NHS
in Greater Manchester
Strategic Medicines Optimisation
Greater Manchester Joint
Commissioning Team

Greater Manchester Antimicrobial Guidelines

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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 by Greater Manchester Health and Care Commissioning Medicines Optimisation team:

REVISION DATE	ACTIONED BY	SUMMARY OF CHANGES	VERSION
31/05/2019	S Woods	Final format after FMESG approval, with requested amendment	5.0
15/08/2019	S Woods	Initial draft after meeting of the guideline group on 14/08/2019	5.1
27/08/2019	S Woods	Minor change to wording added to PID section after comment from A. Swift	5.2
27/08/2019	S Woods	Final formatting	6.0

Approvals

This document has been provided for information to:

NAME	DATE OF ISSUE	VERSION
AMSSG		6.0
GMMMG		6.0

Changes to version 5.0 – see end of document.

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. When prescribing an antibiotic it should be based on the severity of symptoms, risk of developing complications, previous laboratory tests and any previous antibiotic use.
7. Limit prescribing over the telephone to exceptional cases.
8. 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.
9. Unless treatment choice is listed separately for children, then choices given are considered appropriate for adults and children; bearing in mind any specific age limitations for use listed in the BNF for Children.
10. Lower threshold for antibiotics in immunocompromised or those with multiple morbidities; consider culture and seek advice.
11. 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.
12. Avoid widespread use of topical antibiotics (especially those agents also available as systemic preparations, e.g. fusidic acid).
13. In pregnancy AVOID tetracyclines, aminoglycosides, quinolones and high dose metronidazole.
14. 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.
15. Always advise to seek medical help if symptoms worsen at any time or do not improve within 48 hours of starting an antibiotic or the person becomes systemically unwell.
16. Review antibiotic choice once culture and susceptibility results are available.
17. **Where an empirical therapy has failed or special circumstances exist, microbiological advice can be obtained from your local hospital microbiology department**.
18. 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.
19. 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.
20. 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.
21. Please note MHRA safety alert (issued 21 March 2019): Fluoroquinolone antibiotics: ciprofloxacin, levofloxacin,moxifloxacin, ofloxacin: New restrictions and precautions due to very rare reports of disabling and potentially long-lasting or irreversible side effects. Key details are below and referenced where the relevant antimicrobials are advised in the guideline. Full letter can be viewed at DDL_fluoroquinolones_March-2019_final.pdf.

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Greater Manchester Antimicrobial Guidelines

UPPER RESPIRATORY TRACT INFECTIONS

Influenza treatment

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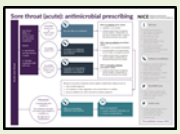
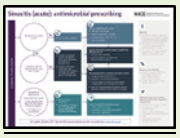
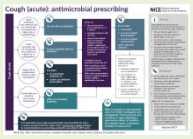
Annual vaccination is essential for all those at risk of influenza. For otherwise healthy adults antivirals not recommended.
Treat 'at risk' patients, when influenza is circulating in the community and ideally within 48 hours of onset (do not wait for lab report) or in a care home where influenza is 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 or greater). See **PHE seasonal influenza guidance** for current treatment advice and: **GMMMG: GP guide - Influenza outbreak in an adult care homes, January 2019**

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Acute sore throat  NICE Visual Summary *Back to Contents*	**Avoid antibiotics as 90% resolve in 7 days without, and pain only reduced by 16 hours**. **Advise self-care in line with NHS England guidance.**		
	Use **FeverPAIN** Score (this has replaced CENTOR): ▪ ***F***ever in last 24 hours ▪ ***P***urulence ▪ ***A***ttend rapidly under 3days ▪ severely ***I***nflamed tonsils ▪ ***N***o cough or coryza Score: 0 to 1: 13 to 18% streptococci. **Do not offer an antibiotic.** 2 to 3: 34 to 40% streptococci. **Consider* no antibiotic or a back-up antibiotic prescription.** Greater than 4: 62 to 65% streptococci. **Consider* an immediate antibiotic or a back-up antibiotic prescription**. See **NICE NG84** (Sore throat (acute): antimicrobial prescribing).	Phenoxymethylpenicillin 500mg four times a day or 1g twice a day Duration: 10 days Phenoxymethylpenicillin is first choice due to a significantly lower rate of resistance in Group A streptococcus compared with clarithromycin.	***Penicillin Allergy***: Clarithromycin 500mg twice a day Duration: 5 days
Acute otitis media  NICE Visual Summary *Back to Contents*	**No antibiotics – 80% resolve without antibiotics. Advise self-care in line with NHS England guidance.**		
	Recommend appropriate analgesia. **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: ➢ Less than 2 years AND bilateral acute otitis media or ➢ any age with otorrhoea See **NICE NG91** (Otitis media (acute): antimicrobial prescribing).	Amoxicillin 500mg to 1g three times a day Duration: 5 days	***Penicillin Allergy***: Clarithromycin 500mg twice a day Duration: 5 days
Acute otitis externa *Back to Contents*	**Mild infection: No antibiotics. Advise self-care in line with NHS England guidance.**		
	First recommend analgesia. Cure rates similar at 7 days for topical acetic acid or antibiotic plus or minus a steroid.	**Moderate infection:** Acetic acid 2% 1 spray three times a day Duration: 7 days	**Moderate infection:** Neomycin sulphate with corticosteroid 3 drops three times a day Duration: 7 to 14 days
	If cellulitis or disease extends outside ear canal, or systemic signs of infection.	**Severe infection:** Flucloxacillin 250mg/ 500mg four times a day Duration: 7 days	

