

Summary table – Infections in primary care

Principles of treatment:
1. This guidance is based on the best available evidence, but use professional judgement and involve patients in management decisions.
2. This guidance should not be used in isolation; it should be supported with patient information about safety netting, 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 'delayed/back-up' antibiotic strategy for acute self-limiting upper respiratory tract infections and mild UTI symptoms.
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 ☎01908 995 782/779
7. Limit prescribing over the telephone to exceptional cases.
8. Use simple, generic antibiotics if possible. Avoid broad spectrum antibiotics (eg co-amoxiclav, quinolones and cephalosporins) when narrow spectrum antibiotics remain effective, as they increase the risk of <i>Clostridium difficile</i> , MRSA and resistant UTIs.
9. Always check for antibiotic allergies. A dose and duration of treatment for adults is usually suggested, but may need modification for age, weight, renal function, or if immunocompromised. In severe or recurrent cases, consider a larger dose or longer course.
10. Child doses are provided when appropriate, and can be accessed through the ☺ symbol.
11. Refer to the BNF for further dosing and interaction information (eg the interaction between macrolides and statins), and check for hypersensitivity.
12. Have a lower threshold for antibiotics in immunocompromised, or in those with multiple morbidities; consider culture/specimens, and seek advice.
13. Avoid widespread use of topical antibiotics, especially in those agents also available systemically; in most cases, topical use should be limited.
14. In pregnancy, take specimens to inform treatment. Where possible, avoid tetracyclines, aminoglycosides, quinolones, azithromycin (except in chlamydial infection), clarithromycin, and high dose metronidazole (2g stat), unless the benefits outweigh the risks. Penicillins, cephalosporins, and erythromycin are safe in pregnancy. Short-term use of nitrofurantoin is not expected to cause foetal problems (theoretical risk of neonatal haemolysis). Trimethoprim is also unlikely to cause problems unless poor dietary folate intake, or taking another folate antagonist.

ILLNESS	GOOD PRACTICE POINTS	TREATMENT	ADULT DOSE	DURATION OF TREATMENT
UPPER RESPIRATORY TRACT INFECTIONS				
Influenza Influenza prophylaxis	Annual vaccination is essential for all those “at risk” of influenza. Antivirals are not recommended for healthy adults. Treat “at risk” patients with five days oseltamivir 75mg BD, when influenza is circulating in the community, and ideally within 48 hours of onset (36 hours for zanamivir treatment in children); or in a care home where influenza is likely. At risk: pregnant (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). See the PHE Influenza guidance for the treatment of patients under 13 years of age. In severe immunosuppression, or oseltamivir resistance, use zanamivir 10mg BD (two inhalations by diskhaler for up to 10 days) and seek advice.			
Acute sore throat	Avoid antibiotics as 82% of cases resolve in 7 days, and pain is only reduced by 16 hours. Use FeverPAIN Score: Fever in last 24 hours; Purulence; Attend rapidly under three days; severely Inflamed tonsils; No cough or coryza. Score 0-1: 13-18% streptococci - no antibiotic. 2-3: 34-40% streptococci - 3 day delayed antibiotic. 4-5: 62-65% streptococci - if severe, immediate antibiotic or 48-hour delayed antibiotic. Advise paracetamol, self-care, and safety net. Complications are rare: antibiotics to prevent quinsy NNT>4000; otitis media NNT200. 10 days penicillin has lower relapse than five days in patients under 18 years of age.	<i>Fever pain 0-1:</i> self-care <i>Fever pain 2-3:</i> delayed prescription of phenoxymethylpenicillin <i>Penicillin allergy:</i> clarithromycin <i>Penicillin allergy in pregnancy:</i> erythromycin	500mg QDS (if severe) OR 1g BD (less severe) 250mg BD OR 500mg BD 250-500mg QDS or 500mg-1g BD	5-10 days 5 days 5 days 5 days
