



Greater Manchester Shared Services

Greater Manchester Antimicrobial Guidelines

October 2018

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Copies of this document can be obtained from:

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Revision history

The latest and master version of this document is held on the Medicines Optimisation Team SharePoint:

| REVISION DATE | ACTIONED BY | SUMMARY OF CHANGES | VERSION |
|---------------|-------------|---|---------|
| 10/07/2018 | S Woods | Changes made following comments received at the GM antimicrobial guidelines technical advisory group and to reflect NHS England self-care guidance. | 1.4 |
| 12/09/2018 | S Woods | Changes made following comments received at the GM antimicrobial guidelines technical advisory group | 1.5 |
| 04/10/2018 | S Woods | Finalised document for submission to website | 2.0 |

Approvals

This document has been provided for information to:

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| FMESG | 4 th October 2018 | 2.0 |
| GMMM | 4 th October 2018 | 2.0 |

| Changes to version 1.4 | | |
|---|---|--|
| Section | Change made | Detail |
| Contents | Hyperlinks now take the reader to the relevant section. | |
| Principles of Treatment | Bolded point 13. | 13. Where an empirical therapy has failed or special circumstances exist, microbiological advice can be obtained from your local hospital microbiology department. |
| Acute exacerbation of COPD | Changed position of Doxycycline. | Doxycycline 200mg STAT, then 100mg OD or Amoxicillin 500mg – 1g TDS Duration: 5 days |
| UTI in Pregnancy | Clarified preferred choice dependent upon stage of pregnancy. Also removed reference to second and third line under alternative. | Up to 34 weeks Nitrofurantoin MR 100mg BD From 34 Weeks Trimethoprim (off-label) 200mg BD Duration: 7 days |
| Recurrent UTI in non-pregnant women ≥ 3 UTIs/year | Corrected dose error for trimethoprim from 200mg at night to 100mg at night in line with PHE guidance and BNF. | If susceptible: Trimethoprim 100mg at night or post-coital stat (off-label) Duration: 3 – 6 months then review |
| Acute prostatitis | Added additional wording under good practice point after '4-wk course...' Under alternative removed ofloxacin and words 'Second line:' | 4-wk course may prevent chronic prostatitis and is required due to the reduced penetration of the prostate tissue by antibiotics compared to the rest of the urinary tract. |
| Threadworms | Removed repetition of advice and placed all under good practice points. | A prescription should not be routinely offered as this condition is appropriate for self-care. All household contacts should be advised to treat at the same time PLUS advise hygiene measures for 2 weeks (hand hygiene, pants at night, morning shower (include perianal area) PLUS wash sleepwear & bed linen, dust and vacuum. |
| Chlamydia trachomatis/ urethritis | Removed reference to off-label use for azithromycin as not contra-indicated; only caution advised in SPCs | Azithromycin 1g stat (off-label use) |

Aims

- to provide a simple, empirical approach to the treatment of common infections
- to promote the safe and effective use of antibiotics
- to minimise the emergence of bacterial resistance in the community