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Acute Sinusitis  NICE Visual summary *Back to Contents*	**No antibiotics – 80% resolve in 14 days and only 2% are complicated by bacterial infection. Advise self-care in line with NHS England guidance.**		
	Symptoms less than 10 days: No antibiotics. **Recommend self-care.** Paracetamol / ibuprofen for pain / fever. Nasal decongestant may help. **Symptoms greater than 10days**: Only consider back-up antibiotics if no improvement in symptoms. Consider* high dose nasal steroid if older than 12 years. **At any time if the person is:** ▪ systemically very unwell, ▪ or has symptoms and signs of a more serious illness or condition, ▪ or has high risk of complications Offer* immediate antibiotic or investigate and manage in line with NICE guidance on respiratory tract infections (self-limiting) See **NICE NG79** (Sinusitis (acute): antimicrobial prescribing)	Amoxicillin 500mg to 1g three times a day Duration: 5 days *Mometasone 200microgram nasal spray twice a day for 14 days (off-label use)* ***Preferred choice if systemically very unwell, symptoms and signs of a more serious illness or condition, or at high risk of complications:*** Co-amoxiclav 625mg three times a day Duration: 5 days	***Penicillin allergy:*** Doxycycline (not for under 12 years) 200mg stat then 100mg daily Duration: 5 days **For children under 12 years:** Clarithromycin 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  NICE Visual summary *Back to Contents*	**Only offer* / consider* treatment if:** **Acute cough and higher risk of complications[$] (at face-to-face examination):** consider* immediate or back-up antibiotic. **Acute cough and systemically very unwell (at face to face examination):** offer* immediate antibiotic.		
	Acute cough with upper respiratory tract infection: no antibiotic. **Acute bronchitis:** no routine antibiotic. Advise self-care in line with NHS England guidance. Do not offer a mucolytic, an oral or inhaled bronchodilator, or an oral or inhaled corticosteroid unless otherwise indicated.	Doxycycline 200mg stat then 100mg daily Duration: 5 days ***Preferred choice for children less than 12 years:*** Amoxicillin Duration 5 days	Amoxicillin 500mg three times a day. Duration: 5 days **For children less than 12 years with Penicillin allergy:** Clarithromycin Duration 5 days
	[$]Higher risk of complications includes people with pre-existing comorbidity; young children born prematurely; people over 65 with 2 or more of, or over 80 with 1 or more of: hospitalisation in previous year, type 1 or 2 diabetes, history of congestive heart failure, current use of oral corticosteroids.		
Acute exacerbation of Bronchiectasis (non-cystic fibrosis) *Back to Contents*	An acute exacerbation of bronchiectasis is sustained worsening of symptoms from a person's stable state. Send a sputum sample for culture and susceptibility testing. When results available, review choice of antibiotic. Offer* an antibiotic When choosing antibiotics, take account of: ▪ the severity of symptoms ▪ previous exacerbations, hospitalisations and risk of complications ▪ **previous sputum culture and susceptibility results**	Amoxicillin 500mg three times a day Duration[#]: 7 to 14 days	Doxycycline 200mg stat, then 100mg daily OR Clarithromycin 500mg twice a day Duration[#]: 7 to 14 days

<table>
<tr><th>ILLNESS</th><th>GOOD PRACTICE POINTS</th><th>PREFERRED CHOICE</th><th>ALTERNATIVE</th></tr>
<tr><td rowspan="3">Acute exacerbation of COPD
 
NICE Visual summary
Back to Contents</td><td colspan="3">Many exacerbations (including some severe exacerbations) are not caused by bacterial infections so will not respond to antibiotics.</td></tr>
<tr><td>Sending sputum samples for culture is not recommended in routine practice.
Consider* an antibiotic:
▪ Based on the severity of symptoms, particularly sputum colour changes and increases in volume or thickness from the patient's normal.
▪ Previous exacerbations and hospital admission history, and the risk of developing complications
▪ Previous sputum culture and susceptibility results where available.
▪ The risk of AMR with repeated courses of antibiotics.</td><td>Doxycycline 200mg stat, then 100mg daily
or
Amoxicillin 500mg three times a day
Duration: 5 days.</td><td>In severe infection:
Doxycycline 200mg stat, then 100mg twice a day
or
Amoxicillin 1g three times a day
Duration 5 days</td></tr>
<tr><td colspan="3">Patients identified as suitable for having 'rescue packs' should normally only be provided with steroids, as these have been shown to improve lung function alone, with advice to seek medical attention if symptoms suddenly worsen or do not improve within 48 hours of starting treatment. Any decision to include antibiotics should be based on clinical need, do not use the higher dose in 'rescue packs'. Patients will need to notify prescribers when they use their 'rescue pack' medication, and to ask for replacements.</td></tr>
<tr><td rowspan="4">Acute exacerbation of COPD – PROPHYLAXIS
Back to Contents</td><td rowspan="4">Refer to a respiratory specialist for a decision to prescribe oral prophylactic antibiotic therapy in patients with COPD.
Consider* treatment only for people if they:
▪ do not smoke and
▪ have optimised non-pharmacological management and inhaled therapies, relevant vaccinations and (if appropriate) have been referred for pulmonary rehabilitation and
▪ continue to have 1 or more of the following, particularly if they have significant daily sputum production:
• frequent (typically 4 or more per year) exacerbations with sputum production
• prolonged exacerbations with sputum production
• exacerbations resulting in hospitalisation.
NICE guidance - Chronic obstructive pulmonary disease in over 16s: diagnosis and management (NG115)</td><td colspan="2">Duration: Review treatment after the first 3 months and then at least every 6 months. Only continue treatment if continued benefits outweigh the risks.</td></tr>
<tr><td colspan="2">Before starting prophylactic antibiotics, ensure that the person has had:
▪ sputum culture and sensitivity (including tuberculosis culture), to identify other possible causes of persistent or recurrent infection that may need specific treatment
▪ training in airway clearance techniques to optimise sputum clearance
▪ a CT scan of the thorax to rule out bronchiectasis and other lung pathologies.
Also carry out the following:
▪ an electrocardiogram (ECG) to rule out prolonged QT interval and
▪ baseline liver function tests.
For people who are still at risk of exacerbations, provide an antibiotic from a different class. to keep at home as part of their 'rescue pack'
Be aware that it is not necessary to stop prophylactic treatment during an acute exacerbation of COPD.</td></tr>
<tr><td colspan="2">Monitoring for long-term therapy: See BNF</td></tr>
<tr><td colspan="2">#Course length based on an assessment of the person's severity of bronchiectasis, exacerbation history, severity of exacerbation symptoms, previous culture and susceptibility results, and response to treatment.
Where a person is receiving antibiotic prophylaxis, treatment should be with an antibiotic from a different class.
Prophylaxis should only be offered on specialist advice.</td></tr>
</table>

