Greater Manchester Shared Services

Greater Manchester Antimicrobial Guidelines

January 2018

Version 1.3

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DOCUMENT CONTROL

Document location

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 Management SharePoint:

REVISION DATE	ACTIONED BY	SUMMARY OF CHANGES	VERSION
January 2017	S Jacobs	Antibiotic drug treatment options developed in conjunction with the Greater Manchester AMR steering group. Based on the existing CCG antibiotic guidelines in use across Greater Manchester.	0.0
May 2017	S Jacobs	Minor amendments made to UTI section based on the updated PHE management of infection guidance for primary care, issued in May 2017	0.1
26.06.17	S Jacobs A Byrne	Incorporated drug options in to a guideline based on Wigan, Stockport and Salford CCGs format.	0.2
03.07.17	S Jacobs A Byrne	Revised content and formatting. Added aims and principles. Added links to GMMMG guidance.	0.3
05.07.17	S Jacobs	Changes made to conent and format following comments from Greater Manchester health protection team	0.4
14.07.17	S Jacobs	Changes made in response to comments received from Greater Manchester AMR working group and to comments received from CCG medicines optimisation leads & GPs	0.5
02.08.17	S Jacobs	Further changes made following consultation	0.6
11.08.17	S Jacobs	Final changes to UTI section following advice from Greater Manchester microbiologists	0.7
09.11.17	S Jacobs	Changes to font, added missing dosage to UTI section	1.1
14.11.17	S Jacobs	Changes to UTI section following GM AMR meeting – changed trimethoprim to a 2nd option under preferred choices.	1.2
17.01.18	S Jacobs	Changes made following comments received at the GM antimicrobial guidelines technical advisory group	1.3

Approvals

This document must be approved by the following before distribution:

NAME	DATE OF ISSUE	VERSION
PaGDSG	14th September 2017	1.0
GMMMG	19th October 2017	1

Changes to version 1.2

Section	Change made	Detail
Principles of treatment. Point 12.	Changed 'best guess' to empirical	
Influenza treatment	Added link	GMMMG: Influenza outbreak in care homes, December 2017
Acute sore throat	Added text to explain reason for PenV 1st line	Phenoxymethylpenicillin is 1st choice due to a significantly lower rate of resistance in Group A streptococcus compared with clarithromycin.
Acute otitis media	Changed duration of treatment from 7 days to 5 days.	
Acute otitis externa	250mg dose queried as low but no further comments therefore remains.	Flucloxacilin 250mg/ 500mg QDS
Acute rhinosinusitis	Added text to explain why amoxicillin 1st line	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.
Acute exacerbation of COPD	Changed to make doxycycline an alternative 1st line option to ensure patients who need doxycycline in rescue packs do not receive amoxicillin in error.	Amoxicillin 500mg – 1g TDS or Doxycycline 200mg stat then 100mg OD Duration: 5 days *If resistance:* consider microbiology advice.
UTI in children (reference for this requested from PHE).	Added trimethoprim as an alternative 1st line due to difficulties obtaining nitrofurantoin liquid & high cost	Nitrofurantoin or trimethoprim as risk of resistance lower in children.
Recurrent UTI's in non-pregnant women	Changed dose of trimethoprim from 200mg to 100mg	To match dose in NICE, PHE and BNF.
Acute pyelonephritis	Suggestion to change duration from 7 to 14 days declined: RATIONALE: A systematic review and meta-analysis of 8 randomised controlled trials found that a shorter 7 day course of quinolones or beta-lactam antibiotics was as clinically effective as 14-days	Co-amoxiclav 500/125mg TDS Duration: 7 days
Impetigo	Added advice for mild / small areas as per PHE and NHS choices advice.	*For mild or small area. Keep area clean with warm soapy water and remove crusts.* Fusidic acid cream Apply thinly TDS Duration: 5 days
Cellulitis	Added statement	Refer patients with Class II and III.
Cellulitis	Considered adding 1G as an option but conclusion was that for community, 500mg should be max dose.	
Cat or dog bites	Removed 375mg dose.	Co-amoxiclav 625mg TDS
Dental infections	Made into a separate document.	Not appropriate for GP prescribing

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. Consider a no, or delayed, antibiotic strategy for acute self-limiting infections e.g. upper respiratory tract infections.
5. Limit prescribing over the telephone to exceptional cases.
6. 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.
7. Lower threshold for antibiotics in immunocompromised or those with multiple morbidities; consider culture and seek advice.
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 risk of *Clostridium difficile*, MRSA and resistant UTIs.
9. Avoid widespread use of topical antibiotics (especially those agents also available as systemic preparations, e.g. fusidic acid).
10. In pregnancy AVOID tetracyclines, aminoglycosides, quinolones and high dose metronidazole.
11. 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.
12. Where an empirical therapy has failed or special circumstances exist, microbiological advice can be obtained from your local hospital microbiology department.
13. 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.
14. 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.
15. 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.