Scarlet fever (GAS)	Prompt treatment with appropriate antibiotics significantly reduces the risk of complications. Vulnerable individuals (immunocompromised, the comorbid or those with skin disease) are at increased risk of developing complications.	<i>First line (mild):</i> analgesia Phenoxymethylpenicillin <i>Penicillin allergy:</i> clarithromycin	500mg QDS 250-500mg BD	10 days 5 days
Acute otitis media (child doses)	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 (NNT4), 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 NNT3 Antibiotics to prevent mastoiditis NNT>4000.	Amoxicillin <i>Penicillin allergy:</i> erythromycin OR clarithromycin	Neonate: 30mg/kg TDS 1-11 months: 125mg TDS 1-4 years: 250mg TDS >5 years: 500mg TDS <2 years: 125mg QDS 2-7 years: 250mg QDS >8 years: 250-500mg QDS 1 month-11 years: 7.5mg/kg-250mg BD (weight dosing) 12-18 years: 250mg BD	5 days 5 days 5 days

ILLNESS	GOOD PRACTICE POINTS	TREATMENT	ADULT DOSE	DURATION OF TREATMENT
Acute otitis externa	First line: analgesia for pain relief, and apply localised heat (eg a warm flannel). Second line: topical acetic acid or topical antibiotic +/- steroid: similar cure at 7 days. If cellulitis or disease extends outside ear canal, or systemic signs of infection, start oral flucloxacillin and refer to exclude malignant otitis externa.	Second line: topical acetic acid 2% Topical neomycin sulphate with corticosteroid <i>If cellulitis:</i> flucloxacillin	1 spray TDS 3 drops TDS 250mg QDS <i>If severe:</i> 500mg QDS	7 days 7 days (min) to 14 days (max) 7 days 7 days
Sinusitis (acute)	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 back-up antibiotic if several of: purulent nasal discharge; severe localised unilateral pain; fever; marked deterioration after initial milder phase. Systemically very unwell or more serious signs and symptoms: immediate antibiotic. 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.	<i>No antibiotics:</i> self-care First line for delayed: phenoxymethylpenicillin <i>Penicillin allergy or intolerance:</i> doxycycline OR clarithromycin Very unwell or high risk of complications co-amoxiclav	500mg QDS 200mg stat then 100mg OD 500mg BD 500/125mg TDS	5 days 5 days
LOWER RESPIRATORY TRACT INFECTIONS				
<i>Note: Low doses of penicillins are more likely to select for resistance. Do not use quinolones (ciprofloxacin, ofloxacin) first line as there is poor pneumococcal activity. Reserve all quinolones (including levofloxacin) for proven resistant organisms.</i>				
Acute cough & bronchitis	Antibiotics have little benefit if no co-morbidity. Second line: 7 day delayed antibiotic, safety net, and advise that symptoms can last 3 weeks. Consider immediate antibiotics if >80 years of age and one of: hospitalisation in past year; taking oral steroids; insulin-dependent diabetic; congestive heart failure; serious neurological disorder/stroke, or >65 years with two of the above. Consider CRP if antibiotic is being considered. No antibiotics if CRP<20mg/L and symptoms for >24 hours; delayed antibiotics if 20-100mg/L; immediate antibiotics if >100mg/L.	First line: self-care and safety netting advice First line antibiotic doxycycline Second line: amoxicillin Penicillin allergy: doxycycline	200mg stat then 100mg OD for 4 days 500mg TDS 200mg stat then 100mg OD for 4 days	5 days in total 5 days 5 days in total
Acute exacerbation of COPD	Treat with antibiotics if purulent sputum and increased shortness of breath and/or increased sputum volume. Risk factors for antibiotic resistance: severe COPD (MRC>3); co-morbidity; frequent exacerbations; antibiotics in the last 3 months.	amoxicillin OR doxycycline OR clarithromycin If at risk of resistance: co-amoxiclav OR levofloxacin	500mg TDS 200mg stat then 100mg OD 500mg BD 500/125mg TDS 500mg OD	5 days 5 days 5 days