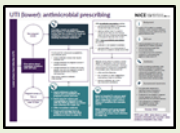
ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Community acquired pneumonia treatment in the community (Adults) *Back to Contents*	Use clinical judgement and CRB65 score to guide mortality risk, place of care & antibiotics. Each CRB65 parameter scores 1: **Confusion** – abbreviated Mental Test score less than 8; **Respiratory rate** – 30 breaths per minute or more; **Blood pressure** – diastolic 60 mmHg or less, or systolic less tha 90 mmHg; **Age** – 65 years or greater. Score 0 low risk: consider home based care; Score 1 to 2 intermediate risk: consider hospital assessment; Score 3 to 4: urgent hospital admission.	IF CRB65 = 0 Amoxicillin 500mg three times a day Duration: 5 days If CRB65 = 1 or 2 & at home: Amoxicillin 500mg three times a day ***AND (if atypical pneumonia suspected)*** Clarithromycin 500mg twice a day Duration: 5 days	IF CRB65 = 0 Clarithromycin 500mg twice a day Duration: 5 days OR Doxycycline 200mg stat then 100mg daily Duration: 5 days If CRB65 = 1 or 2 & at home: Clarithromycin 500mg twice a day Duration: 5 days OR Azithromycin 500mg daily. Duration: 3 days
Community acquired pneumonia treatment in the community (Children and young people under 18 years) *Back to Contents*	**Children under 3 months - Refer to paediatric specialist for treatment.**		
	Offer* an antibiotic(s) within 4 hours of establishing a diagnosis. Give advice about: ▪ possible adverse effects of antibiotics ▪ seeking medical help if symptoms worsen rapidly or significantly, or do not improve within 3 days, or the person becomes	**Children aged 3 months and over -** if non-severe symptoms or signs (based on clinical judgement) Amoxicillin Duration: 5 days ***If severe symptoms or signs*** (based on clinical judgement); guided by microbiological results when available: Co-amoxiclav *PLUS (if atypical pneumonia suspected)* Clarithromycin Duration: 5 days	**Children aged 3 months and over -** if non-severe symptoms or signs (based on clinical judgement) Clarithromycin Duration: 5 days
MENINGITIS			
Suspected meningococcal disease *Back to Contents*	**Transfer all patients to hospital immediately.** If time before hospital admission and if suspected meningococcal septicaemia or non-blanching rash, give intravenous or intramuscular benzylpenicillin as soon as possible. Do not give antibiotics if there is a definite history of anaphylaxis; rash is not a contraindication.	Benzylpenicillin by intravenous or intramuscular injection Age 10 plus years: 1200mg Children 1 to 9 years: 600mg Children less than1 years: 300mg Stat doses Give by intramuscular injection 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 to 5 Mon to Fri) Out of hours contact ☎ 0151 434 4819 and ask for PHE on call.			

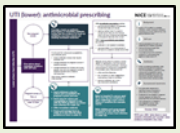
URINARY TRACT INFECTIONS

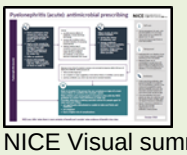
As antimicrobial resistance and E. coli bacteraemia is increasing use nitrofurantoin first line. Always give safety net and self-care advice and consider risks for resistance. Give the appropriate **TARGET Treat Your Infection UTI** *leaflet.*

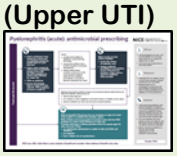
Do not perform urine dipsticks – For men and women over 65 years

Dipsticks become more unreliable with increasing age over 65 years. Up to half of older adults, and most with a urinary catheter, will have bacteria present in the bladder/urine without an infection. This "asymptomatic bacteriuria" is not harmful, and although it causes a positive urine dipstick, antibiotics are not beneficial and may cause harm.
For guidance on diagnosing UTIs and the need for dipsticks, in all ages, see PHE's quick reference tool for primary care.