Principles of Treatment

1. This guidance is based on the best available evidence, but use professional judgement and involve patients in decisions.
2. Please ensure you are using the most up to date version. The latest version will be held on the GMMMG website.
3. Prescribe an antibiotic only when there is likely to be a clear clinical benefit.
4. When recommending analgesia or treatment with products available from pharmacies please follow the guidance issued by NHS England ([Conditions for which over the counter items should not routinely be prescribed in primary care: Guidance for CCGs \[Gateway approval number: 07851\]](#)). See the guidance for exceptions to recommending self-care.
5. Consider a no, or delayed, antibiotic strategy for acute self-limiting infections e.g. upper respiratory tract infections.
6. Limit prescribing over the telephone to exceptional cases.
7. A dose and duration of treatment for adults is usually suggested, but may need modification for age, weight and renal function. In severe or recurrent cases consider a larger dose or longer course.
8. Lower threshold for antibiotics in immunocompromised or those with multiple morbidities; consider culture and seek advice.
9. 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 risk of *Clostridium difficile*, MRSA and resistant UTIs.
10. Avoid widespread use of topical antibiotics (especially those agents also available as systemic preparations, e.g. fusidic acid).
11. In pregnancy AVOID tetracyclines, aminoglycosides, quinolones and high dose metronidazole.
12. We recommend clarithromycin as the preferred macrolide as it has less side-effects than erythromycin, greater compliance as twice rather than four times daily & generic tablets are similar cost. The syrup formulation of clarithromycin is only slightly more expensive than erythromycin and could also be considered for children.
13. **Where an empirical therapy has failed or special circumstances exist, microbiological advice can be obtained from your local hospital microbiology department.**
14. 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. Materials are available on the RCGP TARGET website.
15. This guidance is developed alongside the NHS England Antibiotic Quality Premium (QP). In 2017/19 QP expects: at least a 10% reduction in the number of *E. coli* blood stream infections across the whole health economy; at least a 10% reduction in trimethoprim:nitrofurantoin prescribing ratio for UTI in primary care, and at least a 10% reduction in trimethoprim items in patients > 70 years, based on CCG baseline data from 2015/16; and sustained reduction in antimicrobial items per STAR-PU equal to or below England 2013/14 mean value.
16. This guidance should be facilitated by the adoption of Antibiotic Stewards from front line to board level within organisations, in line with [NICE NG15: Antimicrobial stewardship, August 2015](#). This sets out key activities and responsibilities for individuals and organisations in responding to the concern of antimicrobial resistance.

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Greater Manchester Antimicrobial Guidelines

| UPPER RESPIRATORY TRACT INFECTIONS | | | |
|------------------------------------|--|--|--|
| Influenza treatment | Annual vaccination is essential for all those at risk of influenza. For otherwise healthy adults antivirals not recommended. Treat 'at risk' patients, when influenza is circulating in the community and ideally within 48 hours of onset (do not wait for lab report) or in a care home where influenza is likely. 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 neurological, renal or liver disease, morbid obesity (BMI>=40). See PHE seasonal influenza guidance for current treatment advice and: GMMMG: Influenza outbreak in care homes, December 2017 | | |
| ILLNESS | GOOD PRACTICE POINTS | PREFERRED CHOICE | ALTERNATIVE |
| Acute sore throat | <p>Avoid antibiotics as 90% resolve in 7 days without, and pain only reduced by 16 hours.</p> <p>Use FeverPAIN Score (this has replaced CENTOR):</p> <ul style="list-style-type: none"> ▪ Fever in last 24h ▪ Purulence ▪ Attend rapidly under 3d ▪ severely Inflamed tonsils ▪ No cough or coryza <p>Score:</p> <p>0-1: 13-18% streptococci. Do not offer an antibiotic.</p> <p>2-3: 34-40% streptococci. Consider no antibiotic or a back-up antibiotic prescription.</p> <p>>4: 62-65% streptococci. Consider an immediate antibiotic or a back-up antibiotic prescription.</p> <p>See NICE NG84 (Sore throat (acute): antimicrobial prescribing)</p> | <p>No antibiotics – 90% resolve in 7 days. Advise self-care in line with NHS England guidance.</p> <p>Phenoxyethylpenicillin 500mg QDS or 1G BD</p> <p>Duration: 10 days</p> <p>Phenoxyethylpenicillin is 1st choice due to a significantly lower rate of resistance in Group A streptococcus compared with clarithromycin.</p> | <p>Penicillin Allergy: Clarithromycin 500mg bd</p> <p>Duration: 5 days</p> |
| | | <p>Recommend appropriate analgesia and target antibiotics</p> <p>60% are better in 24hrs without antibiotics, which only reduce pain at 2 days and do not prevent deafness.</p> <p>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 ➢ any age with otorrhoea <p>See NICE NG91 (Otitis media (acute): antimicrobial prescribing).</p> | <p>No antibiotics – 80% resolve without antibiotics. Advise self-care in line with NHS England guidance.</p> <p>Amoxicillin 500mg – 1G TDS</p> <p>Child doses</p> <p>Neonate 7-28 days: 30mg/kg TDS 1 month-1 yr: 125mg TDS 1-5 years: 250mg TDS 5-18 years: 500mg TDS</p> <p>Duration for all: 5 days</p> |
| Acute otitis externa | <p>First recommend analgesia.</p> <p>Cure rates similar at 7 days for topical acetic acid or antibiotic +/- steroid.</p> | <p>Mild infection: No antibiotics. Advise self-care in line with NHS England guidance.</p> <p>Moderate infection: Acetic acid 2% 1 spray TDS</p> <p>Duration: 7 days</p> | <p>Moderate infection: Neomycin sulphate with corticosteroid 3 drops TDS Duration: 7 to 14 days</p> |
| | | <p>If cellulitis or disease extends outside ear canal, or systemic signs of infection.</p> | <p>Severe infection: Flucloxacilin 250mg/ 500mg QDS Duration: 7 days</p> |

