MRSA PVL-Staphylococcus aureus infections: diagnosis and management for primary care MRSA PVL	**MD**	**MC**
May 15	Addition of duration and doses to CAP and suspected Epididmo-orchtis indications	**MD**	**MC**
June 15	**P27.** Amendment of supply arrangements for Fosfomycin as licensed product now available	**MD**	**MC**
	P3. Table of contents updated	**MD**	**MC**
August 15	**P.6** H. Pylori eradication; Options including tripotassium dicitratobismuthate have been removed as De-Noltab has been discontinued	**MD**	**KB**
	P12. COPD. Comment added in relation to duration of treatment.	**MD**	**KB**
November 2015	Self-Care policy links added and products available over the counter (OTC) highlighted	**VG**	**MD**
	P8. Hyperlink to C&PCCG Clostridium difficile pathway added.	**MD**	**KB**
April 16	Hyperlinks to BNF and BNFC amended	**KD**	**KB**
May 16	**P8**. Treatment of diverticulitis added	**MD**	**KB**
September 17	**P23.** Treatment of UTI updated	**MD**	**KB**
November 17	P28. Recommended diluent for Ertepenem IM unlicensed use added	**MD**	**KB**
April 2018	P24.Pivmecillinam included as an option for lower UTI, where first line options are unsuitable	**MD**	**KB**
May 2018	P.4 Acute Sore throat updated in line with NICE	**MD**	**KB**
July 2018	P.4 Acute Otitis Media updated in line with PHE Infections in Primary Care	**MD**	**KB**
	P.6 Acute Sinusitis updated in line with NICE	**MD**	**KB**
	P9. Campylobacter-suspected, updated in line with PHE	**MD**	**KB**
	P18. Cellulitis and erysipelas updated in line with PHE Infections in Primary Care	**MD**	**KB**

	P23. Paronychia updated in line with CKS	**MD**	**KB**
August 2018	Complicated UTI removed –added a comment for complicated UTI including structural abnormality seek microbiology advice	**MD**	**KB**
August 2018	P30. Appendix A added on advice of microbiologist	**MD**	**KB**
February 2019	P5. Acute Sore throat. Removed reference to severe/less severe sore throat in relation to dose	**MD**	**KB**