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Lower UTI in Non-pregnant Women  NICE Visual summary *Back to Contents*	**Treat women with severe/or 3 or more symptoms.** **Women mild/or 2 or less symptoms advise self-care in line with NHS England guidance and consider* back up / delayed prescription.** **People over 65 years: do not treat asymptomatic bacteriuria;** it is common but is not associated with increased morbidity. Treat if fever AND dysuria OR 2 or more other symptoms. ***In treatment failure: always perform culture.***	Nitrofurantoin MR (if eGFR 45 ml/minute or greater) 100mg twice a day Duration: 3 days ***If low risk[+] of resistance and preferably if susceptibility demonstrated & no risk factors[£] (below):*** Trimethoprim 200mg twice a day Duration: 3 days	***If preferred choice unsuitable:*** Pivmecillinam 400mg initial dose then 200mg three times a day Duration: 3 days **CHECK AVAILABILITY AS NOT ALL PHARMACIES HOLD STOCK.**
	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.	[+]**A lower risk** of resistance may be more likely if not used in the past 3 months, previous urine culture suggests susceptibility (but this was not used), and in younger women. [£]**Risk factors for increased resistance include:** care home resident, recurrent UTI, hospitalisation for greater than 7 days 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 associated UTI  NICE Visual summary *Back to Contents*	**DO NOT DIPSTICK** Do not treat asymptomatic bacteriuria in people with a catheter. Advise paracetamol for pain. Advise drinking enough fluids to avoid dehydration. Advise seeking medical help if symptoms worsen at any time or do not start to improve within 48 hours, or the person becomes systemically very unwell Consider* removing or, if not possible, changing the catheter if it has been in place for more than 7 days. But do not delay antibiotic treatment if considered appropriate. Send a urine sample for culture and susceptibility testing. When results of urine culture are available: ▪ review choice of antibiotic change antibiotic according to susceptibility results if bacteria are resistant, using narrow spectrum antibiotics when possible	**Lower UTI symptoms**	
		Nitrofurantoin MR (if eGFR 45 ml/minute or greater) 100mg twice a day Duration: 7 days ***OR*** Trimethoprim (if low risk▼ of resistance) 200mg twice a day Duration: 7 days	Pivmecillinam 400mg initial dose, then 200mg three times a day Duration: 7 days
		Upper UTI symptoms	
		Cefalexin 500mg twice or three times a day (up to 1g to 1.5g three times a day or four times a day for severe infections) Duration: 7 to 10 days	Ciprofloxacin 500mg twice a day Duration: 7 days (See MHRA Safety Alert - note 21 page 3)
		Pregnant women aged 12 years and over	
		Cefalexin 500mg twice or three times a day (up to 1g to 1.5g three times a day or four times a day for severe infections) Duration: 7 to 10 days	If vomiting, unable to take oral antibiotics or severely unwell refer to hospital.
	▼Low risk of resistance is likely if not used in the past 3 months and previous urine culture suggests susceptibility (but this was not used). Higher risk of resistance is likely with recent use.		

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Lower UTI in pregnancy  NICE Visual summary *Back to Contents*	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). Treatment of asymptomatic bacteriuria in pregnant women: choose from nitrofurantoin (avoid at term), amoxicillin or cefalexin based on recent culture and susceptibility results.	***Up to 34 weeks*** Nitrofurantoin MR (if eGFR 45 ml/minute or greater) 100mg twice a day Duration: 7 days **After 34 weeks use alternative**	Amoxicillin (only if culture results available and susceptible) 500mg to 1g three times a day OR Cefalexin 500mg twice a day Duration: All for 7 days
Lower UTI in Men  NICE Visual summary *Back to Contents*	Consider prostatitis and send pre-treatment MSU Consider STIs.	Trimethoprim 200mg twice a day Duration: 7 days Or Nitrofurantoin MR (if eGFR 45 ml/minute or greater and no prostate involvement) 100mg twice a day Duration: 7 days	Consider alternative diagnoses basing antibiotic choice on recent culture and susceptibility results
Recurrent UTI in non pregnant women having 3 or more UTIs per year  NICE Visual summary *Back to Contents*	First advise about behavioural and personal hygiene measures, and self-care (with D-mannose or cranberry products) to reduce the risk of UTI. For postmenopausal women, if no improvement, consider vaginal oestrogen (review within 12 months). If no improvement, consider single-dose antibiotic prophylaxis for exposure to a trigger (review within 6 months). If no improvement or no identifiable trigger consider a trial of daily antibiotic prophylaxis (review within 6 months). Advice to be given: ▪ how to use (in particular for single dose prophylaxis) ▪ possible adverse effects of antibiotics, particularly diarrhoea and nausea ▪ returning for review within 3 to 6 months ▪ seeking medical help if symptoms of an acute UTI develop	**Choice should be based on culture and susceptibility results.** *Single dose when exposed to a trigger* Trimethoprim 200mg (off label) Or Nitrofurantoin MR (if eGFR 45 ml/minute or greater) 100mg (off label) *Continuous prophylaxis* Trimethoprim 100mg at night Or Nitrofurantoin MR (if eGFR 45 ml/minute or greater) 50mg to 100mg at night Duration for all: 3 to 6 months **then review** **Monitoring for long-term therapy: See BNF**	*Single dose when exposed to a trigger* Amoxicillin 500 mg (off label) Or Cefalexin 500 mg (off label) *Continuous prophylaxis* Amoxicillin 250mg at night (off label) Or Cefalexin 125mg at night (off label) Duration for all: 3 to 6 months **then review**
Acute prostatitis  NICE Visual summary *Back to Contents*	Send MSU for culture and start antibiotics. Review antibiotic treatment after 14 days and either stop antibiotics or continue for a further 14 days if needed (based on assessment of history, symptoms, clinical examination, urine and blood tests).	Ciprofloxacin (See MHRA Safety Alert – note 21 page 3) 500mg twice a day Duration: up to 28 days	***If unable to take quinolone:*** Trimethoprim 200mg twice a day Duration: up to 28 days