| ILLNESS | GOOD PRACTICE POINTS | PREFERRED CHOICE | ALTERNATIVE |
|--|--|---|---|
| Acute rhinosinusitis NICE guideline (NG79): Sinusitis (acute): antimicrobial prescribing, october 2017 | Avoid antibiotics as only 2% are complicated by bacterial infection. Symptoms <10 days: No antibiotics. Recommend self-care. Paracetamol / ibuprofen for pain / fever. Nasal decongestant may help. Symptoms > 10days: Only consider back-up antibiotics if no improvement in symptoms. Consider high dose nasal steroid if >12 years. | No antibiotics – 80% resolve in 14 days. Advise self-care in line with NHS England guidance. Amoxicillin 500mg -1G TDS Duration: 5 days | Penicillin allergy: Doxycycline (not for under 12 years) 200mg stat then 100mg OD Duration: 5 days |
| | | NICE recommends phenoxymethylpenicillin as 1st choice due to a narrower spectrum of activity than amoxicillin and its use therefore having a lower risk of resistance. Due to only small numbers of patients needing antibiotics, Greater Manchester believes amoxicillin has better therapeutic levels and therefore remains 1st line option. <i>Mometasone 200microgram nasal spray BD for 14 days</i> | Persistent symptoms / systemically unwell: Co-amoxiclav 625mg TDS Duration: 5 days |
| LOWER RESPIRATORY TRACT INFECTIONS | | | |
| <i>Low doses of penicillins are more likely to select out resistance, we recommend at least 500mg of amoxicillin. Do not use quinolone (ciprofloxacin, ofloxacin) first line due to poor pneumococcal activity. Reserve all quinolones for proven resistant organisms.</i> | | | |
| Acute cough bronchitis | Most cases are viral. No antibiotics unless co-morbidity. Consider 7d delayed antibiotic with advice. Symptom resolution can take 3 weeks. Consider immediate antibiotics if > 80yr and ONE of: hospitalisation in past year, oral steroids, diabetic, congestive heart failure OR > 65yrs with 2 of above. | No antibiotics – most cases are viral. Advise self-care in line with NHS England guidance. Amoxicillin 500mg – 1g TDS Duration: 5 days | Doxycycline 200mg stat then 100mg OD Duration: 5 days |
| | | Doxycycline 200mg STAT, the 100mg OD or Amoxicillin 500mg – 1g TDS Duration: 5 days. | |
| Acute exacerbation of COPD | Treat exacerbations promptly with antibiotics if purulent sputum and increased shortness of breath and/or increased sputum volume. | | |
| Community acquired pneumonia treatment in the community | Use CRB65 score to guide mortality risk, place of care & antibiotics. Each CRB65 parameter scores 1: Confusion (AMT<8); Respiratory rate >30/min; BP systolic <90 or diastolic ≤60; Age >65 Score 0 low risk: consider home based care; Score 1-2 intermediate risk: consider hospital assessment; Score 3-4: urgent hospital admission. | IF CRB65 = 0 Amoxicillin 500mg – 1g TDS Duration: 5 days If CRB65 = 1,2 & at home: Amoxicillin 500mg tds AND clarithromycin 500mg bd Duration: 7 days | IF CRB65 = 0 Clarithromycin 500mg bd Duration: 5 days or Doxycycline 200mg stat then 100mg od Duration: 5 days If CRB65 = 1,2 & at home: Doxycycline alone 200mg stat then 100mg od Duration: 7 days |
| | | | |