Community-acquired pneumonia	Use CRB65 score to guide mortality risk, place of care, and antibiotics. Each CRB65 parameter scores one: Confusion (AMT≤8 or new disorientation in person, place or time); Respiratory rate ≥30/min; BP systolic <90, or diastolic ≤60; age ≥65. Score 0: low risk, consider home-based care; 1-2: intermediate risk, consider hospital assessment; 3-4: urgent hospital admission. Give safety-net advice and likely duration of different symptoms, eg cough 6 weeks. Mycoplasma infection is rare in over 65s.	CRB65=0: amoxicillin OR clarithromycin OR doxycycline CRB65=1-2 and at home (clinically assess need for dual therapy for atypicals): amoxicillin AND clarithromycin OR doxycycline alone	500mg TDS 500mg BD 200mg stat then 100mg OD 500mg TDS 500mg BD 200mg stat then 100mg OD	5 days; review at 3 days; 7-10 if poor response 7-10 days
Bronchiectasis	An acute exacerbation of bronchiectasis is a sustained worsening of symptoms from a person's stable state. Obtain a sputum sample from people with an acute exacerbation of bronchiectasis and send for culture and susceptibility testing Reassess people with an acute exacerbation of bronchiectasis if their symptoms worsen rapidly or significantly at any time	Amoxicillin Or Doxycycline Or Clarithromycin Second line; Co-amoxiclav Levofloxacin	500mg TDS 200mg stat then 100mg OD 500mg BD 500/125mg TDS 500mg OD or BD	For 7 – 14 days For 7 – 14 days

ILLNESS	GOOD PRACTICE POINTS	TREATMENT	ADULT DOSE	DURATION OF TREATMENT
URINARY TRACT INFECTIONS				
<i>Note: As antibiotic resistance and Escherichia coli bacteraemia in the community is increasing, use nitrofurantoin first line, always give safety net and self-care advice, and consider risks for resistance. Give TARGET UTI leaflet, and refer to the PHE UTI guidance for diagnostic information.</i>				
Lower urinary tract infection	<p>Advise paracetamol or ibuprofen for pain</p> <p>Non pregnant women: back up antibiotic (to use if no improvement in 48 hrs or symptoms worsen at any time) or immediate antibiotic.</p> <p>Pregnant women, men, children or young people: immediate antibiotic.</p> <p>When considering antibiotic, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to bacterial resistance and local antimicrobial resistance data.</p>	<p>Non pregnant women first choice: nitrofurantoin (if eGFR ≥ 45ml/min) or <i>If low risk of resistance:</i> trimethoprim</p> <p>Non pregnant women second choice: pivmecillinam or fosfomycin</p> <p>Pregnant women first choice: nitrofurantoin – avoid at term (if eGFR ≥ 45ml/min)</p> <p>Pregnant women second choice: Amoxicillin (only if culture results available) or Cefalexin</p> <p>Treatment of asymptomatic bacteruria in pregnant women Chose from nitrofurantoin (avoid at term), amoxicillin or cefalexin based on recent culture and susceptibility results</p> <p>Men first choice: Trimethoprim or nitrofurantoin if eGFR ≥ 45ml/min)</p> <p>Men second choice: Consider alternative diagnosis basing antibiotic choice on recent culture and susceptibility results</p> <p>Children and young people (3 months and over) first choice: Trimethoprim or nitrofurantoin if eGFR ≥ 45ml/min)</p> <p>Children and young people (3 months and over) second choice: nitrofurantoin if eGFR ≥ 45ml/min and not used as first choice) or amoxicillin if culture results available and sensitive or cefalexin</p>	<p>100mg modified release tabs BD for 3 days</p> <p>200mg BD for 3 days</p> <p>400mg stat then 200mg TDS for 3 days</p> <p>3g stat</p> <p>100mg modified release tabs BD for 7 days</p> <p>500mg TDS for 7 days</p> <p>500mg BD for 7 days.</p> <p>200mg BD for 7 days</p> <p>100mg modified release tabs BD for 7 days</p> <p>See Children's BNF for doses</p>	

UTI in patients with catheters: antibiotics will not eradicate asymptomatic bacteriuria; only treat if systemically unwell or pyelonephritis likely. Do not use prophylactic antibiotics for catheter change unless there is a history of catheter-change-associated UTI or trauma. Take sample if new onset of delirium, or one or more symptoms of UTI. Please see NICE NG 113 for antibiotic choices.