Contents

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	**Avoid antibiotics** as 90% resolve in 7 days without, and pain only reduced by 16 hours. Use **FeverPAIN** Score (this has replaced CENTOR): › ***Fever*** in last 24h › ***P***urulence › ***A***ttend rapidly under 3d › severely ***I***nflamed tonsils › ***N***o cough or coryza **Score:** **0-1**: 13-18% streptococci, use NO antibiotic strategy **2-3:** 34-40% streptococci, use 3 day back-up antibiotic **>4:** 62-65% streptococci, use immediate antibiotic if severe, or 48hr short back-up prescription.	**No antibiotics – 90% resolve in 7 days**	
		Phenoxymethylpenicillin 500mg QDS or 1G BD Duration: 10 days Phenoxymethylpenicillin is 1st choice due to a significantly lower rate of resistance in Group A streptococcus compared with clarithromycin.	*Penicillin Allergy:* Clarithromycin 500mg bd Duration: 5 days
Acute otitis media	**Optimise analgesia and target antibiotics** Avoid antibiotics as 60% are better in 24hrs without antibiotics, which only reduce pain at 2 days **and do not prevent deafness.** Consider 2 or 3-day delayed or immediate antibiotics for pain relief if: **<2 years** AND bilateral AOM or bulging membrane and ≥ 4 marked symptoms. **All ages** with otorrhoea.	**No antibiotics – 80% resolve without antibiotics**	
		Amoxicillin 500mg – 1G TDS **Child doses** Neonate 7-28 days: 30mg/kg TDS 1 month-1 yr: 125mg TDS 1-5 years: 250mg TDS 5-18 years: 500mg TDS Duration: 5 days	*Penicillin Allergy:* Clarithromycin 500mg BD **Child doses** See childrens BNF for doses (weight dependant) Duration: 5 days
Acute otitis externa	**First use analgesia.** Cure rates similar at 7 days for topical acetic acid or antibiotic +/- steroid.	**Mild infection: No antibiotics**	
		Moderate infection: Acetic acid 2% 1 spray TDS Duration: 7 days	**Moderate infection:** Neomycin sulphate with corticosteroid 3 drops TDS Duration: 7 to 14 days
	If cellulitis or disease extends outside ear canal, or systemic signs of infection.	**Severe infection:** Flucloxacilin 250mg/ 500mg QDS Duration: 7 days	

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**	
		Amoxicillin 500mg -1G TDS 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. *Mometasone 200mcg nasal spray BD for 14 days*	*Penicillin allergy* Doxycycline (not for under 12 years) 200mg stat then 100mg OD Duration: 5 days *Persistent symptoms / systemically unwell:* Co-amoxiclav 625mg TDS Duration: 5 days
LOWER RESPIRATORY TRACT INFECTIONS			
*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.*			
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**	
		Amoxicillin 500mg – 1g TDS Duration: 5 days	Doxycycline 200mg stat then 100mg OD 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.	Amoxicillin 500mg – 1g TDS *or* Doxycycline 200mg stat then 100mg OD Duration: 5 days *If resistance:* consider microbiology advice	
Community acquired pneumonia treatment in the community	Use CRB65 score to guide mortality risk, place of care & antibiotics. Each CRB65 parameter scores 1: **C**onfusion (AMT<8); **R**espiratory rate >30/min; **B**P 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

<table>
<tr><th>ILLNESS</th><th>GOOD PRACTICE POINTS</th><th>PREFERRED CHOICE</th><th>ALTERNATIVE</th></tr>
<tr><td colspan="4">MENINGITIS</td></tr>
<tr><td>Suspected meningococcal disease</td><td>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.</td><td>IV or IM benzylpenicillin
Age 10+ years: 1200mg
Children 1 - 9 yr: 600mg
Children <1 yr: 300mg

Give IM if vein cannot be found.</td><td>IV or IM cefotaxime
Child < 12 yrs: 50mg/kg
Age 12+ years: 1gram

Give IM if vein cannot be found.</td></tr>
<tr><td colspan="4">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.</td></tr>
<tr><td colspan="4">URINARY TRACT INFECTIONS</td></tr>
<tr><td colspan="4">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.</td></tr>
<tr><td rowspan="2">UTI in adults (no fever or flank pain)</td><td>Treat women with severe/or ≥ 3 symptoms.
Women mild/or ≤ 2 symptoms give pain relief 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.</td><td>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</td><td>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)</td></tr>
<tr><td>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.</td><td colspan="2">Low risk of resitance: 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.</td></tr>
<tr><td colspan="4">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.</td></tr>
<tr><td>UTI in pregnancy</td><td>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 (after 34 weeks).

Avoid trimethoprim in 1st trimester or if low folate status / on folate antagonist.</td><td>Nitrofurantoin MR 100mg BD

Duration: 7 days</td><td>If susceptible
Amoxicillin 500mg – 1g TDS
Second line:
Trimethoprim 200mg BD (off-label)
Third line:
Cefalexin 500mg BD
Duration: All for 7 days</td></tr>
</table>

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Recurrent UTI in non pregnant women ≥ 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.	Nitrofurantoin 100mg at night or post-coital stat (off-label) 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.	Ciprofloxacin 500mg BD Duration: 28 days	Ofloxacin 200mg BD Duration: 28 days *Second line:* *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 ≥ 3 mths**: use positive nitrite to guide. Start antibiotics, <u>also</u> send pre-treatment MSU. For doses refer to: BNF Children	**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.	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 <u>BNF</u> or <u>GMMMG</u> 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 *H.pylori* 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 *E. coli* 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
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 >38.5°C, 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) 2 tablets QDS for 2 days.
Threadworms	Treat all household contacts 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 *Pregnant or breastfeeding:* azithromycin 1g stat (off label use)	Doxycycline 100mg BD Duration: 7 days *Pregnant or breastfeeding:* 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 *Pregnant*: Clotrimazole 100mg pessary at night Duration: 6 nights	Oral fluconazole 150mg orally stat *Pregnant*: 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	

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Trichomoniasis	Treat partners and refer to GUM service. In pregnancy or breastfeeding: avoid 2g single dose MTZ. Consider clotrimazole for symptom relief (not cure) if MTZ declined.	Metronidazole 400mg BD Duration: 7 days or 2g stat	Clotrimazole 100mg pessary at night Duration: 6 nights
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

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
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
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.	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° 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.		
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, use non-antibacterial topical antimicrobials 1st line for up to 2 months.		

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

Adapted from PHE – Management of infection guidance for primary care: September 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.