| ILLNESS | GOOD PRACTICE POINTS | PREFERRED CHOICE | ALTERNATIVE |
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| MENINGITIS | | | |
| Suspected meningococcal disease | Transfer all patients to hospital immediately. IF time before hospital admission, and non-blanching rash, give IV benzylpenicillin or cefotaxime, unless definite history of hypersensitivity. | IV or IM benzylpenicillin Age 10+ years: 1200mg Children 1 - 9 yr: 600mg Children <1 yr: 300mg Give IM if vein cannot be found. | IV or IM cefotaxime Child < 12 yrs: 50mg/kg Age 12+ years: 1gram Give IM if vein cannot be found. |
| Prevention of secondary case of meningitis. Only prescribe following advice from Public Health England North West: ☎ 03442250562 option 3 (9-5 Mon- Fri) Out of hours contact ☎ 0151 434 4819 and ask for PHE on call. | | | |
| URINARY TRACT INFECTIONS | | | |
| <i>As antimicrobial resistance and E. 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.</i> | | | |
| UTI in adults (no fever or flank pain) | Treat women with severe/or ≥ 3 symptoms. Women mild/or ≤ 2 symptoms advise self-care in line with NHS England guidance and consider back up / delayed prescription. Men: Consider prostatitis and send pre-treatment MSU OR if symptoms mild/non-specific, use negative dipstick to exclude UTI. Consider STIs. People > 65 years: do not treat asymptomatic bacteriuria; it is common but is not associated with increased morbidity. Treat if fever AND dysuria OR ≥ 2 other symptoms. Always safety net. In treatment failure: always perform culture. | NITROFURANTOIN MR 100mg BD (or 50mg IR QDS) Duration: Women: 3 days Men: 7 days If low risk of resistance and preferably if susceptibility demonstrated & no risk factors* (below): Trimethoprim 200mg BD Duration: Women: 3 days Men: 7 days | If 1st line unsuitable: If GFR <45ml/min: Pivmecillinam 400mg stat then 200mg TDS or Cefalexin 500mg BD Duration: Women: 3 days Men: 7 days If susceptibility demonstrated Amoxicillin 500mg TDS Duration: Women: 3 days Men: 7 days If very high risk of resistance & only following advice from microbiologist: Fosfomycin Women: 3g stat Men: 3g then 3g 3 days later (off-label use) |
| | Symptoms: Increased need to urinate. Pain or discomfort when urinating. Sudden urges to urinate. Feeling unable to empty bladder fully. Pain low down in your tummy. Urine is cloudy, foul-smelling or contains blood. Feeling unwell, achy and tired. | Low risk of resistance: younger women with acute UTI and no risk. *Risk factors for increased resistance include: care home resident, recurrent UTI, hospitalisation >7d in the last 6 months, unresolving urinary symptoms, recent travel to a country with increased resistance, previous known UTI resistant to trimethoprim, cephalosporins or quinolones. If risk of resistance send urine for culture for susceptibility testing & give safety net advice. | |
| Catheter in situ: Antibiotics won't 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. | | | |
| UTI in pregnancy | Send MSU for culture and start antibiotics. Short-term use of nitrofurantoin in pregnancy is unlikely to cause problems to the foetus but avoid at term (from 34 weeks onwards). Avoid trimethoprim in 1st trimester or if low folate status / on folate antagonist. | Up to 34 weeks Nitrofurantoin MR 100mg BD From 34 Weeks Trimethoprim (off-label) 200mg BD Duration: 7 days | If susceptible: Amoxicillin 500mg – 1g TDS Trimethoprim 200mg BD (off-label) Cefalexin 500mg BD Duration: All for 7 days |