<https://www.nice.org.uk/guidance/ng113/resources/visual-summary-pdf-6599495053>

ILLNESS	GOOD PRACTICE POINTS	TREATMENT	ADULT DOSE	DURATION OF TREATMENT
Acute prostatitis	Advise analgesia Send MSU for culture and start antibiotics. Review antibiotic after 14 days and either stop or continue for another 14 days if needed, based on history, symptoms, clinical exam and urine / blood tests.	Ciprofloxacin OR ofloxacin OR Trimethoprim if unable to take quinolone Second choice after discussion with specialist: levofloxacin	500mg BD 200mg BD 200mg BD 500mg OD	14 days then review
Acute pyelonephritis (upper urinary tract)	If admission not needed, send MSU for culture and susceptibility testing, and start antibiotics. If no response within 24 hours, seek advice. If ESBL risk, and on advice from a microbiologist, consider IV antibiotic via OPAT. When considering antibiotic, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to bacterial resistance and local antimicrobial resistance data. Review choice of antibiotic when culture results are available.	Co-amoxiclav or Trimethoprim or Ciprofloxacin Pregnant women first choice: Cefalexin Children and young people first choice: Cefalexin	500/125mg TDS 200mg BD 500mg BD 500mg BD or TDS TDS or QDS for severe infections See BNF	7 - 10 days 14 days 7 days 7 - 10 days
Recurrent UTI in non-pregnant women (2 in 6 months or ≥3 in a year)	First line: advise simple measures, including hydration; ibuprofen for symptom relief. Cranberry products work for some women. Second line: stand-by or post-coital antibiotics. Third line: antibiotic prophylaxis. Consider methenamine if no renal/hepatic impairment.	Antibiotic prophylaxis: First line: nitrofurantoin Second line: ciprofloxacin If recent culture sensitive: trimethoprim Methenamine hippurate	100mg m/r 500mg 100mg 1g BD	At night or post-coital stat (off label) 3-6 months, then review recurrence rate and need 6 months
MENINGITIS				
Suspected meningococcal disease	Transfer all patients to hospital immediately. If time before hospital admission, and non-blanching rash, give IV benzylpenicillin or IV cefotaxime. Do not give IV antibiotics if there is a definite history of anaphylaxis; rash is not a contraindication.	IV or IM benzylpenicillin OR IV or IM cefotaxime	Child <1 year: 300mg Child 1-9 years: 600mg Adult/child 10+ years: 1.2g Child <12 years: 50mg/kg Adult/child 12+ years: 1g	Stat dose; give IM, if vein cannot be accessed
Prevention of secondary case of meningitis: Only prescribe following advice from your local health protection specialist/consultant: (0300 303 8537) (9am-5pm) Out of hours contact the on-call Public Health doctor via 01603 481 272				
GASTROINTESTINAL TRACT INFECTIONS				
Acute diverticulitis	People with mild, uncomplicated diverticulitis can be managed at home with paracetamol, clear fluids, and oral antibiotics	Co-amoxiclav Penicillin allergy Ciprofloxacin and metronidazole	500/125mg TDS 500mg BD 400mg TDS	7 days 7 days
Infectious diarrhoea Refer previously healthy children with acute painful or bloody diarrhoea, to exclude <i>E. coli</i> 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 250-500mg BD for 5-7 days, if treated early (within 3 days).				
Oral candidiasis	Topical azoles are more effective than topical nystatin. Oral candidiasis is rare in immunocompetent adults; consider undiagnosed risk factors, including HIV. Use 50mg fluconazole if extensive/severe candidiasis; if HIV or immunocompromised, use 100mg fluconazole.	Miconazole oral gel If not tolerated: nystatin suspension Fluconazole capsules	2.5ml of 24mg/ml QDS (hold in mouth after food) 1ml; 100,000 units/mL QDS (half in each side) 50mg/100mg OD	7 days continue nystatin for 2 days & azole for 7 days after resolved 7-14 days
Clostridium difficile	Stop unnecessary antibiotics, PPIs, and antiperistaltic agents. Mild cases (<4 episodes of diarrhoea/day) may respond without metronidazole; 70% respond to metronidazole in 5 days; 92% respond to metronidazole in 14 days. If severe (T>38.5, or WCC>15, rising creatinine, or signs/symptoms of severe colitis): treat with oral vancomycin, review progress closely, and consider hospital referral.	First episode: metronidazole Severe/type 027/recurrent: oral vancomycin Recurrent or second line: fidaxomicin	400mg TDS 125mg QDS 200mg BD	10-14 days 10-14 days, then taper 10 days
