East and North Hertfordshire Clinical Commissioning Group

Herts Valleys Clinical Commissioning Group

GUIDANCE FOR THE MANAGEMENT OF INFECTION IN PRIMARY CARE WITHIN HERTFORDSHIRE

Ratifying CCG Board Sub-Committee	**Hertfordshire Medicines Management Committee on behalf of East and North Herts CCG and Herts Valleys CCG.**
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This document was prepared on behalf of East and North Hertfordshire Clinical Commissioning Group and Herts Valleys Clinical Commissioning Group by the Pharmacy and Medicines Optimisation Team from East and North Hertfordshire CCG.

This document is available electronically or in a larger font or alternative format on request.

Document History

To replace: Guidance for the Management of Infection in Primary Care within Hertfordshire November 2014.

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Produced by the Pharmacy and Medicines Optimisation Team
East and North Hertfordshire Clinical Commissioning Group

GUIDANCE FOR THE MANAGEMENT OF INFECTION

Contents

Purpose

To support the appropriate prescribing of antibiotics in primary care.

Disclaimer

Whilst every effort has been made to ensure the accuracy of this guideline, the authors cannot accept any responsibility for any errors or omissions. The prescriber should be aware of any side effects, drug interactions or patient specific contra-indications as detailed in the current British National Formulary or the Summary of Product Characteristics.

Changes from November 2014

- **Addition of choice of antibiotic for the following indications:**
  - Otitis Externa (acute)
  - Bronchiectasis
  - UTI in women – no visible haematuria, not pregnant or catheterised
  - UTI in women – visible or non visible haematuria, not pregnant
  - Asymptomatic bacteriuria in pregnancy
  - Catheter in situ
  - UTI with catheter
  - Pilonidal sinus disease (discharging)
  - Post-operative wound infection

- **Revised or new drug choices for:**

Condition	Changed from (November 2014)	Changed to (April 2015)
Otitis media (acute)	Azithromycin 2nd line choice	Azithromycin removed from guidelines
Sinusitis (acute)	Amoxicillin 1st line choice	Amoxicillin 2nd line choice
Bronchitis (acute)	Doxycycline 1st line choice	Doxycycline 2nd line choice and

		clarithromycin added as a further 2nd line choice in penicillin allergy
Acute Exacerbation of COPD		Clarithromycin added as further 2nd line choice
Community acquired pneumonia	Clarithromycin and doxycycline 1st line choices	Clarithromycin and doxycycline 2nd line choices
Meningitis	Cefotaxime 2nd line choice	Cefotaxime removed from guidelines
UTI in men	Nitrofurantoin 1st line choice	Nitrofurantoin 2nd line choice and pivmecillinam added as further 2nd line choice
UTI – recurrent		Nitrofurantoin added as further 2nd line choice
Pyelonephritis (acute)	Co-amoxiclav 1st line choice	Co-amoxiclav 2nd line choice and cefalexin added as a 2nd line option for pregnant women
Clostridium difficile infection (CDI)		Fidaxomicin added as a further 2nd line choice
CDI recurrence		Fidaxomicin added as 1st line choice
Helicobacter pylori eradication		Metronidazole added as an option for 1st line choice in combination with amoxicillin and clarithromycin added as a further option for 2nd line choice
Threadworm	Piperazine/senna 1st line choice	Piperazine/senna removed from guidelines
Vaginal candidiasis in pregnancy		Miconazole 2% cream added as a 2nd line choice
Bacterial vaginosis	Metronidazole gel 1st line choice	Metronidazole gel 2nd line choice
Epididymo-orchitis	Co-amoxiclav 2nd line choice for over 35 years	Co-amoxiclav removed from guidelines and ofloxacin added as a further 2nd line choice for over 35 years

Pelvic inflammatory disease	Metronidazole plus ofloxacin 1st line choice and Ceftriaxone plus metronidazole plus doxycycline 2nd line choice	Ceftriaxone plus metronidazole plus doxycycline 1st line choice and metronidazole plus ofloxacin 2nd line choice

- **Revised dosage or frequency or duration of treatment for:**

Condition	Changed from (November 2014)	Changed to (April 2015)
Community acquired pneumonia	Course length 7 days for CRB65 = 0	Course length 5 days for CRB65 = 0
Community acquired pneumonia	Course length 10 days for CRB65 = 1	Course length 7 to 10 days for CRB65 = 1
UTI in pregnancy	Cefalexin 250mg QDS	Cefalexin 500mg BD
Clostridium difficile infection (CDI)	Metronidazole 400mg	Metronidazole 400mg to 500mg
Helicobacter pylori eradication	Tripotassium dicitratobismuthate 120mg QDS	Tripotassium dicitratobismuthate 240mg BD
Vaginal candidiasis in pregnancy	Course length 6 nights	Course length 7 days
Bacterial vaginosis	Course length for stat dose of metronidazole 7 days	Course length for stat dose of metronidazole 5 to 7 days
Epididymo-orchitis	Course length for over 35s 10 days	Course length for over 35s 10 to 14 days
Trichomonas vaginalis	Metronidazole 400mg	Metronidazole 400mg to 500mg
Acne (moderate or severe)	Course length 4 to 6 months	Course length up to 6 months
Bites (animal and human)	Metronidazole 400mg	Metronidazole 200mg to 400mg
Dermatophyte infection of the finger or toe nail	Amorolfine course length for toes 12 months	Amorolfine course length for toes 9 to 12 months
Shingles	Famciclovir 250mg	Famciclovir 500mg

- **Revision / addition of comments or advice:**
  - Principles of treatment
  - Educational resources – addition of link to patient information leaflet
  - *Clostridium difficile* Infection
  - Pneumonia and C-reactive protein (CRP) test
  - Guidance on infection control in schools and other childcare settings
  - Fosfomycin specific drug warning
  - Nitrofurantoin specific drug warning
  - Pivmecillinam specific drug warning
  - Upper Respiratory Tract Infections
  - Pharyngitis / Sore throat / Tonsillitis
  - Otitis media (acute)
  - Sinusitis (acute)
  - Lower Respiratory Tract Infections (LRTIs)
  - Bronchitis (acute)
  - Acute Exacerbation of COPD
  - Community acquired pneumonia
  - Meningitis
  - Urine dipstick testing
  - UTI in pregnancy
  - UTI in children
  - UTI recurrent
  - Pyelonephritis (acute)
  - Prostatitis (acute)
  - Gastroenteritis
  - *Clostridium difficile* infection (CDI)
  - CDI recurrence
  - *Helicobacter pylori* eradication
  - Threadworm
  - Diverticulitis (acute)

- Vaginal candidiasis
- Vaginal candidiasis in pregnancy
- Bacterial vaginosis
- *Chlamydia trachomatis*
- Epididymo-orchitis
- *Trichomonas vaginalis*
- Pelvic inflammatory disease
- Acne (moderate or severe)
- Bites (animal and human)
- Dermatophyte infection of the nail
- Dermatophyte infection of the skin
- Eczema
- Leg ulcers
- PVL
- Shingles
- Treatment algorithms for management of UTI

Changes from April 2015

- **Revised or new drug choices for:**

Condition	Changed from (April 2015)	Changed to (January 2016)
Helicobacter pylori eradication	PPI BD plus tripotassium dicitratobismuthate 240mg BD plus 2 unused antibiotics: amoxicillin 1G BD, metronidazole 400mg BD, tetracycline 500mg QDS, clarithromycin 500mg BD	PPI BD plus 2 unused antibiotics: amoxicillin 1G BD, metronidazole 400mg BD, tetracycline 500mg QDS, clarithromycin 500mg BD, levofloxacin 250mg BD

Aims

The aims of these guidelines, in line with evidence based national guidelines and primary care priorities are to:

- Promote the safe, effective and economic use of antibiotics.
- Manage the prescribing of antibiotics thus reducing the incidence of antibiotic associated infections such as *Clostridium difficile* infection (CDI) and MRSA infection.
- Minimise the emergence of bacterial resistance to antibiotics within the community.
- Assist prescribers in selecting an appropriate antibiotic for commonly encountered infections.