<table>
<tr><th>ILLNESS</th><th>GOOD PRACTICE POINTS</th><th>PREFERRED CHOICE</th><th>ALTERNATIVE</th></tr>
<tr><td>Acute pyelonephritis in adults (Upper UTI)
 
NICE Visual summary
Back to Contents</td><td>Send MSU for culture & susceptibility.
Offer an antibiotic.
When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria.
If no response within 24 hours, admit for IV antibiotics.</td><td>Cefalexin 500mg twice a day or three times a day (up to 1g to 1.5g three times a day or four times a day for severe infections)
Duration: 7 to 10 days
If known ESBL positive in urine, please discuss with microbiologist.

Pregnant women:
Consider referral.
If cefalexin contraindicated or not tolerated consult microbiologist.</td><td>Co-amoxiclav (only if culture results available and susceptible) 500/125mg three times a day
Duration: 7 to 10 days
Or
Trimethoprim (only if culture results available and susceptible)
200mg twice a day
Duration: 14 days
Or
Ciprofloxacin (See MHRA Safety Alert – note 21 page 3)
500mg twice a day
Duration: 7 days</td></tr>
<tr><td rowspan="3">Lower UTI in children
 
NICE Visual summary
Back to Contents</td><td colspan="3">Child under 3 mths: refer urgently for assessment.</td></tr>
<tr><td>Child ≥ 3 mths: use positive nitrite to guide. Start antibiotics, <u>also</u> send pre-treatment MSU.
If recurrent UTI, refer to paediatrics. If antibiotics required in recurrent UTI, seek specialist advice.</td><td>3 months and over
Nitrofurantoin (if eGFR 45 ml/minute or greater)
[Where children can swallow them, 100mg M/R capsules (older than 12yrs) should be used in preference to the liquid formulation. 50mg tablets can be considered for lower doses. Do not crush tablets or open capsules]
OR
Trimethoprim (if low risk of resistance$^{\Omega}$)
Duration: 3 days</td><td>3 months and over
Amoxicillin (only if culture results available and susceptible)
OR
Cefalexin
Duration: 3 days</td></tr>
<tr><td colspan="3">$^{\Omega}$A lower risk of resistance may be more likely if not used in the past 3 months and previous urine culture suggests susceptibility (but this was not used). A higher risk of resistance may be more likely with recent use.</td></tr>
<tr><td rowspan="2">Acute pyelonephritis in children under 16 years (Upper UTI)
 
NICE Visual summary
Back to Contents</td><td colspan="3">Refer children under 3 months to paediatric specialist</td></tr>
<tr><td>Send a urine sample for culture and susceptibility testing in line with the NICE guideline, Urinary tract infection in under 16s: diagnosis and management (CG54).
Offer* an antibiotic.
When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria.
If no response within 24 hours, admit for intravenous antibiotics.</td><td>Cefalexin
Duration: 7 to 10 days

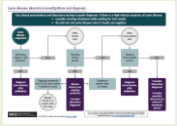
Assess and manage fever in under 5s in line with NICE guidance - Fever in under 5s: assessment and initial management (CG160)</td><td>Co-amoxiclav (only if culture results available and susceptible)
Duration: 7 to 10 days</td></tr>
</table>

GASTRO INTESTINAL TRACT INFECTIONS

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Oral candidiasis *Back to Contents*	**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.**		
	Topical azoles are more effective than topical nystatin. Oral candidiasis rare in immunocompetent adults.	Fluconazole capsules 50mg to 100mg daily Duration: 7 days & further 7 days if persistent Or Miconazole oral gel 2.5ml four times a day after meals Duration: 7 days or until 2 days after symptoms.	If miconazole not tolerated: Nystatin suspension 100,000 units four times a day after meals Duration: 7 days or until 2 days after symptoms
Eradication of Helicobacter pylori *Back to Contents*	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 *H.pylori* post DU/GU or relapse after second line therapy: using breath or stool test OR consider endoscopy for culture and susceptibility.		
Infectious diarrhoea *Back to Contents*	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 to 500mg twice a day for 7 days, if treated within 3 days of onset.		
Clostridium difficile *Back to Contents*	***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:** Temperature less than 38.5^{o}C, or WCC greater than 15, or rising creatinine or signs/symptoms of severe colitis.	***First episode:*** Vancomycin 125mg four times a day Duration: 10 to 14 days **CHECK AVAILABILITY AS NOT ALL PHARMACIES HOLD STOCK.**	***If recurrent or severe then seek microbiology advice.***
Acute Diverticulitis *Back to Contents*	**Consider watchful waiting if person**: ▪ Systemically well ▪ No co-morbidities ▪ No suspected infection. Advise analgesia (**avoid** NSAIDs and opioids), clear liquids with gradual reintroduction of solid food if symptoms improve. Consider checking for raised white cell count and CRP, which may suggest infection. **Review** in 48 hours or sooner if symptoms worsen. Urgent hospital admission is advised if symptoms persist or deteriorate, despite management. **Arrange immediate urgent hospital admission for those with:** Rectal bleeding Unmanageable abdominal pain Dehydrated or at risk of dehydration Unable to take or tolerate oral antibiotics (if needed) at home Frail / significant co-morbidities and or / is immunocompromised.	***For patients who do not require urgent hospital admission and infection is suspected:*** Co-amoxiclav 625mg three times a day Duration: 7 days	Ciprofloxacin (See MHRA Safety Alert – note 21 page 3) 500mg twice a day PLUS Metronidazole 400mg three times a day Duration: 7days
		Patients should be reviewed after 72 hours and if there is no improvement, and/or fever and leukocytosis persist, urgent hospital admission is advised.	