Traveller's diarrhoea	Prophylaxis rarely, if ever, indicated. Consider stand-by antimicrobial only for patients at high risk of severe illness, or visiting high risk areas.	Stand-by: azithromycin Prophylaxis/treatment: bismuth subsalicylate	500mg OD 2 tablets QDS	1-3 days 2 days

ILLNESS	GOOD PRACTICE POINTS	TREATMENT	ADULT DOSE	DURATION OF TREATMENT
ERADICATION OF H. PYLORI	<p>For full guidance please see Public Health England: Test and treat for <i>Helicobacter pylori</i> (HP) in dyspepsia: Quick reference guide for primary care https://www.gov.uk/government/publications/helicobacter-pylori-diagnosis-and-treatment</p> <ul style="list-style-type: none"> Treat all positives, if known DU, GU, or low grade MALToma. NNT in non-ulcer dyspepsia = 14 Do not offer eradication for GORD Check antibiotic history as each additional course of clarithromycin, metronidazole or quinolone increases resistance risk. Do not use clarithromycin, metronidazole or quinolone if used in the past year for any infection. Stress the importance of compliance PPI medication: lansoprazole 30mg BD, omeprazole 20-40mg BD, pantoprazole 40mg BD, esomeprazole 20mg BD If diarrhoea develops, consider <i>Clostridium difficile</i> and review need for treatment. Only offer third-line eradication on advice from a specialist 	<p>No penicillin allergy: FIRST-LINE: 7 days, PPI twice daily eg lansoprazole 30mg BD PLUS amoxicillin 1g BD PLUS either clarithromycin 500mg BD OR metronidazole 400mg BD</p> <p>ONGOING SYMPTOMS after first-line and SECOND-LINE: 7 days, PPI twice daily PLUS amoxicillin 1g BD PLUS second antibiotic not used in first line, either clarithromycin 500mg BD OR metronidazole 400mg BD</p> <p>ONGOING SYMPTOMS after first-line and previous exposure to MZ or Clarithromycin SECOND-LINE 10 days, PPI twice daily PLUS amoxicillin 1g BD PLUS second antibiotic, either tetracycline hydrochloride 500mg QDS OR levofloxacin 250mg BD</p> <p>Penicillin allergy FIRST-LINE: 7 days, PPI twice daily PLUS clarithromycin 500mg BD PLUS metronidazole 400mg BD</p> <p>If penicillin allergy AND previous exposure to clarithromycin, OR if ONGOING SYMPTOMS after first-line then SECOND-LINE: 10 days PPI twice daily PLUS metronidazole 400mg BD PLUS levofloxacin 250mg BD</p> <p>ONGOING SYMPTOMS after first-line AND previous exposure to levofloxacin – seek expert advice</p>		
Threadworm	Treat all household contacts at the same time. Advise hygiene measures for two weeks (hand hygiene; pants at night; morning shower, including perianal area). Wash sleepwear, bed linen, and dust and vacuum. Child <6 months, add perianal wet wiping or washes three hourly.	<i>Child >6 months:</i> mebendazole <i>Child <6 months or pregnancy (at least in 1st trimester):</i> only hygiene measure for 6 weeks	100mg stat	Stat dose; repeat in 2 weeks if persistent
GENITAL TRACT INFECTIONS				
STI screening	People with risk factors should be screened for chlamydia, gonorrhoea, HIV, and syphilis. Refer individual and partners to GUM. Risk factors: <25 years; no condom use; recent/frequent change of partner; symptomatic partner; area of high HIV.			
Chlamydia trachomatis/ urethritis	Opportunistically screen all patients aged 16-24 years. Treat partners and refer to GUM. Repeat test for cure in all at three months. Pregnancy/breastfeeding: azithromycin is most effective. As lower cure rate in pregnancy, test for cure at least three weeks after end of treatment.	<i>First line:</i> azithromycin OR doxycycline <i>Pregnancy/breastfeeding:</i> azithromycin OR erythromycin OR amoxicillin	1g 100mg BD 1g 500mg BD OR 500mg QDS 500mg TDS	Stat 7 days Stat 14 days 7 days 7 days
Epididymitis	Usually due to Gram-negative enteric bacteria in men over 35 years with low risk of STI. If under 35 years or STI risk, refer to GUM.	Doxycycline OR ofloxacin OR ciprofloxacin	100mg BD 200mg BD 500mg BD	10-14 days 14 days 10 days
Vaginal candidiasis	All topical and oral azoles give over 70% cure. Pregnancy: avoid oral azoles, and use intravaginal treatment for 7 days. Recurrent (>4 episodes per year): 150mg oral fluconazole every 72 hours for three doses induction, followed by one dose once a week for six months maintenance.	Clotrimazole OR oral fluconazole <i>Recurrent:</i> fluconazole (induction/maintenance)	500mg pessary OR 100mg pessary 150mg 150mg every 72 hours THEN 150mg once a week	Stat 6 nights Stat 3 doses 6 months
Bacterial vaginosis	Oral metronidazole is as effective as topical treatment, and is cheaper. Seven days results in fewer relapses than 2g stat at four weeks. Pregnant/breastfeeding: avoid 2g dose. Treating partners does not reduce relapse.	Oral metronidazole OR metronidazole 0.75% vaginal gel OR clindamycin 2% cream	400mg BD 2g 5g applicator at night 5g applicator at night	7 days Stat 5 nights 7 nights