Principles of treatment

- This guidance is based on the best available evidence but professional judgement should always be used and patients should be involved in the decision making process.
- Choices of antibiotic are based on clinical evidence and not on cost as the aim is to reduce the incidence of healthcare associated infections.
- Antibiotics should be initiated as soon as possible in severe infection.
- Prescribing of antibiotics should only occur where consideration has been given to the origin of infection, there is a clinical need and the presence of viral infection such as sore throat, coughs and colds, viral conjunctivitis has been excluded.
- **Antibiotics should not be prescribed during a telephone consultation apart from in exceptional circumstances**.
- Consider the use of a delayed prescription for infections such as simple urinary tract infections, acute sore throat, acute cough, acute sinusitis, common cold.
- Where an antibiotic is indicated, the agent chosen should be the narrowest spectrum for the identified condition i.e. avoid broad spectrum antibiotics such as co-amoxiclav♣, cephalosporins♣ and quinolones♣.
- Always prescribe for the shortest duration (using broad spectrum antibiotics for long periods can promote resistance).
- Always prescribe generically.
- Avoid topical antibiotics unless indicated as they can promote resistance.
- Always check for allergy before prescribing an antibiotic.

- In **pregnancy AVOID** prescribing tetracyclines, quinolones♣, and high dose metronidazole. If trimethoprim is prescribed in the first trimester, supplementation with folic acid 5mg is recommended and trimethoprim should not be prescribed to women who are folate deficient, taking a folate antagonist or have taken trimethoprim within the last year. Short term use of nitrofurantoin (avoid in 3rd trimester as there is a theoretical risk of neonatal haemolysis) is not expected to cause foetal problems. The manufacturer of clarithromycin advises against its use in pregnancy, particularly in the first trimester, unless the potential benefit outweighs the risk.
- For recurrent or resistant infection, please contact your local microbiologist for advice.

Educational Resources

- A leaflet entitled 'Treating your Infection' has been produced by the Royal College of General Practitioners in conjunction with numerous other national bodies. It gives patients useful information on the duration of upper respiratory tract infections, what patients can do to ease symptoms and also safety nets for those patients whose condition deteriorates. It is available at the following link in a variety of languages: http://www.rcgp.org.uk/clinical-and-research/target-antibiotics-toolkit/patient-information-leaflets.aspx
- The Royal College of General Practitioners have published a 'TARGET Antibiotics toolkit' in conjunction with the Health Protection Agency and the Antimicrobial Stewardship in Primary Care. It includes training resources, resources for clinicians, patient information leaflets, antibiotic guidance, a self assessment checklist and audit tools. It is available at the following link: http://www.rcgp.org.uk/clinical-and-research/target-antibiotics-toolkit.aspx.

Clostridium difficile Infection (CDI)

- All antibiotic prescribing should be within the recommendations of this guideline for the shortest period.
- When prescribing an antibiotic for any indication in patients who have had a previous *Clostridium difficile* infection, advice should be sought from a microbiologist to avoid any potential relapse.
- Antibiotics that are associated with Clostridium difficile infection are highlighted in this guideline by the following symbol: ♣ and should be avoided in 'at risk' groups such as the elderly and those in institutions.
- Current evidence has shown that clindamycin♣ and second/third generation cephalosporins♣ such as cefuroxime♣, cefixime♣, cefotaxime♣ and ceftriaxone♣ are significantly more likely to cause CDI. Anecdotal evidence has also implicated

agents such as quinolones♣, first generation cephalosporins♣ and co-amoxiclav♣. These agents should therefore be used sparingly, especially in the elderly and for patients who live in institutions where CDI is present. They should also be avoided in patients who have previously been treated for CDI.

- There is evidence that proton pump inhibitors (PPIs) increase the susceptibility to *Clostridium difficile* infection and the prescribing of PPIs should therefore be considered carefully in at risk groups of patients and only be prescribed where there is a clear clinical indication. There should be a regular review of the ongoing need for a PPI. Guidance on the prescribing of PPIs to minimise the risk of *Clostridium difficile* infection can be found at: ENHCCG and HVCCG and guidance on the prescribing of PPIs in dyspepsia in adults is available at: Dyspepsia
- Where possible, the prescriber should be guided by laboratory results. Where this is not possible a narrow spectrum antibiotic should be selected.

Pneumonia and C-reactive protein (CRP) test

NICE published a guideline in December 2014 on the treatment of pneumonia in both the community and hospital settings. In primary care, the majority of patients without pneumonia present with symptoms of chest infection, and without access to chest X-ray it is sometimes difficult to determine if symptoms are caused by pneumonia or a lower respiratory tract infection of which the latter will resolve without antibiotic treatment. Antibiotics will benefit those patients who have a bacterial infection but will have no effect on those with a viral infection and may actually cause harm.

NICE are therefore recommending that in cases where patients present with symptoms of lower respiratory tract infection and pneumonia is not evident after clinical assessment, GPs should consider carrying out a CRP test if it is not clear whether antibiotics should be prescribed or not. The CRP test is an important tool that GPs can use and still be confident they are offering patients the best treatment whilst reducing their antibiotic prescribing. The results of the CRP test can be used to guide antibiotic prescribing as follows:

- Do not routinely offer antibiotic treatment if the CRP concentration is less than 20mg/litre.
- Consider a delayed prescription if the CRP concentration is between 20mg/litre and 100mg/litre.
- Offer antibiotic therapy if the CRP concentration is greater than 100mg/litre.

The full guideline can be found at the following link: http://www.nice.org.uk/guidance/cg191.

Restricted antibiotics

These antibiotics are significantly more likely to cause CDI and are therefore restricted. They are marked by the following symbol: ♣ and include cephalosporins♣, quinolones♣ and co-amoxiclav♣. Prescribers are reminded that recommendations to prescribe restricted antibiotics appear in the following areas only:

Cephalosporins♣:

- 1st line in epididymo-orchitis
- 1st line in Pelvic inflammatory disease (PID) – high risk of gonorrhoea
- 2nd line in UTI in pregnancy
- 2nd line in Asymptomatic bacteriuria in pregnancy
- 2nd line acute pyelonephritis (pregnant)

Quinolones♣:

- 1st line in acute pyelonephritis
- 1st line in acute prostatitis
- 2nd line in Pelvic inflammatory disease (PID)
- 2nd line in diverticulitis
- 2nd line in epididymo-orchitis
- 2nd line in *Helicobacter pylori* eradication

Co-amoxiclav♣:

- 1st line in diverticulitis
- 1st line in bites
- 1st line in “dirty” post op wound infection
- 2nd line in acute pyelonephritis
- 2nd line in acute sinusitis (persistent symptoms)
- 2nd line in acute exacerbation of COPD (treatment failure)
- 2nd line in UTI in children (upper UTI)
- 2nd line in cellulitis (facial)

Guidance on Infection Control in Schools and Other Childcare Settings

Public Health England (PHE) have issued specific guidance to prescribers on how such infections should be managed and advice that can be given to carers. This is available at:https://www.gov.uk/government/publications/infection-control-in-schools-poster. PHE operate a website on 'microbes' that can be used in both primary and secondary schools. Plans and activities have been designed to complement the national curriculum and further information can be found at: e-Bug.

Specific Drug Warnings – Refer to current BNF for full prescribing information

Co-amoxiclav♣

The Committee on the Safety of Medicines (CSM) has advised that cholestatic jaundice can occur either during or shortly after treatment. An epidemiological study has shown that the risk of acute liver toxicity was about 6 times greater with co-amoxiclav than with amoxicillin. Cholestatic jaundice is more common in patients over 65 and in men and rarely occurs in children. Jaundice is usually self-limiting and very rarely fatal. Duration of treatment should not usually exceed 14 days.

Erythromycin

Erythromycin interacts with many other medications, the majority of which are classified by the BNF as 'potentially hazardous'. Please see appendix 1: interactions (macrolides) of the current BNF for further information.

Flucloxacillin

The CSM has advised that very rarely cholestatic jaundice and hepatitis may occur up to 2 months after treatment with flucloxacillin has been stopped. Administration for greater than 2 weeks and increasing age are risk factors. Flucloxacillin should not be used in patients with a history of hepatic dysfunction associated with flucloxacillin and should be used with caution in patients with hepatic impairment.

Fosfomycin

Fosfomycin is a bactericidal antibacterial indicated for the treatment of lower UTI due to extended-spectrum beta-lactamase (ESBL) -producing micro-organisms on the advice of a consultant microbiologist. It is licensed in the UK but not actively marketed. Supplies therefore need to be imported and it becomes an unlicensed product as a result. Full prescribing information is available on request.