| ILLNESS | GOOD PRACTICE POINTS | PREFERRED CHOICE | ALTERNATIVE |
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| Recurrent UTI in non pregnant women \geq 3 UTIs/year | 1st line: Advise simple measures including hydration & analgesia. 2nd line: Standby or post-coital antibiotics. 3rd line: Antibiotic prophylaxis may reduce UTIs but adverse effects and long term compliance poor. Review sensitivities from previous urine samples | Nitrofurantoin 100mg at night or post-coital stat (off-label use) Duration: 3 – 6 months then review | If susceptible: Trimethoprim 100mg at night or post-coital stat (off-label) Duration: 3 – 6 months then review |
| Acute prostatitis | Send MSU for culture and start antibiotics. 4-wk course may prevent chronic prostatitis and is required due to the reduced penetration of the prostate tissue by antibiotics compared to the rest of the urinary tract. | Ciprofloxacin 500mg BD Duration: 28 days | Only if susceptibility demonstrated Trimethoprim 200mg BD Duration: 28 days |
| Acute pyelonephritis | Send MSU for culture & susceptibility and start antibiotics. If no response within 24 hours, admit. | Co-amoxiclav 500/125mg TDS Duration: 7 days If known ESBL positive in urine, please discuss with Microbiologist. | Ciprofloxacin 500mg BD Duration: 7 days If susceptibility demonstrated: Trimethoprim 200mg BD Duration: 14 days |
| UTI in children | Child <3 mths: refer urgently for assessment. Child \geq 3 mths: use positive nitrite to guide. Start antibiotics, <u>also</u> send pre-treatment MSU. For doses refer to: BNF Children If recurrent UTI, refer to paediatrics. If antibiotics required in recurrent UTI, seek specialist advice. | Lower UTI: Nitrofurantoin or trimethoprim as risk of resistance lower in children. Duration: 3 days | Lower UTI: If susceptible: Cefalexin Duration: 3 days |
| | | Upper UTI: Co-amoxiclav Duration: 7-10 days | Upper UTI: Cefixime Duration: 7-10 days |
| GASTRO INTESTINAL TRACT INFECTIONS | | | |
| Oral candidiasis | Topical azoles are more effective than topical nystatin. Oral candidiasis rare in immunocompetent adults. | Oral candidiasis is a minor condition that can be treated without the need for a GP consultation or prescription in the first instance. Advise self-care in line with NHS England guidance. | |
| | | Fluconazole oral capsules 50mg-100mg OD Duration: 7 days & further 7 days if persistent or Miconazole oral gel 2.5ml QDS after meals Duration: 7 days or until 2 days after symptoms. | If miconazole not tolerated: Nystatin suspension 100,000 units QDS after meals Duration: 7 days or until 2 days after symptoms |
| Eradication of Helicobacter pylori | Refer to BNF or GMMMG Do not offer eradication for GORD. (PPI for 4 weeks). Do not use clarithromycin, metronidazole or quinolone if used in past year for any infection. Retest for <i>H.pylori</i> post DU/GU or relapse after second line therapy: using breath or stool test OR consider endoscopy for culture & susceptibility. | | |
| Infectious diarrhoea | Refer previously healthy children with acute painful or bloody diarrhoea to exclude <i>E. coli</i> 0157 infection. Antibiotic therapy usually not indicated unless systemically unwell. If systemically unwell and campylobacter suspected consider clarithromycin 250-500mg BD for 7 days, if treated within 3 days of onset. | | |