Genital herpes	Advise: saline bathing, analgesia, or topical lidocaine for pain, and discuss transmission. First episode: treat within five days if new lesions or systemic symptoms, and refer to GUM. Recurrent: self-care if mild, or immediate short course antiviral treatment, or suppressive therapy if more than six episodes per year.	<i>First line:</i> oral aciclovir OR valaciclovir OR famciclovir	400mg TDS 800mg TDS (if recurrent) 500mg BD 250mg TDS 1g BD (if recurrent)	5 days 2 days 5 days 5 days 1 day

ILLNESS	GOOD PRACTICE POINTS	TREATMENT	ADULT DOSE	DURATION OF TREATMENT
Gonorrhoea	Antibiotic resistance is now very high. Use IM ceftriaxone and oral azithromycin refer to GUM. Test of cure is essential.	Ceftriaxone <i>PLUS</i> oral azithromycin	500mg IM 1g	Stat Stat
Trichomoniasis	Oral treatment needed as extragenital infection common. Treat partners, and refer to GUM for other STIs. Pregnancy/breastfeeding: avoid 2g single dose metronidazole; clotrimazole for symptom relief (not cure) if metronidazole declined.	Metronidazole <i>Pregnancy for symptoms:</i> clotrimazole	400mg BD 2g (more adverse effects) 100mg pessary at night	5-7 days Stat 6 nights
Pelvic inflammatory disease	Refer women and sexual contacts to GUM. Raised CRP supports diagnosis, absent pus cells in HVS smear good negative predictive value. Exclude ectopic, appendicitis, endometriosis, UTI, irritable bowel, complicated ovarian cyst, functional pain. If gonorrhoea likely (partner has it; sex abroad; severe symptoms), use regimen with ceftriaxone, as resistance to quinolones is high.	Metronidazole <i>PLUS</i> ofloxacin GC: metronidazole <i>PLUS</i> doxycycline <i>PLUS</i> ceftriaxone	400mg BD 400mg BD 400mg BD 100mg BD 500mg IM	} 14 days Stat
SKIN AND SOFT TISSUE INFECTIONS				
<i>Note: Refer to RCGP Skin Infections online training. For MRSA, discuss therapy with microbiologist.</i>				
Impetigo	Reserve topical antibiotics for very localised lesions to reduce risk of bacteria becoming resistant. Only use mupirocin if caused by MRSA. Extensive, severe, or bullous: oral antibiotics.	Topical fusidic acid MRSA: topical mupirocin Oral flucloxacillin Oral clarithromycin	Thinly TDS 2% ointment TDS 250-500mg QDS 250-500mg BD	5 days 5 days 7 days 7 days
Cold sores	Most resolve after 5 days without treatment. Topical antivirals applied prodromally can reduce duration by 12-18 hours. If frequent, severe, and predictable triggers: consider oral prophylaxis: aciclovir 400mg, twice daily, for 5-7 days.			
PVL-SA	Panton-Valentine leukocidin (PVL) is a toxin produced by 20.8-46% of <i>S. aureus</i> from boils/abscesses. PVL strains are rare in healthy people, but severe. Suppression therapy should only be started after primary infection has resolved, as ineffective if lesions are still leaking. Risk factors for PVL: recurrent skin infections; invasive infections; MSM; if there is more than one case in a home or close community (school children; military personnel; nursing home residents; household contacts).			
Eczema	No visible signs of infection: antibiotic use (alone or with steroids) encourages resistance and does not improve healing. With visible signs of infection: use oral flucloxacillin or clarithromycin, or topical treatment (as in impetigo).			
Acne	Mild (open and closed comedones) or moderate (inflammatory lesions): First line: self-care (wash with mild soap; do not scrub; avoid make-up). Second line: topical retinoid or benzoyl peroxide. Third-line: add topical antibiotic, or consider addition of oral antibiotic. Severe (nodules and cysts): add oral antibiotic (for 3 months max) and refer.	First line: self-care Second line: topical retinoid OR benzoyl peroxide Third-line: topical clindamycin If treatment failure/severe: oral tetracycline OR oral doxycycline	Thinly OD 5% cream OD-BD 1% cream, thinly BD 500mg BD 100mg OD	6-8 weeks 6-8 weeks 12 weeks 6-12 weeks 6-12 weeks
Cellulitis and erysipelas	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.	Flucloxacillin Penicillin allergy: clarithromycin Penicillin allergy and taking statins: doxycycline Facial (non-dental): co-amoxiclav	500mg QDS 500mg BD 200mg stat then 100mg OD 500/125mg TDS	} 7 days; if slow response, continue for a further 7 days