Itraconazole
Following rare reports of heart failure, the CSM has advised caution when prescribing itraconazole to patients at high risk of heart failure. This includes patients who are receiving high doses and longer treatment courses, older patients, those with cardiac disease and patients receiving treatment with negative inotropic drugs such as calcium channel blockers. Itraconazole should be avoided in patients with ventricular dysfunction or a history of heart failure unless the infection is serious.

Nitrofurantoin
Nitrofurantoin should not be used regularly if eGFR (**e**stimated **G**lomerular **F**iltration **R**ate) < 45ml/minute/1.73m^2. However, it may be used for short courses of 3 to 7 days in those with an eGFR between 30 and 44ml/minute/1.73m^2. Long term use of nitrofurantoin is not advisable as it can cause pulmonary fibrosis, hepatic problems and peripheral neuropathy. Short term use of nitrofurantoin is unlikely to cause problems to the foetus but the BNF advises to avoid at term.

Pivmecillinam
Pivmecillinam is a penicillin-like beta-lactam antibiotic that can be used to treat UTIs. It is highly active against many gram negative bacteria including *Escherichia coli*, klebsiella, enterobacter and salmonellae. It is not active against *Pseudomonas aeruginosa* or enterococci. It should NOT be taken by patients who are allergic to penicillins/cephalosporins, patients with oesophageal strictures or gastro-intestinal obstruction and patients with carnitine deficiency. Avoid use with patients taking sodium valproate or valproic acid. For a full list of warnings and side effects, please refer to the latest BNF and the summary of product characteristics for Selexid - http://www.medicines.org.uk/emc/medicine/2566.

Quinolones♣
The CSM has warned that quinolones may induce convulsions in patients with or without a history of convulsions. Tendon damage (including rupture) has been reported rarely in patients receiving quinolones. Tendon rupture may occur within 48 hours of starting treatment and up to several months after stopping a quinolone. Quinolones are contra-indicated in patients with a history of tendon disorders. Patients over 60 years or those concomitantly taking corticosteroids are at increased risk of tendon damage.

Trimethoprim
Trimethoprim should not be used in those patients taking methotrexate or those who have a low folate status e.g. those who take folate antagonists such as antiepileptics or those who have a low dietary folate intake unless they are taking folate supplements.

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Comments

Comments are welcome and should be directed to Alison Dossetter – Senior Pharmaceutical Adviser and Pharmacy and Medicines Optimisation Team lead for antibiotics (East and North Herts CCG) at: alison.dossetter@enhertsccg.nhs.uk

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
UPPER RESPIRATORY TRACT INFECTIONS **NICE - Self-limiting respiratory tract infections**				
Pharyngitis / sore throat / tonsillitis	The majority of sore throats are viral but there is clinical overlap between viral and streptococcal infections. Consider delayed script as antibiotics generally shorten duration of symptoms by 8 hours. Patients with 3 or 4 Centor criteria (history of fever, purulent or enlarged tonsils, cervical adenopathy, absence of cough) or history of otitis media may benefit from antibiotics. Prescribe an antibiotic for those with features of marked systemic upset, an increased risk of serious complications and patients with valvular heart disease.	Do not routinely prescribe antibiotics. Consider a delayed prescribing strategy. Majority of infections are viral and resolve within 1 week.	Phenoxymethylpenicillin 500mg QDS	10 days
	CKS - Sore Throat		Clarithromycin 500mg BD	5 days
Otitis media (acute)	60% of attacks resolve within 24 hours without antibiotics. They only reduce pain at 2 days and do not prevent deafness. Offer an immediate antibiotic prescription if: • Patient is systemically unwell • Patient at high risk of serious complications • Patients with symptoms for > 4 days and are not improving. Consider 2 or 3 day delayed prescription or immediate antibiotics for pain relief if: • < 2 years with bilateral acute otitis media (AOM) or bulging membrane and ≥ 4 marked symptoms • All ages with otorrhoea	Do not routinely prescribe antibiotics. For acute attacks with no systemic features advise paracetamol or ibuprofen for pain.	Amoxicillin or clarithromycin (penicillin allergy). Consult current BNF for Children for doses.	5 days
	CKS - Otitis media			

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
Otitis Externa (acute)	Remove or treat any aggravating or precipitating factors. Treat inflammation with a topical ear preparation and consider cleaning the external auditory canal if there is sufficient ear wax or debris to obstruct topical medication. Only consider adding an oral antibiotic for patients with severe infection. If an oral antibiotic is required, consider a 7 day course of flucloxacillin or clarithromycin if the patient is penicillin allergic. Do NOT prescribe chloramphenicol ear drops as they can cause dermatitis in about 10% of patients. Do NOT prescribe fluoroquinolone♣ ear drops (ciprofloxacin♣ or ofloxacin♣) as they are unlicensed. Fluoroquinolone♣ eye drops are also unlicensed for use in the ear. CKS - Otitis externa	Do not routinely prescribe oral antibiotics and advise use of adequate analgesia.	Acetic Acid 2% Spray TDS. For more severe cases (pain, deafness, discharge) consider a topical antibiotic with or without a corticosteroid.	7 days
Sinusitis (acute)	Many attacks are viral and symptomatic benefit of antibiotics is small – 80% resolve within 14 days without antibiotics. Consider an immediate script if patient is systemically unwell, has co-morbidities or when purulent nasal discharge is present. CKS - Sinusitis	Do not routinely prescribe antibiotics and advise use of adequate analgesia. Only prescribe antibiotics for those at high risk of complications or when acute bacterial sinusitis is suspected.	Amoxicillin 500 mg TDS or Clarithromycin 500mg BD or doxycycline 200mg stat then 100mg OD. Consider erythromycin for pregnant women and co-amoxiclav♣ for persistent symptoms.	7 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
LOWER RESPIRATORY TRACT INFECTIONS Low doses of penicillins are more likely to select out resistance. Do NOT use quinolones first line due to poor pneumococcal activity. Reserve all quinolones for proven resistant organisms. For people presenting with symptoms of LRTI and in whom after clinical assessment a diagnosis of pneumonia has not been made and it is not clear whether antibiotics should be prescribed, NICE have recommended that a point of care C-reactive protein test (CRP) be considered. Do NOT routinely offer antibiotics if CRP<20mg/litre, consider a delayed prescription if CRP is between 20mg/litre and 100mg/litre and offer antibiotic therapy if CRP is > 100mg/litre. See individual pneumonia section at the beginning of the document for more details.				
Bronchiectasis (infective exacerbation of non CF patients)	**Send sputum for culture and sensitivity testing BEFORE starting antibiotics**. If there is no previous bacteriology available, promptly prescribe an antibiotic as indicated and do not await the results of culture. Review the response to empirical treatment when culture and sensitivity results are available. . If culture and sensitivity results are available, prescribe according to advice or according to the CKS and BTS links below. CKS - Bronchiectasis BTS - Non CF Bronchiectasis	Amoxicillin 500mg TDS	Penicillin allergy Clarithromycin 500mg BD or Doxycycline 200mg stat then 100mg OD	10 to 14 days
Bronchitis (acute)	Antibiotics should be reserved for patients where there is a risk of serious harm from even a modest deterioration in their chronic condition. The benefits of antibiotics are marginal in otherwise healthy adults. The use of a delayed prescribing tactic and leaflets explaining the nature of the illness and why antibiotics are not necessary, may be helpful. Consider immediate antibiotics if > 80 years and ONE of: hospitalisation in last year, oral steroids, diabetic, congestive heart failure OR > 65 years with 2 of above. CKS - Acute bronchitis NICE - Self-limiting respiratory tract infections	Amoxicillin 500mg TDS	Doxycycline 200mg stat then 100mg OD or clarithromycin 500mg BD	5 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
Acute exacerbation of COPD	Treat exacerbations promptly with antibiotics if purulent sputum or clinical signs of pneumonia. Risk factors for antibiotic resistant organisms include co-morbidities, severe COPD, frequent exacerbations or antibiotic treatment within last 3 months. Oral steroids may be considered in conjunction with antibiotics where increased breathlessness interferes with the activities of daily living. CKS - COPD NICE - COPD	Amoxicillin 500mg TDS or Doxycycline 200mg stat then 100mg OD	Clarithromycin 500mg BD or Co-amoxiclav♣ 625mg TDS (only if patient has antibiotic resistance factors such as comorbid disease, severe COPD, frequent exacerbations or antibiotic use in the last 3 months)	5 days
Community acquired pneumonia - treatment in the community	**Start antibiotics immediately**. Use **CRB65** score to help guide and review. 0 = suitable for home treatment. 1-2 = hospital assessment or admission. 3-4 = Urgent admission. Each scores 1: **C**onfusion (AMT<8); **R**espiratory rate > 30/minute; **B**P systolic <90 or diastolic ≤60; Age > **65**. Give immediate IM Benzylpenicillin or oral amoxicillin (1G) or clarithromycin (500mg) in penicillin allergy if delayed admission or life threatening.	If CRB65 score = 0 Amoxicillin 500mg TDS	Clarithromycin 500mg BD or Doxycycline 200mg stat then 100mg OD	5 days
	NICE - Pneumonia CKS - Pneumonia BTS - CAP	If CRB65 score = 1 and patient at home Amoxicillin 500mg TDS plus Clarithromycin 500mg BD or doxycycline 200mg stat then 100mg OD		7 to 10 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
MENINGITIS				
Suspected meningococcal disease	**Transfer all patients to hospital immediately**. NICE recommends that children and young people with suspected bacterial meningitis *without* non-blanching rash should be transferred directly to secondary care and not given parenteral antibiotics. If urgent transfer is not possible then antibiotics should be administered. For suspected meningococcal disease (meningitis with non-blanching rash or meningococcal septicaemia), parenteral antibiotics should be given at the earliest opportunity but transfer to secondary care should not be delayed in order to give the parenteral antibiotics. Secondary prevention should only be prescribed after consulting a public health doctor PHE - Meningococcal disease NICE - Meningococcal disease CKS - Meningitis	Adults and children aged 10 years and over Benzylpenicillin IV (preferable) or IM 1200mg, children aged 1 to 9 years 600mg, children aged under 1 year 300mg	Withhold benzylpenicillin only in children and young people who have a clear history of anaphylaxis after a previous dose; a history of a rash following penicillin is not a contraindication.	
URINARY TRACT INFECTIONS Nitrofurantoin is usually first line but is contraindicated if eGFR is < 45ml/minute/1.73m^2 (but may be used for short courses of 3 to 7 days in patients with an eGFR of 30-44ml/minute). Advice on when to perform a urine dipstick test can be found here.				
UTI in women (all ages from 14 years onwards) with no visible haematuria, not pregnant or catheterised	An antibiotic should be offered when symptoms are moderate or severe. Offer a 5 to 10 day course in women with impaired renal function, an abnormal urinary tract or immunosuppression such as poorly controlled diabetes. Send cultures for women who have impaired renal function, an abnormal urinary tract or are	Nitrofurantoin 100mg BD (MR) or 50mg QDS	Trimethoprim 200mg BD or Pivmecillinam 400mg stat then 200mg TDS (where sensitivities available)	3 days.