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Traveller's diarrhoea *Back to Contents*	**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 four times a day for 2 days.
GENITAL TRACT INFECTIONS			
STI screening *Back to Contents*	People with risk factors should be screened for chlamydia, gonorrhoea, HIV, syphilis. Refer individual and partners to GUM service. **Risk factors:** less than 25 years, no condom use, recent (less than 12momths)/frequent change of partner, symptomatic partner, area of high HIV.		
Chlamydia trachomatis/ urethritis *Back to Contents*	Opportunistically screen all sexually active patients aged 15 to 24 years for chlamydia annually and on change of sexual partner. If positive, treat index case, refer to GUM and initiate partner notification, testing and treatment. As single dose azithromycin has led to increased resistance in GU infections, doxycycline should be used first line for chlamydia and urethritis. Consider referring all patients with symptomatic urethritis to GUM as testing should include Mycoplasma genitalium and Gonorrhoea. If M.genitalium is proven, use doxycycline followed by azithromycin using the same dosing regimen and advise to avoid sex for 14 days after start of treatment and until symptoms have resolved.	Doxycycline 100mg twice a day Duration: 7 days	*Pregnant, breastfeeding, allergy, or intolerance:* Azithromycin 1g stat, then 500mg daily for the following 2 days.
		Advise patient with chlamydia to abstain from sexual intercourse until doxycycline is completed or for 7 days after treatment with azithromycin (14 days after azithromycin started and until symptoms resolved if urethritis). If chlamydia, test for reinfection at 3 to 6 months following treatment if under 25 years; or consider if over 25 years and high risk of re-infection. As lower cure rate in pregnancy, test for cure at least 3 weeks after end of treatment.	
Epididymitis *Back to Contents*	For suspected epididymitis in men over 35 years with low risk of STI. (**High risk, refer to GUM)**	Ofloxacin 200mg twice a day (See MHRA Safety Alert – note 21 page 3) Duration : 14 days	Doxycycline 100mg twice a day Duration: 14 days
Vaginal candidiasis *Back to Contents*	All topical and oral azoles give 75% cure. **In pregnancy:** avoid oral azoles and use intravaginal treatment for 7 days.	Clotrimazole 500mg pessary or 10% cream stat *Pregnant:* Clotrimazole 100mg pessary at night Duration: 6 nights	Fluconazole 150mg orally stat *Pregnant:* Miconazole 2% cream, 5g intravaginally twice a day Duration: 7 days
Bacterial vaginosis *Back to Contents*	Oral metronidazole is as effective as topical treatment and is cheaper. Less relapse with 7 day than 2g stat. **Pregnant/breastfeeding:** avoid 2g stat. Treating partners does not reduce relapse.	Metronidazole 400mg twice a day Duration: 7 days Or Metronidazole 2g stat (use 5 x 400mg tablets)	Metronidazole 0.75% vaginal gel 5g applicator at night Duration: 5 nights or Clindamycin 2% cream 5g applicator at night. Duration: 7 nights
Gonorrhoea *Back to Contents*	**Refer to GUM for treatment.**		
	Antibiotic resistance is now very high.	Ceftriaxone 1g stat, by intramuscular injection	Ciprofloxacin 500mg stat **[ONLY IF KNOWN TO BE SENSITIVE]** (See MHRA Safety Alert – note 21 page 3)