Leg ulcer	Ulcers are always colonised. Antibiotics do not improve healing unless active infection (purulent exudate/odour; increased pain; cellulitis; pyrexia).	Flucloxacillin OR clarithromycin Non-healing: antimicrobial reactive oxygen gel may reduce bacterial load.	500mg QDS 500mg BD	} As for cellulitis
Bites:	Human: thorough irrigation is important. Antibiotic prophylaxis is advised. Assess risk of tetanus, rabies, HIV, and hepatitis B and C. Cat: always give prophylaxis. Dog: give prophylaxis if: puncture wound; bite to hand, foot, face, joint, tendon, or ligament; immunocompromised, cirrhotic, asplenic, or presence of prosthetic valve/joint. Penicillin allergy: Review all at 24 and 48 hours, as not all pathogens are covered.	Prophylaxis/treatment all: co-amoxiclav Human penicillin allergy: metronidazole AND clarithromycin Animal penicillin allergy: metronidazole AND doxycycline	375-625mg TDS 400mg TDS 250-500mg BD 400mg TDS 100mg BD	} 7 days
Dermatophyte infection: skin	Most cases: terbinafine is fungicidal; treatment time shorter than with fungistatic imidazoles. If candida possible, use imidazole. If intractable, or scalp: send skin scrapings. If infection confirmed: use oral terbinafine or itraconazole. Scalp: oral therapy, and discuss with specialist.	Topical terbinafine OR topical imidazole For athlete's foot: topical undecenoates (eg Mycota®)	1% OD-BD 1% OD-BD OD-BD	1-4 weeks 4-6 weeks 4-6 weeks

ILLNESS	GOOD PRACTICE POINTS	TREATMENT	ADULT DOSE	
Dermatophyte infection: nail	Take nail clippings; start therapy only if infection is confirmed. Oral terbinafine is more effective than oral azole. Liver reactions 0.1 to 1% with oral antifungals. If candida or non-dermatophyte infection is confirmed, use oral itraconazole. Topical nail lacquer is not as effective. To prevent recurrence: apply weekly 1% topical antifungal cream to entire toe area. Children: seek specialist advice.	<i>First line:</i> terbinafine" <i>Second line:</i> itraconazole"	250mg OD" 200mg BD'	} Fingers: 6 weeks' Toes: 12 weeks' } 1 week a month: Fingers: 2 courses Toes: 3 courses Stop treatment when continual, new, healthy, proximal nail growth.
Varicella zoster/ chickenpox Herpes zoster/ shingles	Pregnant/immunocompromised/neonate: seek urgent specialist advice. Chickenpox: consider aciclovir if: onset of rash <24 hours, and one of the following: >14 years of age; severe pain; dense/oral rash; taking steroids; smoker. Shingles: treat if >50 years (PHN rare if <50 years) and within 72 hours of rash, or if one of the following: active ophthalmic; Ramsey Hunt; eczema; non-truncal involvement; moderate or severe pain; moderate or severe rash. Shingles treatment if not within 72 hours: consider starting antiviral drug up to one week after rash onset, if high risk of severe shingles or complications (continued vesicle formation; older age; immunocompromised; severe pain):	Aciclovir <i>Second line for shingles if poor compliance:</i> <i>not for children:</i> famciclovir OR valaciclovir'	800mg five times daily 250-500mg TDS OR 750mg BD 1g TDS	} 7 days'
Mastitis	<i>S. aureus</i> is the most common infecting pathogen. Suspect if woman has: a painful breast; fever and/or general malaise; a tender, red breast. Breastfeeding: oral antibiotics are appropriate, where indicated. Women should continue feeding, including from the affected breast.	Flucloxacillin <i>Penicillin allergy:</i> erythromycin OR clarithromycin	500mg QDS 250-500mg QDS 500mg BD	} 10-14 days
Scabies	First choice permethrin: Treat whole body from ear/chin downwards, and under nails. Under 2 years/elderly: also treat face/scalp if using permethrin. home/sexual contacts: treat within 24 hours.	Permethrin' <i>Permethrin allergy:</i> malathion	5% cream 0.5% aqueous liquid	} 2 applications, 1 week apart
Tick Bites (Lyme disease)	Prophylaxis not routinely recommended. In pregnancy, consider amoxicillin. If immunocompromised consider prophylactic doxycycline. Only give prophylaxis within 72 hrs of tick removal. Treatment: Treat erythema migrans empirically; serology often negative early on. Seek advice for neuroborreliosis or other suspected Lyme disease	Prophylaxis: Doxycycline Treatment Doxycycline Or Amoxicillin	200mg 100mg BD 1g TDS	Stat 21 days 21 days
EYE INFECTIONS				