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	immunosuppressed. Do not send cultures for uncomplicated UTI. If symptoms of a UTI persist following treatment, send urine for culture and sensitivity and adjust treatment as necessary. If a multi-resistant organism is cultured, seek specialist advice as an increased incidence of UTIs caused by community multi-resistant ESBLs has been reported. Dipstick testing can be used to guide treatment in women < 65 years with mild or ≤ 2 symptoms of UTI. Dipstick testing is unreliable in the > 65 year group and should be used with careful discretion to guide treatment decisions in otherwise healthy women over 65 years. PHE - ESBLs CKS - UTI in women (lower) NICE - Urinary tract infections in adults Treatment Algorithm – under 65 Treatment Algorithm – over 65			
UTI in women (all ages from 14 years onwards) with haematuria and not pregnant	**MSU should always be taken to confirm sensitivity**. Offer a 5 to 10 day course in women with impaired renal function, an abnormal urinary tract or immunosuppression such as poorly controlled diabetes. If a multi-resistant organism is cultured, seek specialist advice as an increased incidence of UTIs caused by community multi-resistant ESBLs has been reported. CKS - UTI visible or non visible haematuria PHE - ESBLs	Nitrofurantoin 100mg BD (MR) or 50mg QDS	Trimethoprim 200mg BD or Pivmecillinam 400mg stat then 200mg TDS (where sensitivities available)	3 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	NICE - 3 day UTI course NICE - Urinary tract infections in adults			
UTI in pregnancy	**MSU should always be taken to confirm sensitivity. Do not use dipstick testing to screen for bacterial UTI at any antenatal visit.** A further MSU should be sent 7 days after treatment has finished as a test of cure. If treating with trimethoprim, give folic acid 5mg daily during first trimester and do not give trimethoprim if folate deficiency is suspected or woman is taking a folate antagonist. Do not use nitrofurantoin in women who are G6PD deficient. Short term use of nitrofurantoin is unlikely to cause problems to the foetus. Cefalexin♣ is less preferred due to concerns that broad spectrum antibiotics increase the risk of *Clostridium difficile* which can be life threatening in pregnant women and also because of the risk of resistant UTIs. Amoxicillin is only recommended if the organism is susceptible as resistance is common. CKS - UTI in pregnancy CKS - UTI visible or non visible haematuria SIGN - UTI guidelines	Nitrofurantoin 50mg QDS	Trimethoprim 200mg BD (off label use) or Cefalexin♣ 500mg BD (less preferred)	7 days
Asymptomatic bacteriuria in pregnancy (only treat when sensitivities are known)	Screen for asymptomatic bacteriuria at the first antenatal visit by sending urine for culture. If asymptomatic bacteriuria is found, send a second sample for culture and repeat urine culture at each antenatal visit until delivery. If the second sample confirms asymptomatic bacteriuria, treat with an antibiotic. If treating with trimethoprim, give folic acid 5mg daily during first trimester and do not give trimethoprim if the woman is	Amoxicillin 500mg TDS	Nitrofurantoin 100mg MR BD or 50mg QDS or Trimethoprim 200mg BD (off label use) or Cefalexin♣ 500mg BD (less preferred)	7 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	folate deficient, taking a folate antagonist or has taken trimethoprim within the last year. Do not use nitrofurantoin in women who are G6PD deficient or are near to term. Cefalexin♣ is less preferred due to concerns that broad spectrum antibiotics increase the risk of *Clostridium difficile* which can be life threatening in pregnant women and also because of the risk of resistant UTIs. CKS - Asymptomatic bacteriuria in pregnancy SIGN - UTI guidelines			
Catheter in situ: **Antibiotics will not eradicate asymptomatic bacteriuria.** Only treat if patient is systemically unwell or pyelonephritis is suspected. Do not use prophylactic antibiotics for change of catheter unless history of catheter associated UTI or trauma. PHE - Management of Infection Guidance for primary care				
UTI with catheter	**CSU should always be taken to confirm sensitivity. NEVER use dipstick testing to diagnose UTI in catheterised patients.** Change long term indwelling catheters before starting antibiotic treatment. Measures to prevent UTI in patients with catheters include review of need for catheter, prevention of infection and awareness of measures which **shouldn't** be used such as prophylactic antibiotics, bladder installations and washouts and topical antibiotics or antiseptics applied directly to the catheter, urethra or meatus. Daily washing of the meatus with soap and water is sufficient. CKS - UTI with catheter - no haematuria - women CKS - UTI in men with an indwelling catheter SIGN - UTI guidance NICE - Urinary tract infections in adults	Trimethoprim 200mg BD	Nitrofurantoin 100mg BD MR or 50mg QDS	7 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
UTI in men	**MSU should always be taken to confirm sensitivity.** Consider prostatitis. CKS - UTI in men NICE - Urinary tract infections in adults Treatment Algorithm – under 65 Treatment Algorithm – over 65	Trimethoprim 200mg BD	Nitrofurantoin 100mg BD (MR) or 50mg QDS or Pivmecillinam 400mg stat then 200mg TDS (where sensitivities available)	7 days
UTI in children (≤ 16 years)	Children < 3 months - Refer for emergency assessment but do not take an MSU as this will not alter management in primary care. Children 3 months to 3 years - Urgently refer those children at high risk for serious illness and consider referring those at intermediate risk for serious illness. For all other children, treat with antibiotics whilst awaiting results of urine culture. Children over 3 years - Urgently refer those children at high risk for serious illness and consider referring those at intermediate risk for serious illness. For all other children, send an MSU before treating with an antibiotic. CKS - UTI in children NICE - Urinary tract infection in children	Trimethoprim (see BNF for children for doses)	Nitrofurantoin (see BNF for children for doses) or Co-amoxiclav♣ (for upper UTI and treat for 7-10 days)	3 days
UTI - recurrent (≥ 3 per year) in non-pregnant women over 14 years	Consider prophylactic treatment when there is unacceptable discomfort or disruption to daily life. Offer a script for stand-by treatment before considering prophylactic antibiotics. Use a STAT dose of trimethoprim 100mg post coital if recurrent infection is associated with sexual intercourse (off label use and within 2 hours of sexual intercourse). Use a nightly	Trimethoprim 100mg nocte	Nitrofurantoin 50mg to 100mg nocte	6 month trial