| ILLNESS | GOOD PRACTICE POINTS | PREFERRED CHOICE | ALTERNATIVE |
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| Clostridium difficile | Consult microbiology for all cases. Stop unnecessary antibiotics and/or PPIs. If severe symptoms or signs (below) should treat, review progress closely and/or consider hospital referral. Definition of severe: Temp >38.5oC, or WCC >15, or rising creatinine or signs/symptoms of severe colitis. | 1st episode: Oral metronidazole 400mg TDS Duration: 10-14 days or Oral vancomycin 125mg QDS Duration: 10-14 days | If recurrent or severe then seek microbiology advice. |
| Traveller's diarrhoea | Prophylaxis rarely, if ever indicated. Only consider standby antibiotics for high risk areas for people at high-risk of severe illness. | If standby treatment appropriate give azithromycin 500mg each day for 3 days on a private prescription. | If prophylaxis / treatment consider bismuth subsalicylate (Pepto Bismol) (Private purchase) 2 tablets QDS for 2 days. |
| Threadworms | A prescription should not be routinely offered as this condition is appropriate for self-care. All household contacts should be advised to treat at the same time PLUS advise hygiene measures for 2 weeks (hand hygiene, pants at night, morning shower (include perianal area) PLUS wash sleepwear & bed linen, dust and vacuum. | All patients over 6 months: Mebendazole 100mg stat (off-label if <2yrs) Pregnant women and children under 6 months: Use hygiene measures alone for 6 weeks and perianal wet wiping or washes 3 hourly during the day. | |
| GENITAL TRACT INFECTIONS | | | |
| STI screening | People with risk factors should be screened for chlamydia, gonorrhoea, HIV, syphilis. Refer individual and partners to GUM service. Risk factors: <25yr, no condom use, recent (<12mth)/frequent change of partner, symptomatic partner, area of high HIV. | | |
| Chlamydia trachomatis/ urethritis | Opportunistically screen all aged 15-25 years Treat partners and refer to GUM service Pregnancy or breastfeeding: Azithromycin is the most effective option. Due to lower cure rate in pregnancy, test for cure 6 weeks after treatment. | Azithromycin 1g stat <i>Pregnant or breastfeeding:</i> Azithromycin 1g stat | Doxycycline 100mg BD Duration: 7 days <i>Pregnant or breastfeeding:</i> Erythromycin 500mg QDS or Amoxicillin 500mg TDS Duration: 7 days |
| Epididymitis | For suspected epididymitis in men over 35 years with low risk of STI. (High risk, refer to GUM) | Ofloxacin 200mg BD Duration : 14 days | Doxycycline 100mg BD Duration: 14 days |
| Vaginal candidiasis | All topical and oral azoles give 75% cure. In pregnancy: avoid oral azoles and use intravaginal treatment for 7 days. | Clotrimazole 500mg pess or 10% cream stat <i>Pregnant:</i> Clotrimazole 100mg pessary at night Duration: 6 nights | Oral fluconazole 150mg orally stat <i>Pregnant:</i> Miconazole 2% cream, 5g intravaginally BD Duration: 7 days |
| Bacterial vaginosis | Oral metronidazole (MTZ) is as effective as topical treatment but is cheaper. Less relapse with 7 day than 2g stat. Pregnant/breastfeeding: avoid 2g stat. Treating partners does not reduce relapse. | Oral metronidazole 400mg BD Duration: 7 days or 2g stat | Metronidazole 0.75% vaginal gel 5g applicator at night Duration: 5 nights or Clindamycin 2% cream 5g applicator at night. Duration: 7 nights |
| Gonorrhoea | Antibiotic resistance is now very high. Refer to GUM. | Ceftriaxone 500mg IM stat PLUS Azithromycin 1g stat | |
| Trichomoniasis | Treat partners and refer to GUM service. In pregnancy or breastfeeding: avoid 2g single dose metronidazole. Consider clotrimazole for symptom relief (not cure) if metronidazole declined. | Metronidazole 400mg BD Duration: 7 days or 2g stat | Clotrimazole 100mg pessary at night Duration: 6 nights |