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Trichomoniasis *Back to Contents*	**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 twice a day Duration: 7 days or Metronidazole 2g stat (use 5 x 400mg tablets)	Clotrimazole 100mg pessary at night Duration: 6 nights
Pelvic inflammatory disease *Back to Contents*	**Children under 12 years must be referred to a paediatrician.**		
	Refer woman and contacts to GUM service for treatment. **Raised CRP** supports diagnosis, absent pus cells in HVS smear good negative predictive value. **Exclude:** ectopic pregnancy, appendicitis, endometriosis, UTI, irritable bowel, complicated ovarian cyst, functional pain. Moxifloxacin has greater activity against likely pathogens, but always test for gonorrhoea, chlamydia, and M. genitalium. **Ofloxacin and moxifloxacin should be avoided in patients who are at high risk of gonococcal PID.**	Ceftriaxone 1g stat by intramuscular injection **[This is an essential part of treatment – refer patients to local services if injection not available via GP practice]** **PLUS** Metronidazole 400mg twice a day **PLUS** Doxycycline 100mg twice a day Duration : 14 days	***These treatment choices should only be used for true cephalosporin allergy and a low risk of gonococcal PID.*** Metronidazole 400mg twice a day **PLUS** Ofloxacin 400mg twice a day Or Moxifloxacin 400mg daily **alone**. (If M. genitalium tests positive use moxifloxacin as an alternative.) (See MHRA Safety Alert – note 21 page 3) Duration : 14 days
SKIN INFECTIONS			
MRSA *Back to Contents*	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 *Back to Contents*	For mild or small area. Keep area clean with warm soapy water and remove crusts.	Fusidic acid cream Apply thinly three times a day Duration: 5 days.	
	For severe, widespread or bullous impetigo use oral antibiotics. **Do not** prescribe mupirocin (**reserved for MRSA**).	Flucloxacillin 500mg four times a day Duration: 7 days	***Penicillin allergy:*** Clarithromycin 500mg twice a day Duration: 7 days
Eczema *Back to Contents*	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 *Back to Contents*	**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 intravenous treatment, or use outpatient parenteral antimicrobial team (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 intravenous treatments with microbiologist.	Flucloxacillin 500mg to 1g four times a day ***If facial:*** Co-amoxiclav 625mg three times a day Duration: All 7 days. If slow response continue for a further 7 days.	***If penicillin allergic:*** Clarithromycin 500mg twice a day or Doxycycline 200mg stat then 100mg twice a day If unresolving: Clindamycin 300-450mg four times a day Duration: All 7 days. If slow response continue for a further 7 days.

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Leg ulcer *Back to Contents*	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 four times a day Duration: 7 days If slow response continue for a further 7 days.	Clarithromycin 500mg twice a day Duration: 7 days. If slow response continue for a further 7 days.
Mastitis – Lactational *Back to Contents*	**Most cases of lactational 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. **Breastfeeding**: oral antibiotics are safe and appropriate, where indicated. Women should continue feeding, including from the affected breast and be advised to monitor the child for adverse drug reactions e.g. diarrhoea and thrush.	Flucloxacillin 500mg to 1g four times a day Duration: 7 to 14 days	***If penicillin allergic:*** Clarithromycin♦ 500mg twice a day Duration: 7 to 14 days
		♦Epidemiologic evidence indicates that the risk of hypertrophic pyloric stenosis in infants might be increased by use of maternal macrolides, especially in infants exposed in the first 2 weeks after birth. The risk may be greater with erythromycin, which is why clarithromycin is recommended here.	
Mastitis – Non-Lactational *Back to Contents*	If immediate admission or referral is not indicated then prescribe an oral antibiotic for ***all*** women with non-lactational mastitis. Advise the woman to seek immediate medical advice if symptoms worsen or fail to settle after 48 hours of antibiotic treatment.	Co-amoxiclav 500/125mg three times a day Duration: 10 to 14 days	Clarithromycin 500 mg twice a day **PLUS** Metronidazole 400 mg three times a day Duration: 10 to 14 days.
Bites - Human *Back to Contents*	**Thorough irrigation is important.** Assess risk of tetanus, rabies, HIV, hepatitis B/C. Antibiotic prophylaxis is advised.	Prophylaxis or treatment: Co-amoxiclav 625mg three times a day Duration: 7 days	***If penicillin allergic:*** Metronidazole 400mg three times a day **PLUS** Clarithromycin 500mg twice a day Duration: 7 days **AND review at 24 and 48 hours, as not all pathogens covered**
Bites - Cat or dog *Back to Contents*	**For children under 12 years of age, who are penicillin allergic, consult microbiology.**		
	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.	Prophylaxis or treatment: Co-amoxiclav 625mg three times a day Duration: 7 days	***If penicillin allergic:*** Metronidazole 400mg three times a day **PLUS** Doxycycline 100mg twice a day Duration: 7 days **AND review at 24 and 48 hours, as not all pathogens covered.**
Lyme disease – Tick bites  NICE Visual summary *Back to Contents*	**Most tick bites do not transmit Lyme disease and prompt, correct removal of the tick reduces the risk of transmission. For correct tick removal and how to do this see the Public Health England website for information on removing ticks and supporting information.**		
	Treat erythema migrans empirically; serology is often negative early in infection. For other suspected Lyme disease such as neuroborreliosis (CN palsy, radiculopathy) seek advice. See NICE guideline [NG95]	Doxycycline 100mg twice a day Duration: 21 days	*Where preferred option is contraindicated or not licensed:* Amoxicillin 1g three times a day Duration: 21 days