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	prophylactic dose for recurrent infection NOT associated with sexual intercourse. Long term use of nitrofurantoin is not advisable as it can cause pulmonary fibrosis, hepatic problems and peripheral neuropathy. CKS - UTI recurrent			
Pyelonephritis (acute)	**MSU should always be taken to confirm sensitivity**. If no response within 24 hours or there is clinical deterioration, arrange for admission. CKS - Pyelonephritis	Ciprofloxacin♣ 500mg BD		7 days
			Co-amoxiclav♣ 625mg TDS	14 days
			For pregnant women Cefalexin♣ 500mg BD	10 to 14 days
Prostatitis (acute)	**MSU should always be taken to confirm sensitivity.** 4 weeks treatment may prevent chronic infection. Quinolones♣ are more effective as they achieve higher prostate levels. If patient is sexually active, chlamydia needs to be excluded CKS - Prostatitis BASHH - Prostatitis	Ciprofloxacin♣ 500mg BD	Trimethoprim 200mg BD (off label use)	4 weeks
GASTRO-INTESTINAL TRACT INFECTIONS				
Gastro-enteritis	**Antibiotics are not recommended for adults with diarrhoea of unknown pathology**. Evidence from 3 small randomised controlled trials (RCTs) suggests they have minimal benefits, there is a risk of serious adverse effects associated with their use and their use promotes the development of resistant bacteria. Fluid replacement is essential and check travel, food, hospital and antibiotic history as *C. difficile* is increasing. Please send stool specimens from suspected cases of food poisoning and			

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	post antibiotic use and notify Public Health England after seeking advice from a public health doctor if an outbreak is suspected. CKS - Gastroenteritis CKS – Travellers' diarrhoea prevention and advice			
Clostridium difficile Infection (CDI)	When prescribing an antibiotic for any indication in patients who have had a previous *Clostridium difficile* infection, advice should be sought from a microbiologist to avoid any potential relapse. Stop all antibiotics unless it is absolutely essential that they are continued in which case the patient should be carefully monitored for deterioration (consider hospital admission in these circumstances) and review need for PPI therapy. PHE - *Clostridium difficile*	Metronidazole 400mg to 500mg TDS (1st/2nd episodes)	Vancomycin 125mg QDS (3rd episode or if severe or if type 027 confirmed). Fidaxomicin 200mg BD should be considered for patients with severe CDI who are considered at high risk for recurrence, only after discussion with a microbiologist	10 - 14 days
CDI recurrence	Discuss management with a consultant microbiologist for advice on sending specimens and treatment options. Sending repeat specimens within 28 days of a positive test are not helpful due to ongoing presence of toxins in the gut. Recurrent disease occurs in about 20% of patients treated initially with either metronidazole or vancomycin. The same antibiotic that was used initially can be used to treat the first recurrence. Withhold antibiotic treatment if symptoms mild. PHE - *Clostridium difficile*	Fidaxomicin 200mg BD (discuss with microbiologist)	Vancomycin 125mg QDS	14 days
Helicobacter pylori eradication (positive test)	Check antibiotic history. Each course of clarithromycin, metronidazole or quinolone increases risk of antimicrobial resistance. Do not use either metronidazole or clarithromycin if used in the past year for any infection. SEE CURRENT BNF FOR INFORMATION. It is not usually necessary to continue PPI therapy but if the ulcer is large, haemorrhaging or perforated then PPI treatment can be continued for 3 weeks. Discuss treatment with local gastroenterologists	PPI (eg Lansoprazole 30mg BD) plus amoxicillin 1G BD with either Clarithromycin 500mg BD or Metronidazole 400mg BD OR PPI (eg Lansoprazole 30mg BD) plus Clarithromycin		7 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	to ensure compliance with local guidelines. If diarrhoea develops, consider *Clostridium difficile* and review treatment need.	250mg BD with Metronidazole 400mg BD		
	PHE - *Helicobacter pylori*		PPI BD plus 2 unused antibiotics: amoxicillin 1G BD, metronidazole 400mg BD, tetracycline 500mg QDS, clarithromycin 500mg BD, levofloxacin♣ 250mg BD	14 days
Threadworm	Treat all household contacts. Advise morning showers/baths and general hand hygiene for 2 weeks PLUS wash sleepwear, bed linen, dust and vacuum on day one. Also clean bathroom thoroughly, by damp dusting surfaces with cloth rinsed frequently in hot water. For children under the age of 6 months and pregnant women, physical removal of eggs and hygiene measures should be used for 6 weeks.	Mebendazole 100mg stat (for adults and children over 6 months but unlicensed in children under 2 years)		Stat dose and repeated after 14 days
	CKS - Threadworm			
Diverticulitis (acute)	Broad spectrum antibiotics should be prescribed to cover both anaerobes and Gram-negative rods. Paracetamol should be prescribed for pain (avoid NSAIDs and opioid analgesics where possible due to increased risk of diverticular perforation) and the patient should be advised to consume clear liquids only. Solid food can be gradually introduced as symptoms improve over 2 to 3 days. Review within 48 hours or sooner if symptoms deteriorate.	Co-amoxiclav♣ 625mg TDS	Metronidazole 400mg TDS plus Ciprofloxacin♣ 500mg BD in penicillin allergy	7 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	CKS - Acute Diverticulitis			
GENITAL TRACT INFECTIONS - BASHH GUIDELINES. Refer all patients and contacts with suspected STIs to GUM clinic.				
Guidelines - BASHH				
Vaginal candidiasis	Evidence shows that oral triazoles are as effective as vaginal imidazoles. Avoid oral triazoles in pregnancy. There are many other options for treatment including a 3 day course of clotrimazole 200mg pessary and a 6 day course of clotrimazole 100mg pessary. Many treatments are available to buy 'over the counter'. CKS - Candidiasis PHE - Vaginal candidiasis	Clotrimazole cream 10% PV or clotrimazole 500mg pessary	Fluconazole 150mg oral	STAT dose
Vaginal candidiasis in pregnancy	Counsel patient that applicators may be used but care must be taken to avoid damage to the cervix. Pessaries may be inserted by hand. For vulval symptoms, consider prescribing topical clotrimazole cream in addition to intravaginal clotrimazole or miconazole. CKS - Candida in pregnancy	Clotrimazole 100mg pessary	Miconazole 2% intravaginal cream one applicatorful BD	7 days
Bacterial vaginosis	A stat dose of metronidazole 2g is associated with a higher relapse rate than a 7 day course. Avoid 2g stat dose in pregnancy. Topical treatment gives similar cure rates but is more expensive.	Metronidazole 400mg BD or 2g stat		5 to 7 days
			Clindamycin 2% vaginal cream 5g at night	7 days
			Metronidazole 0.75% vaginal gel 5g at night	5 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	CKS - Bacterial vaginosis BASHH - Bacterial vaginosis BASHH - Bacterial vaginosis (PIL)			
Chlamydia trachomatis	All people with a positive chlamydia test should be offered treatment, support to notify partners and testing for other STIs. This service can be provided by GPs or GUM clinics. Refer to BASHH guidelines in pregnancy or breastfeeding as doxycycline is contraindicated and test for cure 6 weeks after treatment (5 weeks with erythromycin) due to lower cure rate in pregnancy.	Azithromycin 1g		STAT dose
	CKS - Chlamydia PHE - Chlamydia		Doxycycline 100mg BD	7 days
Epididymo-orchitis	Use ofloxacin♣ for all cases where patient is allergic to cephalosporins♣ and/or doxycycline. If quinolones♣ are contraindicated, co-amoxiclav♣ 625mg TDS for 10 days can be used.	Due to any sexually transmitted pathogen Ceftriaxone♣ 500mg IM (stat) PLUS doxycycline 100mg BD for 10 to 14 days	Under 35 years and/or high risk of sexually transmitted infection (non - gonoccocal) Doxycycline 100mg BD or ofloxacin♣ 200mg BD	14 days
	CKS - Epididymo-orchitis BASHH - Epididymo-orchitis BASHH - Epididymo-orchitis (PIL)		Over 35 years and/or low risk of sexually transmitted infection Ciprofloxacin♣ 500mg BD (10 days) or Ofloxacin♣ 200mg BD (14 days)	10 to 14 days
Trichomonas vaginalis	Refer to GUM clinic and treat partners simultaneously. Avoid 2g stat dose in pregnancy.	Metronidazole 400mg to 500mg BD or 2g stat	Tinidazole 2g stat	5 – 7 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	CKS - Trichomoniasis BASHH - Trichomonas vaginalis BASHH - Trichomonas vaginalis (PIL)			
Pelvic Inflammatory Disease (PID)	Refer patients and contacts to GUM clinic. Test for *N. Gonorrhoeae* and Chlamydia. There is emerging clinical resistance to quinolones♣ and they therefore should not be used for patients at high risk of gonococcal infection. BASHH - PID (PIL) BASHH - PID	Ceftriaxone♣ 500mg IM (single dose) plus metronidazole 400mg BD plus doxycycline 100mg BD if gonorrhoea likely	Metronidazole 400mg BD plus ofloxacin♣ 400mg BD	14 days
SKIN INFECTIONS				
Acne (moderate or severe)	For mild acne, a topical retinoid such as adapalene should be used first line. Oral antibiotics and topical antibiotics should not be prescribed together. For moderate or severe acne, prescribe an oral antibiotic in combination with a topical retinoid or benzoyl peroxide. Tetracyclines should not be used in pregnancy, breastfeeding or in children under the age of 12 as they are deposited in teeth and bones. CKS - Acne	Lymecycline 408mg OD or Oxytetracycline 500mg BD	Erythromycin 500mg (2x250mg) BD (in pregnancy or if tetracyclines not tolerated)	Up to 6 months Discontinue when further improvement is unlikely.
Bites (animal and human)	Thorough irrigation is important. Antibiotic prophylaxis (antibiotics and duration as for treatment - CKS) advised for all cat bites; animal bites to the hand, foot or face; puncture wounds; wounds requiring surgical	Co-amoxiclav♣ 375mg - 625mg TDS (animal and human)	Animal Bites (penicillin allergy) Metronidazole 400mg TDS plus doxycycline 100mg BD	7 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	debridement; wounds involving joints, tendons, ligaments or suspected fractures. Also patients at risk of serious wound infection e.g. diabetics, cirrhotics, asplenic or immunocompromised patients and the elderly. Antibiotic prophylaxis advised for all human bites and review after 24 and 48 hours if infected. Assess for HIV, tetanus, hepatitis B&C in human bites and tetanus and rabies risk in animal bites. CKS - Bites		Human Bites (penicillin allergy) Metronidazole 200mg to 400mg TDS plus clarithromycin 250mg to 500mg BD	7 days
Bites (insect)	Treat as for cellulitis if infected. Fever/lymphangitis are indicators for treatment. Hot/sore bites may be due to local histamine release. CKS - Insect bites	Flucloxacillin 250mg - 500mg QDS	Clarithromycin 250mg – 500mg BD (penicillin allergy)	7 days
Boils	Antibiotics are not always necessary but can be considered if the lesion is large or there is associated fever or cellulitis, there are co-morbidities e.g. diabetes or complications are more likely because of the site affected e.g. face. Self care advice should also be given CKS - Boils	Flucloxacillin 250mg – 500mg	Clarithromycin 250mg – 500mg BD (penicillin allergy) or erythromycin 250mg – 500mg (2x250mg) QDS (in pregnancy)	7 days
Cellulitis - mild or moderate	Patients who are afebrile and otherwise healthy should be treated as indicated with a single antibiotic. If response is slow, treat for a further 7 days. Consider referring patients who have recurrent cellulitis, the elderly and those who are vulnerable to infection. CKS - Cellulitis	Flucloxacillin 500mg QDS	Clarithromycin 500mg BD (penicillin allergy) Co-amoxiclav♣ (for facial cellulitis) 625mg TDS	7 days
Conjunctivitis	Most infections are viral, self-limiting and will clear within 1-2 weeks without treatment (even if they are bacterial).	Local cleansing of affected eye(s) using	Chloramphenicol 0.5% drops 2 hourly for 2	For 48 hours after