| ILLNESS | GOOD PRACTICE POINTS | PREFERRED CHOICE | ALTERNATIVE |
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| Pelvic inflammatory disease | Refer woman and contacts to GUM service. Always culture for gonorrhoea and chlamydia. If gonorrhoea likely, resistance to quinolones is high - use ceftriaxone regimen or refer to GUM. | Metronidazole 400mg BD PLUS doxycycline 100mg BD Duration : 14 days If high risk of gonorrhoea: ADD Ceftriaxone 500mg IM stat | Metronidazole 400mg BD PLUS ofloxacin 400mg BD Duration : 14 days If high risk of gonorrhoea: ADD Ceftriaxone 500mg IM stat |
| SKIN INFECTIONS | | | |
| MRSA | For active MRSA infection, refer to microbiology and only treat according to antibiotic susceptibilities confirmed by lab results. If identified as part of pre-op screening, treatment should be provided at that time by secondary care. | | |
| Impetigo | For mild or small area. Keep area clean with warm soapy water and remove crusts. | Fusidic acid cream Apply thinly TDS Duration: 5 days. | |
| | For severe, widespread or bullous impetigo use oral antibiotics. Do not prescribe mupirocin (reserved for MRSA). | Oral flucloxacillin 500mg QDS Duration: 7 days | Penicillin allergy: Clarithromycin 500mg BD Duration: 7 days |
| Eczema | If no visible signs of infection, do not use antibiotics (alone or with steroids) as this encourages resistance and does not improve healing. If visible signs of infection, treat as for impetigo. | | |
| Cellulitis | Class I: patient afebrile and healthy other than cellulitis, use oral flucloxacillin alone. Refer patients with Class II and III. Class II febrile & ill, or comorbidity, admit for IV treatment, or use OPAT (if service available). Class III toxic appearance: admit. If river or sea water exposure, discuss with specialist. If concerned that oral treatment may not be sufficient (or first line treatment has failed), discuss alternative oral or IV treatments with microbiologist. | Flucloxacillin 500mg QDS If facial: Co-amoxiclav 625 TDS Duration: All 7 days. If slow response continue for a further 7 days. | If penicillin allergic: Clarithromycin 500mg BD or Doxycycline 200mg stat then 100mg BD If unresolving: Clindamycin 300-450mg QDS Duration: All 7 days. If slow response continue for a further 7 days. |
| Leg ulcer | Do not treat unless there are clinical signs of infections. Antibiotics do not improve healing unless active infection. Review antibiotics after results. | If active infection: Flucloxacillin 500mg QDS Duration: 7 days If slow response continue for a further 7 days. | Clarithromycin 500mg BD Duration: 7 days. If slow response continue for a further 7 days. |
| Mastitis | Most cases of mastitis are not caused by an infection and do not require antibiotics. Advice is to take paracetamol or ibuprofen to reduce pain and fever, drink plenty of fluids, rest and apply a warm compress. | Flucloxacillin 500mg-1g QDS Duration: 7 - 14 days | If penicillin allergic: Clarithromycin 500mg BD Duration: 7 - 14 days |
| Bites - Human | Thorough irrigation is important. Assess risk of tetanus, rabies, HIV, hepatitis B/C. Antibiotic prophylaxis is advised. | Prophylaxis or treatment: Co-amoxiclav 625mg TDS Duration: 7 days AND review at 24 & 48hrs | If penicillin allergic: Metronidazole 400mg TDS PLUS doxycycline 100mg BD or Metronidazole 200-400mg TDS PLUS clarithromycin 500mg BD Duration: All for 7 days AND review at 24 & 48hrs |
| Bites - Cat or dog | Give prophylaxis if cat bite/puncture wound; bite to hand, foot, face, joint, tendon, ligament; immunocompromised/ diabetic/ asplenic/ cirrhotic/ presence of prosthetic valve or prosthetic joint. | Prophylaxis or treatment: Co-amoxiclav 625mg TDS Duration: 7 days AND review at 24 & 48hrs | If penicillin allergic: Metronidazole 400mg TDS PLUS doxycycline 100mg BD Duration: 7 days AND review at 24 & 48hrs |
| ILLNESS | GOOD PRACTICE POINTS | PREFERRED CHOICE | ALTERNATIVE |

