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Title: Antibiotic Prescribing Procedure

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Document type: Procedure

Overarching policy: [Medicines Overarching Framework](#)

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1 Introduction

This procedure exists in response to NICE guidance NG15 Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use which covers the effective use of antimicrobials (including antibiotics) in children, young people, and adults. It aims to guide prescribing practice to help slow the emergence of antimicrobial resistance and ensure that antimicrobials remain an effective treatment for infection.

This procedure supports [Our Journey To Change \(OJTC\)](#) as set out in the Medicines Overarching Framework

2 Purpose

Following this procedure will help the Trust to:

- Promote prudent prescribing and antimicrobial stewardship to improve patient care;
- Minimise the emergence of bacterial resistance in the community for the future.

The objectives of this procedure are:

- To provide a simple, best guess approach to the treatment of common infections.
- To encourage the rational and cost-effective use of antibiotics;
- To minimise the emergence of bacterial resistance

3 Who this procedure applies to

- All medical and non-medical prescribers
- Nursing staff
- Pharmacy staff

4 Related documents

This procedure describes what you need to do to implement the Antibiotic Prescribing procedure section of the [Medicines Overarching Framework](#) Policy.



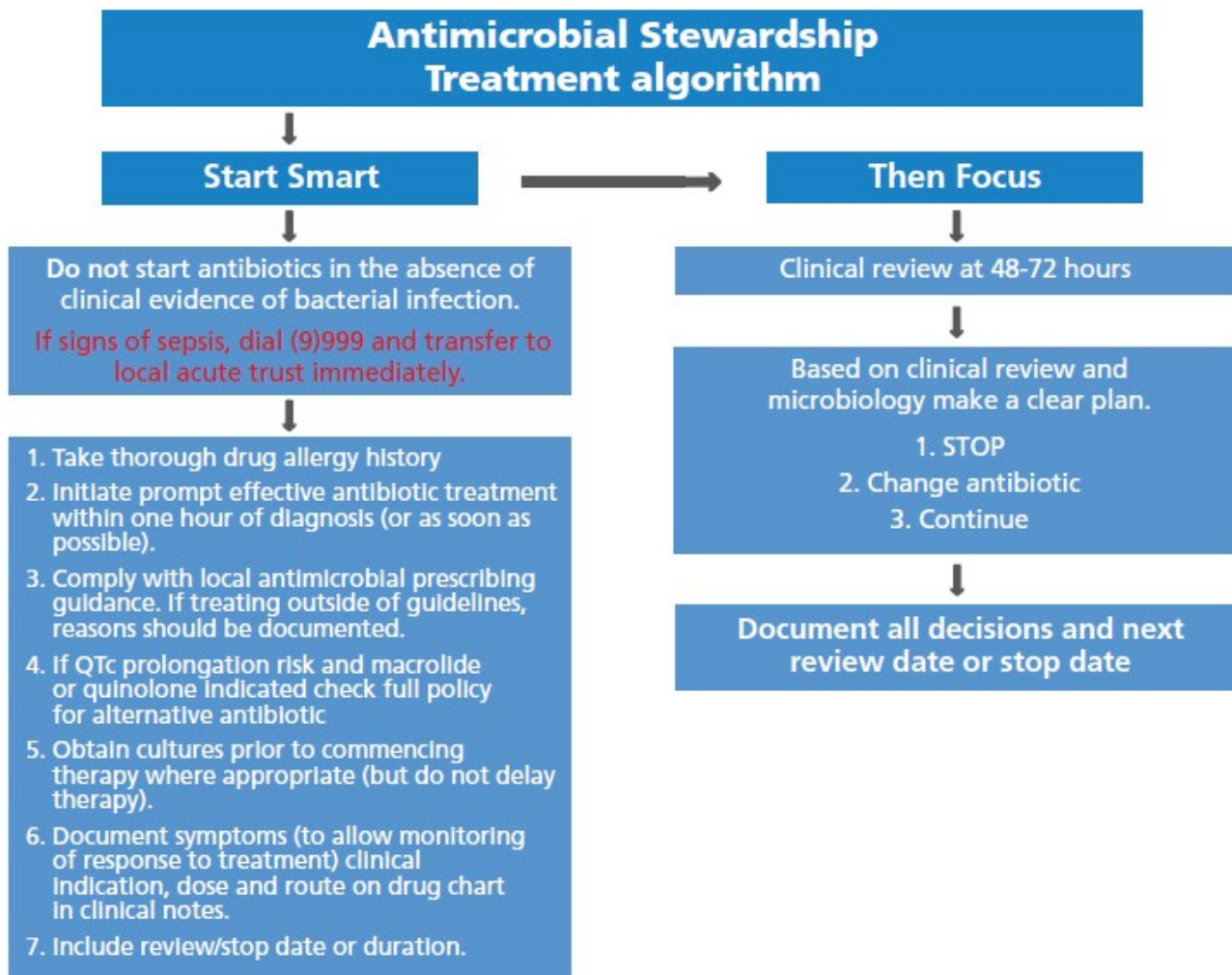
The [Medicines Overarching Framework](#) Policy defines the Antibiotic Prescribing Procedure which you must read, understand, and be trained in before carrying out the procedures described in this document.