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	Chloramphenicol is available to buy over the counter for patients over the age of 2 years.	boiled, cooled water can be recommended before use of topical antibiotics.	days then 4 hourly whilst awake or chloramphenicol 1% eye ointment at night or fusidic acid eye drops 1% BD	resolution
	CKS - Conjunctivitis			
Dermatophyte infection of the finger or toe nail	Take behind the nail scrapings. Treatment should only be started if infection is confirmed. If symptoms are not troublesome or patients are not at increased risk of developing side effects, then self care measures should be considered. ENHCCG have stated that the treatment of dermatophyte infections is a LOW priority. ENHCCG leaflet	Terbinafine 250mg OD		Fingers - 6 to 12 weeks and toes - 3 to 6 months
			Amorolfine 5% topical paint (very superficial infections only) once or twice a week	Fingers - 6 months and toes – 9 to 12 months
	Fingers require 2 pulsed courses and toes require at least 3 courses		Itraconazole pulsed therapy 200mg BD	1 week with subsequent courses repeated after 21 days
	CKS - Fungal nail infection			
Dermatophyte infection of the skin	Send skin scrapings and consider *oral* terbinafine or itraconazole if intractable. Topical terbinafine is as effective as clotrimazole.	Clotrimazole 1% cream BD-TDS		For 1-2 weeks after the infected area has healed
		Terbinafine 1% cream BD (not licenced for use in children)		7-14 days
	CKS - Fungal skin infection			

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
Eczema	If there are no visible signs of infection, the use of antibiotics either alone or in combination with corticosteroids, encourages resistance and does not improve healing. Consider infection if there is no response to emollients or topical steroids. In infected eczema, treat as per impetigo below. CKS - Eczema			
Impetigo	Topical treatments should be reserved for localised/minor infection to prevent resistance developing.	Fusidic acid 2% cream/ointment TDS (non bullous)		5 days
		Flucloxacillin 500mg QDS (bullous and non bullous)		7 days
			Clarithromycin 250-500mg BD (penicillin allergy – bullous and non bullous)	7 days
	CKS - Impetigo			
Leg Ulcers	**Ulcers always colonise at some point. Antibiotics do not improve healing unless there is active infection.** If response is slow, treat for a further 7 days. Swabs and antibiotics are only indicated if there is either cellulitis or evidence of clinical infection e.g. inflammation, redness, pyrexia, increased pain or enlarging ulcer. Send pre-treatment swab in active infection and review antibiotics after culture results. Refer for specialist opinion in severe infection e.g. diabetics.	Flucloxacillin 500mg QDS	Clarithromycin 500mg BD	7 days
	CKS - Leg Ulcers			
Mastitis	Antibiotic treatment is recommended if the woman has an infected nipple fissure, symptoms do not improve or are worsening after 12-24 hours despite effective milk removal or bacterial culture is positive. Antibiotics indicated are only excreted in very small amounts and the infant should not be affected but occasionally stools may be looser or more frequent or the infant may be	Flucloxacillin 500mg QDS	Erythromycin 250mg – 500mg QDS	14 days