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|--------------------------------------|---|--|--|
| Dermatophyte infection - skin | Terbinafine is fungicidal, so treatment time shorter than with fungistatic imidazoles. If candida possible, use imidazole. If intractable, send skin scrapings and if infection confirmed, use oral terbinafine/itraconazole. Scalp: discuss with specialist, oral therapy indicated. | Athlete's foot and ringworm are not serious fungal infections and are usually easily treated with over the counter treatments. Advise self-care and good hygiene in line with NHS England guidance. | |
| | | Terbinafine cream 1% BD Duration: 1-2 weeks plus 2 weeks after healing. | Imidazole: Clotrimazole cream 1% or Miconazole cream 2% BD or (athlete's foot only): topical undecanoates BD (Mycota®) Duration: 1-2 wks plus 2 weeks after healing. |
| Dermatophyte infection - nail | Take nail clippings: start therapy only if infection is confirmed by laboratory. Oral terbinafine is more effective than oral azole. Liver reactions rare with oral antifungals. If candida or non-dermatophyte infection confirmed, use oral itraconazole. For children, seek specialist advice. Do not prescribe amorolfine 5% nail laquer as very limited evidence of effectiveness. | First line: Terbinafine 250mg OD Duration: Fingers: 6-12 weeks Toes: 3-6 months | Second line: Itraconazole 200mg BD Duration: 7 days per month Fingers: 2 courses Toes: 3 courses |
| Varicella zoster/chicken pox | Pregnant/immunocompromised/neonate: seek urgent specialist advice If onset of rash <24hrs & >14 years or severe pain or dense/oral rash or 2 ^o household case or steroids or smoker consider aciclovir. | Most patients do not require treatment | |
| | | If indicated: Aciclovir 800mg 5 times a day Duration: 7 days | |
| Herpes zoster/shingles | Treat if >50 years and within 72 hrs of rash (PHN rare if <50 years); or if active ophthalmic or Ramsey Hunt or eczema. | If indicated: Aciclovir 800mg 5 times a day Duration: 7 days | Second line for shingles only if compliance a problem (as high cost): Valaciclovir 1g TDS Duration: 7 days |
| Cold sores | Cold sores resolve after 7–10 days without treatment. Topical antivirals applied prodromally reduce duration by 12-24hrs. For infrequent cold sores of the lip advise self-care in line with NHS England guidance. | | |
| Acne & Rosacea | GMMMG guidance Topical antibiotics and oral antibiotics should not be combined together, as this combination is unlikely to confer additional benefit and may encourage the development of bacterial resistance. For acne, recommend non-antibiotic topical bactericidal products (e.g. benzyl peroxide 1st line for up to 2 months). Patients should be encouraged to manage mild acne in line with NHS England self-care guidance. | | |
| PARASITES | | | |
| Scabies | Treat whole body from ear/chin downwards and under nails. If under 2 or elderly, also face/scalp. Treat all home and sexual contacts within 24hr. | Permethrin 5% cream Duration: 2 applications 1 week apart | If allergy: Malathion 0.5% aqueous liquid Duration: 2 applications 1 week apart |
| | | Chemical treatment is only recommended in exceptional circumstances and self-care should be advised in line with NHS England guidance. | |
| Headlice | Head lice can be removed by combing wet hair meticulously with a plastic detection comb. | Dimeticone 4% lotion Duration: 2 applications 1 week apart | Malathion 0.5% liquid Duration: 2 applications 1 week apart |

| ILLNESS | GOOD PRACTICE POINTS | PREFERRED CHOICE | ALTERNATIVE |
|-----------------------|--|---|---|
| EYE INFECTIONS | | | |
| Conjunctivitis | <p>Only treat if severe, as most viral or self-limiting.</p> <p>Bacterial conjunctivitis is usually unilateral and also self-limiting.</p> <p>65% resolve by day five.</p> <p>Fusidic acid has less Gram-negative activity.</p> | <p>No antibiotics – most are viral or self-limiting. Advise self-care in line with NHS Engalnd guidance.</p> | |
| | | <p>If severe:</p> <p>Chloramphenicol eye drops 0.5%</p> <p>One drop every 2 hours for 2 days then reduce to 4 hourly and / or eye ointment 1%</p> <p>Apply at night if used with drops or 3 -4 times a day if used alone.</p> <p>Duration: for 48 hours after healing.</p> | <p>Second line: Fusidic acid 1% gel BD</p> <p>Duration: for 48 hours after healing.</p> |

Adapted from PHE – Management of infection guidance for primary care: November 2017

To discuss treatment options or any concerns, please discuss with local microbiologist.

For training resources and patient information leaflets please see [RCGP Target antibiotics toolkit](#).