ILLNESS	GOOD PRACTICE POINTS	PREFERRED CHOICE	ALTERNATIVE
Dermatophyte infection - skin *Back to Contents*	**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.**		
	Most cases: use terbinafine as fungicidal, so treatment time shorter and more effective than with fungistatic imidazoles or undecanoates. If candida possible, use imidazole. **If intractable or scalp**: send skin scrapings and if infection confirmed, use oral terbinafine/itraconazole. **Scalp**: discuss with specialist, oral therapy indicated.	Terbinafine cream 1% twice a day Duration: 1 to 2 weeks plus 2 weeks after healing	Imidazole: Clotrimazole cream 1% or Miconazole cream 2% twice a day or (athlete's foot only): topical undecanoates twice a day (Mycota®) Duration: 1 to 2 wks plus 2 weeks after healing
Dermatophyte infection - nail *Back to Contents*	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 lacquer as very limited evidence of effectiveness.**	First line: Terbinafine 250mg daily Duration: Fingers: 6 to 12 weeks Toes: 3 to 6 months	Second line: Itraconazole 200mg twice a day Duration: 7 days per month Fingers: 2 courses Toes: 3 courses
Varicella zoster/chicken pox *Back to Contents*	**Most patients do not require treatment**		
	Pregnant/immunocompromised/ neonate: seek urgent specialist advice If onset of rash less than 24hrs & older than 14 years or severe pain or dense/oral rash or secondary household case or steroids or smoker consider aciclovir.	If indicated: Aciclovir 800mg 5 times a day Duration: 7 days	
Herpes zoster/shingles *Back to Contents*	Treat if older than 50 years and within 72 hours of rash (PHN rare if less than 50 years); or if active ophthalmic or Ramsey Hunt or eczema.	If indicated: Aciclovir 800mg five times a day Duration: 7 days	Second line for shingles **only if compliance a problem** (as high cost): Valaciclovir 1g three times a day Duration: 7 days
Scarlet Fever (GAS) *Back to Contents*	**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.	**Optimise analgesia and give safety netting advice**	
		Phenoxymethylpenicillin 500mg four times a day Duration: 10 days	***Penicillin Allergy***: Clarithromycin 250mg to 500mg twice a day Duration: 5 days
Cold sores *Back to Contents*	Cold sores resolve after 7 to 10 days without treatment. Topical antivirals applied prodromally reduce duration by 12 to 24hours. **For infrequent cold sores of the lip advise self-care in line with NHS England guidance.**		
Acne & Rosacea *Back to Contents*	**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 first line for up to 2 months. **Patients should be encouraged to manage mild acne in line with NHS England self-care guidance.**		

PARASITES			
ILLNESS	**GOOD PRACTICE POINTS**	**PREFERRED CHOICE**	**ALTERNATIVE**
Scabies *Back to Contents*	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 24 hours.	Permethrin 5% cream Duration: 2 applications 1 week apart	***If allergy:*** Malathion 0.5% liquid Duration: 2 applications 1 week apart
Head lice *Back to Contents*	**Chemical treatment is only recommended in exceptional circumstances and self-care should be advised in line with NHS England guidance.**		
	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
Threadworms *Back to Contents*	**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 less than 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.	
EYE INFECTIONS			
Conjunctivitis *Back to Contents*	**No antibiotics – most are viral or self-limiting. Advise self-care in line with NHS England guidance.**		
	Only treat if severe. Bacterial conjunctivitis is usually unilateral and also self-limiting. 65% resolve by day five. Fusidic acid has less Gram-negative activity.	***If severe:*** Chloramphenicol eye drops 0.5% One 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 twice a day Duration: for 48 hours after healing.

Adapted from NICE / PHE – Summary of antimicrobial prescribing guidance - managing common infections: July 2019

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.

Changes to version 5.0 - *Back to Contents*

Section	Change made	Detail
Changes	Moved to end of document with link in contents	To reduce the need to scroll past this section to access main document.
All	Added link back to contents	*Back to Contents*
URINARY TRACT INFECTIONS	Added information with regard to dipsticks for UTIs.	*Dipsticks become more unreliable with increasing age over 65 years. Up to half of older adults, and most with a urinary catheter, will have bacteria present in the bladder/urine without an infection. This "asymptomatic bacteriuria" is not harmful, and although it causes a positive urine dipstick, antibiotics are not beneficial and may cause harm.* *For guidance on diagnosing UTIs and the need for dipsticks, in all ages, see PHE's quick reference tool for primary care.*
Lower UTI in Non-pregnant Women	Added comment to check availability as not all pharmacies hold stock.	***If preferred choice unsuitable:*** Pivmecillinam 400mg initial dose then 200mg three times a day Duration: 3 days **CHECK AVAILABILITY AS NOT ALL PHARMACIES HOLD STOCK.**
Clostridium difficile	Metronidazole removed as first episode choice. Growing evidence of resistance and microbiology recommend vancomycin routinely. Added comment to check availability as not all pharmacies hold stock.	***First episode:*** Vancomycin 125mg four times a day Duration: 10 to 14 days **CHECK AVAILABILITY AS NOT ALL PHARMACIES HOLD STOCK.**
Chlamydia trachomatis/ urethritis	More detailed information given on testing for reinfection and length of time to avoid sexual intercourse.	See section
Pelvic inflammatory disease	Increased emphasis on importance of ceftriaxone injection being an essential part of treatment under preferred choice.	Ceftriaxone 1g stat by intramuscular injection [This is an essential part of treatment – refer patients to local services if injection not available via GP practice] **PLUS** Metronidazole 400mg twice a day **PLUS** Doxycycline 100mg twice a day Duration : 14 days
Mastitis – Lactational	Section re-named to indicate treatment choice only for women that are lactating.	No other change to this section
Mastitis – Non-Lactational	**New Section added** Added to ensure that treatment choice for non-lactating women is available as different to that for lactating women.	See section Additional guidance to aid clinicians.
Lyme disease – Tick bites	**New Section added** Added due to growing number of tick bites being recorded and in line with NICE guidance [NG95]	See section Additional guidance to aid clinicians.
Scarlet Fever (GAS)	**New Section added** Added in line with PHE/NICE guidance.	See section Additional guidance to aid clinicians.
Threadworms	Section moved from GI Tract Infections to Parasites.	More logical section.