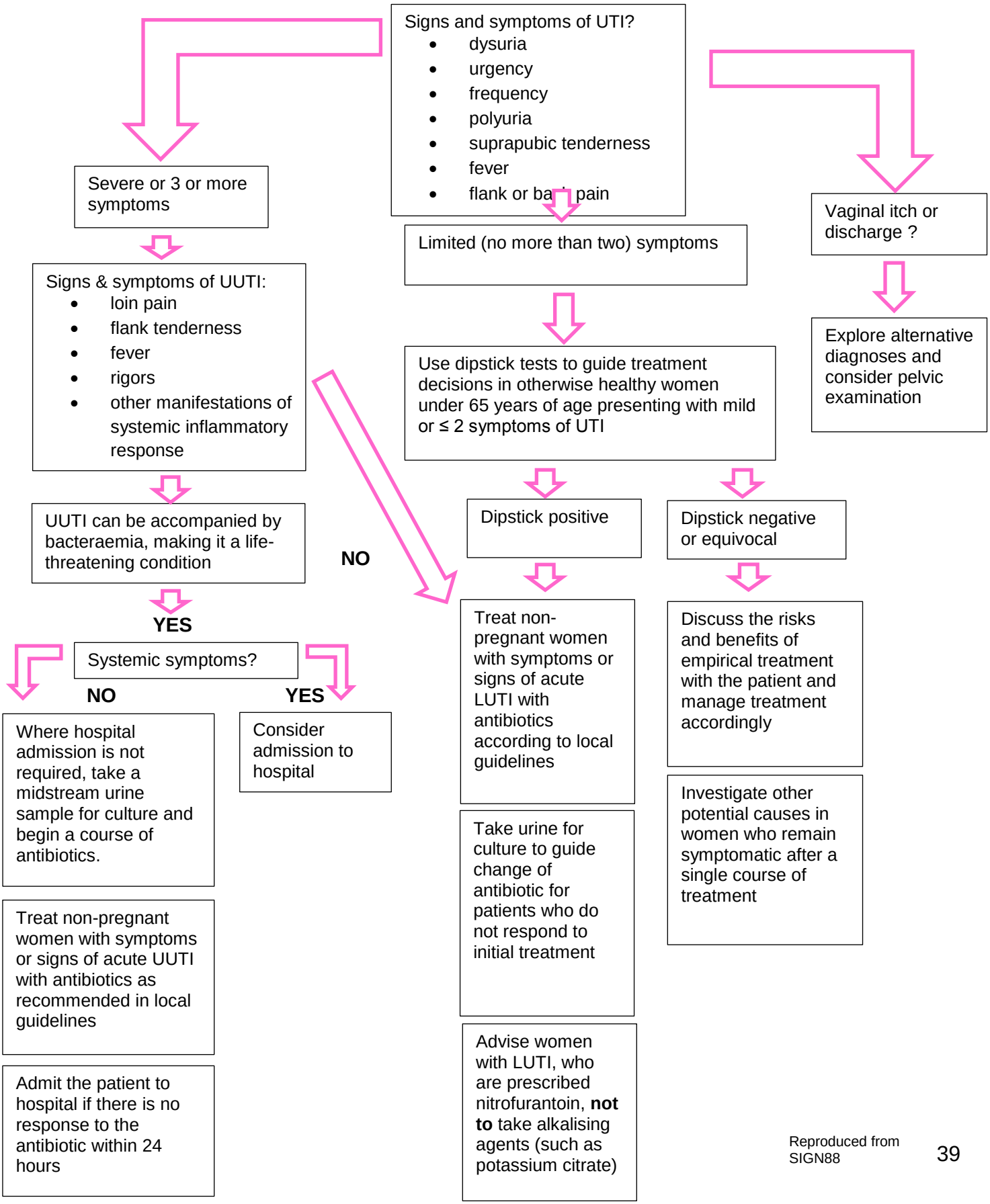
Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	more irritable. The woman should continue to breastfeed and paracetamol can be used to relieve discomfort in addition to warm compresses on the breast or a warm bath/shower. CKS - Mastitis			
Pilonidal sinus disease (discharging)	Consider treatment with antibiotics if cellulitis is suspected. Refer patients to a colorectal or general surgical unit for treatment, urgency depending on clinical judgement. Offer paracetamol for pain and/or fever and consider NSAIDs if pain is not controlled.	Flucloxacillin 500mg QDS	True penicillin allergy Clarithromycin 500mg BD (or erythromycin 500mg QDS if pregnant or breastfeeding) PLUS Metronidazole 400mg TDS	7 days
	CKS - Pilonidal sinus disease			
Post-operative wound infection	CKS - Infected laceration	Flucloxacillin 500mg QDS ('clean' surgery)	Clarithromycin 500mg BD (penicillin allergy)	7 days
		Co-amoxiclav♣ 625mg TDS (contaminated abdominal or pelvic surgery)	Clarithromycin 500mg BD plus Metronidazole 400mg TDS	
PVL	Panton-Valentine Leukocidin (PVL) is a toxin produced by 4.9% of *S.aureus* from boils/abscesses. The bacteria can rarely cause severe invasive infections in healthy people. Send swabs if recurrent boils/abscesses. Risks: close contact in communities or sports, poor hygiene, eczema. PHE - PVL			
Scabies	Treat whole body from ear/chin downwards including under the nails. The very young, elderly and immunocompromised should also apply treatment to the face and scalp. Treat ALL household and sexual contacts within 24 hours.	Permethrin 5% dermal cream	Malathion 0.5% aqueous liquid – in permethrin allergy	Repeat after 7 days

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
	CKS - Scabies			
VIRAL INFECTIONS				
Chicken Pox	If pregnant, immunocompromised or neonatal seek urgent specialist advice. Consider aciclovir if onset of rash is < 24 hours and patient is over 14 years; or severe pain; or dense/oral rash; or secondary household case; or smoker. If patients develop life-threatening complications such as encephalitis, pneumonia or CNS deterioration they should be sent immediately to hospital. It is recommended that non-immune immunocompromised patients or pregnant women who come into contact with chicken pox are given Varicella-Zoster immunoglobulin (VZIG) if they meet the criteria according to the current 'green' book. Supplies can be obtained from PHE Colindale on 020 8327 7471.	Aciclovir 800mg five times a day		7 days
	CKS - Chickenpox			
Herpes Simplex (oral)	Counsel patient that treatment needs to be initiated at the onset of symptoms before vesicles appear and that topical antivirals only affect the course of the current episode - they do not cure the individual or prevent further recurrence.	Cold sores resolve after 7-10 days without treatment. Topical antivirals applied prodromally reduce duration by 12-24 hours.	Aciclovir 5% topical cream five times a day	5 days
	CKS - Herpes			

Infection	Rationale/Comments	1st Line Choice	2nd Line Choice	Duration
Shingles	If pregnant or immunocompromised, seek urgent specialist advice. Treat if over 50 years and within 72 hours of the rash or if there is active ophthalmic infection, non- truncal involvement, moderate/severe pain or rash. CKS - Shingles	Aciclovir 800mg five times a day	Valaciclovir 1g TDS or famciclovir 500mg TDS or famciclovir 750mg OD Use if compliance is a problem because cost is considerably greater than aciclovir	7 days
DENTAL INFECTIONS				
Dental Abscess	Advise the patient to seek treatment from a dental practitioner. Only prescribe an antibiotic for patients who are systemically unwell or if there are signs of severe infection such as fever, lymphadenopathy, cellulitis or diffuse swelling or if there is a high risk of complications. CKS - Dental abscess	Amoxicillin 500mg TDS or phenoxymethylpenicillin 500mg - 1G QDS In severe or spreading infection add metronidazole 400mg TDS	Clarithromycin 500mg BD (penicillin allergy) In severe or spreading infection add metronidazole 400mg TDS	5 days

Appendix 1

MANAGEMENT OF SUSPECTED UTI IN WOMEN (Not Pregnant)