Conjunctivitis	First line: bath/clean eyelids with cotton wool dipped in sterile saline or boiled (cooled) water, to remove crusting. Treat only if severe, as most cases are viral or self-limiting. Bacterial conjunctivitis: usually unilateral and also self-limiting. It is characterised by red eye with mucopurulent, not watery discharge. 65% and 74% resolve on placebo by days 5 and 7. Second line: fusidic acid as it has less gram-negative activity.'	<i>First line:</i> self-care <i>Second line:</i> chloramphenicol" 0.5% eye drop' OR 1% ointment <i>Third line:</i> fusidic acid 1% gel"	2 hourly for 2 days; then reduce frequency to 3-4 times daily, or just at night if using eye ointment BD	} 48 hours after resolution'
Blepharitis	First line: lid hygiene for symptom control, including: warm compresses; lid massage and scrubs; gentle washing; avoiding cosmetics. Second line: topical antibiotics if hygiene measures are ineffective after 2 weeks. Signs of Meibomian gland dysfunction, or acne rosacea: consider oral antibiotics.	<i>First line:</i> self-care <i>Second line:</i> Chloramphenicol <i>Third line:</i> oral oxytetracycline OR oral doxycycline	1% ointment BD 500mg BD 250mg BD 100mg OD 50mg OD	6 week trial 4 weeks (initial) 8 weeks (maint) 4 weeks (initial) 8 weeks (maint)

Summary table – Suspected dental infections in primary care (outside dental setting)

Derived from the Scottish Dental Clinical Effectiveness Programme (SDCEP) 2013 Guidelines				
This guidance is not designed to be a definitive guide to oral conditions, as GPs should not be involved in dental treatment. Patients presenting to non-dental primary care services with dental problems should be directed to their regular dentist, or if this is not possible, to the NHS 111 service (in England), who will be able to provide details of how to access emergency dental care.				
ILLNESS	GOOD PRACTICE POINTS	TREATMENT	ADULT DOSE	DURATION OF TREATMENT
<i>Note: Antibiotics do not cure toothache. First line treatment is with paracetamol and/or ibuprofen; codeine is not effective for toothache.</i>				
Mucosal ulceration and inflammation (simple gingivitis)	Temporary pain and swelling relief can be attained with saline mouthwash. Use antiseptic mouthwash if more severe, and if pain limits oral hygiene to treat or prevent secondary infection. The primary cause for mucosal ulceration or inflammation (aphthous ulcers; oral lichen planus herpes simplex infection; oral cancer) needs to be evaluated and treated.	Chlorhexidine 0.12-0.2% (do not use within 30mins of toothpaste) Hydrogen peroxide 6%	1 min BD with 10mL 2-3 mins BD-TDS with 15ml in ½ glass warm water	Always spit out after use Use until lesions resolve/less pain allows for oral hygiene
Acute necrotising ulcerative gingivitis	Refer to dentist for scaling and hygiene advice. Antiseptic mouthwash if pain limits oral hygiene. Commence metronidazole in the presence of systemic signs and symptoms.	Chlorhexidine 0.12-0.2% OR hydrogen peroxide 6% Metronidazole	} See above dosing for mucosal ulceration 400mg TDS	Until pain allows for oral hygiene 3 days
Pericoronitis	Refer to dentist for irrigation and debridement. If persistent swelling or systemic symptoms, use metronidazole or amoxicillin. Use antiseptic mouthwash if pain and trismus limit oral hygiene.	Metronidazole OR amoxicillin Chlorhexidine 0.2% OR hydrogen peroxide 6%	400mg TDS 500mg TDS } See above dosing for mucosal ulceration	3 days 3 days Until pain allows for oral hygiene
Dental abscess	Regular analgesia should be the first option until a dentist can be seen for urgent drainage, as repeated courses of antibiotics for abscesses are not appropriate. Repeated antibiotics alone, without drainage, are ineffective in preventing the spread of infection. Antibiotics are only recommended if there are signs of severe infection, systemic symptoms, or a high risk of complications. Patients with severe odontogenic infections (cellulitis, plus signs of sepsis; difficulty in swallowing; impending airway obstruction) should be referred urgently for hospital admission to protect airway, for surgical drainage and for IV antibiotics. The empirical use of cephalosporins, co-amoxiclav, clarithromycin, and clindamycin do not offer any advantage for most dental patients, and should only be used if there is no response to first line drugs.			
	If pus is present, refer for drainage, tooth extraction, or root canal. Send pus for investigation. If spreading infection (lymph node involvement or systemic signs, ie fever or malaise) ADD metronidazole. Use clarithromycin in true penicillin allergy and, if severe, refer to hospital.	Amoxicillin OR phenoxymethylpenicillin Metronidazole <i>Penicillin allergy:</i> clarithromycin	500mg-1g TDS 500mg-1g QDS 400mg TDS 500mg BD	} Up to 5 days review at 3 days