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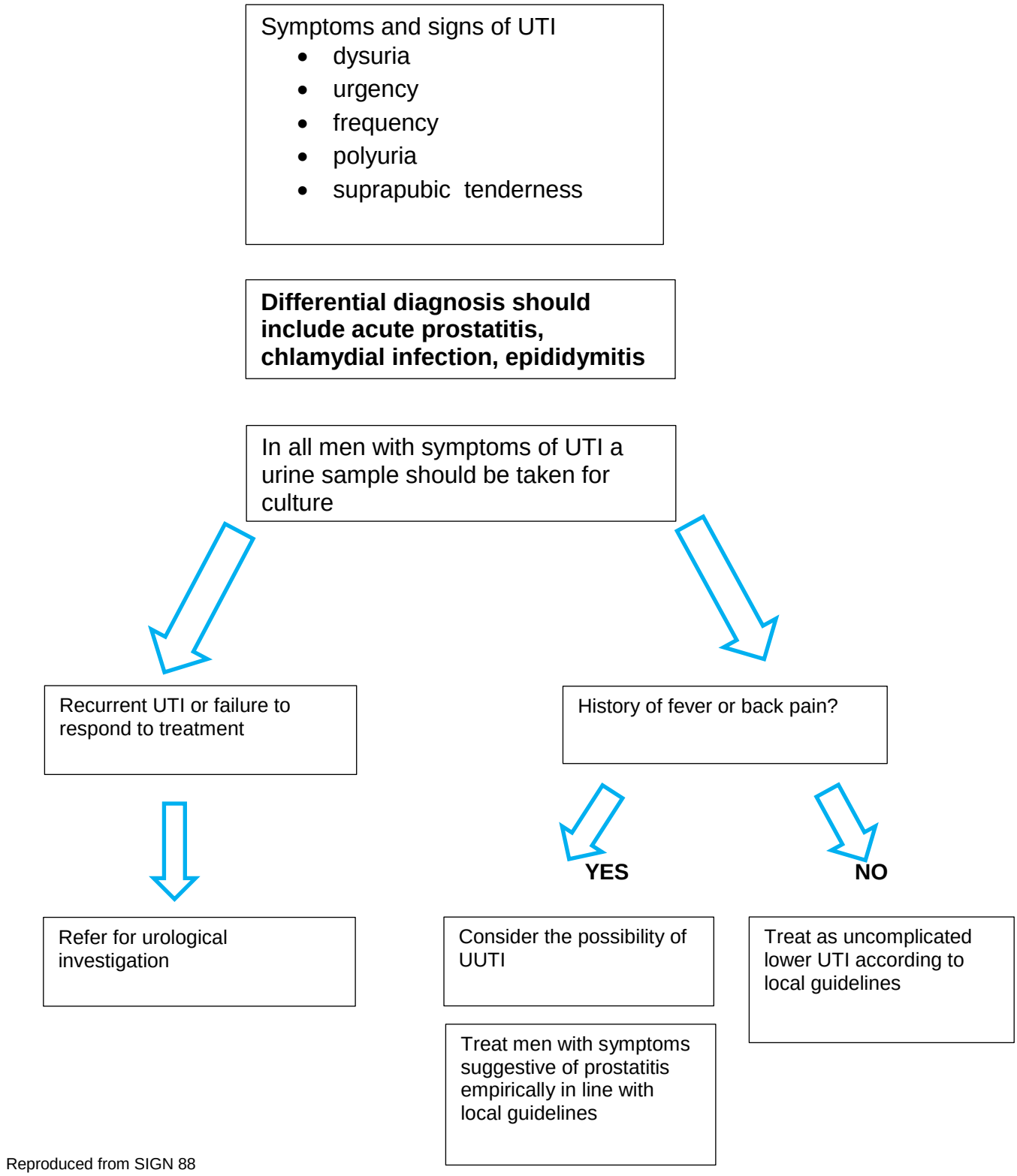
Appendix 2

MANAGEMENT OF SUSPECTED UTI IN ADULT MEN



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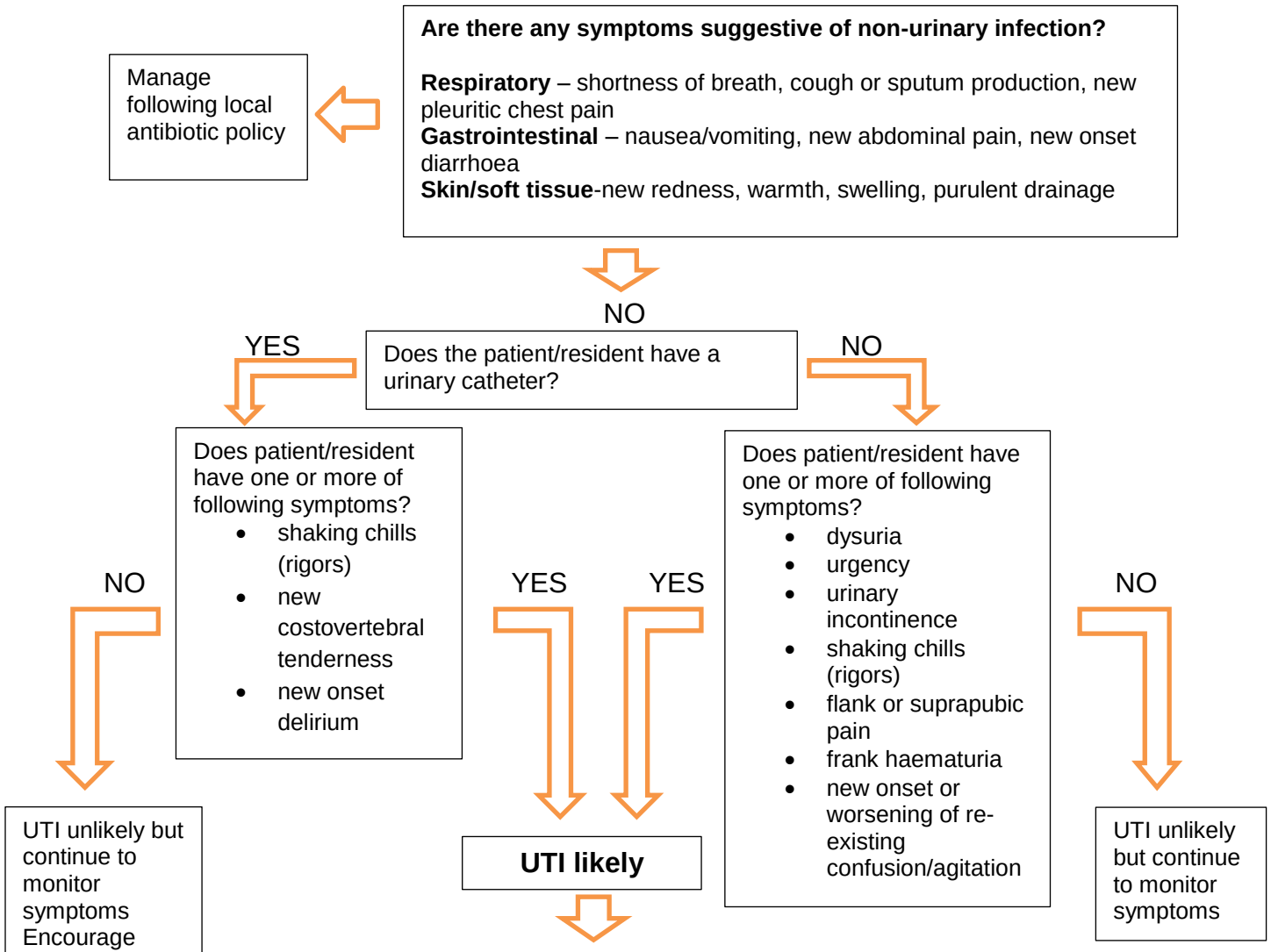
Appendix 3

DIAGNOSIS AND MANAGEMENT OF SUSPECTED UTI IN OLDER PEOPLE Over 65 years old

Decision aid to guide management of patients/residents with fever defined as temperature >37.9ºC or 1.5ºC increase above baseline occurring on at least two occasions in last 12 hours.
Hypothermia (low temperature of <36ºC) may also indicate infection, especially those with comorbidities.
Be alert to non-specific symptoms of infection such as abdominal pain, alteration of behaviour or loss of diabetes control.



- Assess if retention or sub-acute retention of urine is likely (e.g. blocked catheter or distended bladder)
- DO NOT use dipstick test in diagnosis of UTI in older people
- Obtain a MSU/ sterile urine sample via access port on catheter for urine culture and send to Microbiology
- If patient incontinent use an appropriate system to collect a sample (such as Newcastle urine collector)
- Start antibiotic therapy following local policy or as advised by Microbiology
- If patient has a urinary catheter, remove and replace it. Consider the ongoing need for a long term catheter in consultation with specialists
- Consider use of analgesia (paracetamol or ibuprofen) to relieve pain
- Consider admission to hospital if patient has fever with chills or new onset hypotension (low blood pressure)
- Review response to treatment daily and if no improvement of symptoms or deterioration, consider admission to hospital or an increased level of care

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