This procedure also refers to:

- ✓ [Infection Prevention and Control Policy](#)

5 Procedure

5.1 Principles of Treatment



Documentation needed on initiation of antibiotics:

EPMA / inpatient prescription chart - clinical indication*, course duration or review** date, route, dose, and frequency

PARIS - clinical indication*, course duration or review** date, drug, dose, route and frequency. If treating outside of guidelines, clinical rationale should be documented.

* Clinical indication should be specific - e.g. bronchitis or pneumonia rather than chest infection

** The review and subsequent decision must also be documented clearly in the patient records

5.2 Treatment algorithm

Sepsis? - assess using [screening tool](#) (see appendix 6); if signs present arrange urgent transfer to local acute hospital.

Start smart.

Do not start antibiotics in the absence of clinical evidence of bacterial infection.

- Many upper respiratory tract infections do not require antibiotics check guidelines for risk stratification of when to treat.
 - If guidelines suggest delayed antibiotics the Royal College of General Practitioners (RCGP) has produced [leaflets for patients](#) containing self-care and safety netting advice for self-limiting and potentially viral illness, so if condition worsens need for review can be quickly identified.
- For UTIs see flow charts in [appendix 1](#)

If there is evidence / suspicion of bacterial infection use clinical guidelines to initiate prompt effective antibiotic treatment within an hour of diagnosis.

- Check allergy status and clarify nature of allergy/ADR if needed.
 - For further advice on prescribing in [penicillin allergy](#) see below
- Check previous antibiotic use – resistance risk is more than doubled if recently used.
 - If resistance to first line drugs is suspected, contact microbiology for advice
- Refer to the appropriate condition-specific antimicrobial prescribing guidance on the [RCGP eLearning homepage](#)
- Macrolides and Quinolones can cause QT prolongation - if one of these medications are indicated check if patient is in risk category. See [QT section](#) below.
- Check for interactions with concurrent medication – some [common interactions](#) with psychotropic medication is listed below.

Where appropriate obtain cultures first (but do not delay prescribing in unwell patients). Knowing susceptibility can lead to narrowing of broad-spectrum therapy, changing therapy to treat resistant pathogens, and stopping antibiotics when cultures suggest infection is unlikely.

- For [UTIs see sampling and interpretation advice](#)

Document on EPMA or the inpatient prescription chart drug chart and in the patient records:

- clinical indication, course duration or review date, route, dose, and frequency.
- Symptoms should also be documented in notes as this will help clinicians change or stop therapy where appropriate.
- If treating outside of guidelines, document the rationale for doing so.

Then Focus

Review the clinical diagnosis and continuing need for antibiotics within **72 hours** and make a clear plan of action.

Antimicrobial prescribing decisions

- STOP antibiotics if there is no evidence of infection.
- CHANGE antibiotics.
 - based on sensitivities if empirical choice was not effective/ organism not sensitive
- CONTINUE and document when further review needed.
 - If there was a delay obtaining medication review the stop date

6 Definitions

Term	Definition
BNF	British National Formulary
EPMA	Electronic Prescription & Medicines Administration (system)
NICE	National Institute of Health and Care Excellence
PHE	Public Health England
UKHSA	UK Health Security Agency

7 How this procedure will be implemented

- This procedure will be published on the Trust’s intranet and internet. Awareness of publication will be raised via the Medicines Optimisation newsletter in addition to standard corporate communications and updates
- Pharmacists will clinically check all prescribing for inpatients and intervene where necessary.

7.1 Training needs analysis.

Staff/Professional Group	Type of Training	Duration	Frequency of Training
Clinical staff	Infection Prevention & Control (mandatory e-learning)	1 hour	Every 3 years

8 How the implementation of this procedure will be monitored

Number	Auditable Standard/Key Performance Indicators	Frequency/Method/Person Responsible	Where results and any Associate Action Plan will be reported to, implemented and monitored; (this will usually be via the relevant Governance Group).
1	Antibiotic prescribing always in line with clinical guidelines	Trustwide point prevalence clinical audit	Drug & Therapeutics Committee Infection Prevention & Control committee

9 References

- [NICE guideline \[NG15\] Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use](#) Published date: August 2015
- [Antimicrobial stewardship: start smart then focus toolkit](#): UK Health Security Agency, last updated September 2023
- [Out of Hours/Telephone triage screening and action tools](#) UK Sepsis Trust, accessed 25/10/23
- [Urinary tract infection: diagnosis tools for primary care.](#) UK Health Security Agency, last updated October 2020

10 Document control (external)

To be recorded on the policy register by Policy Coordinator

Required information type	Information
Date of approval	25 May 2023
Next review date	01 June 2026
This document replaces	Version 5.4
This document was approved by	Drug & Therapeutic Committee
This document was approved	25 May 2023
This document was ratified by	n/a
This document was ratified	n/a
An equality analysis was completed on this policy on	General Pharmacy EA
Document type	Public
FOI Clause (Private documents only)	n/a

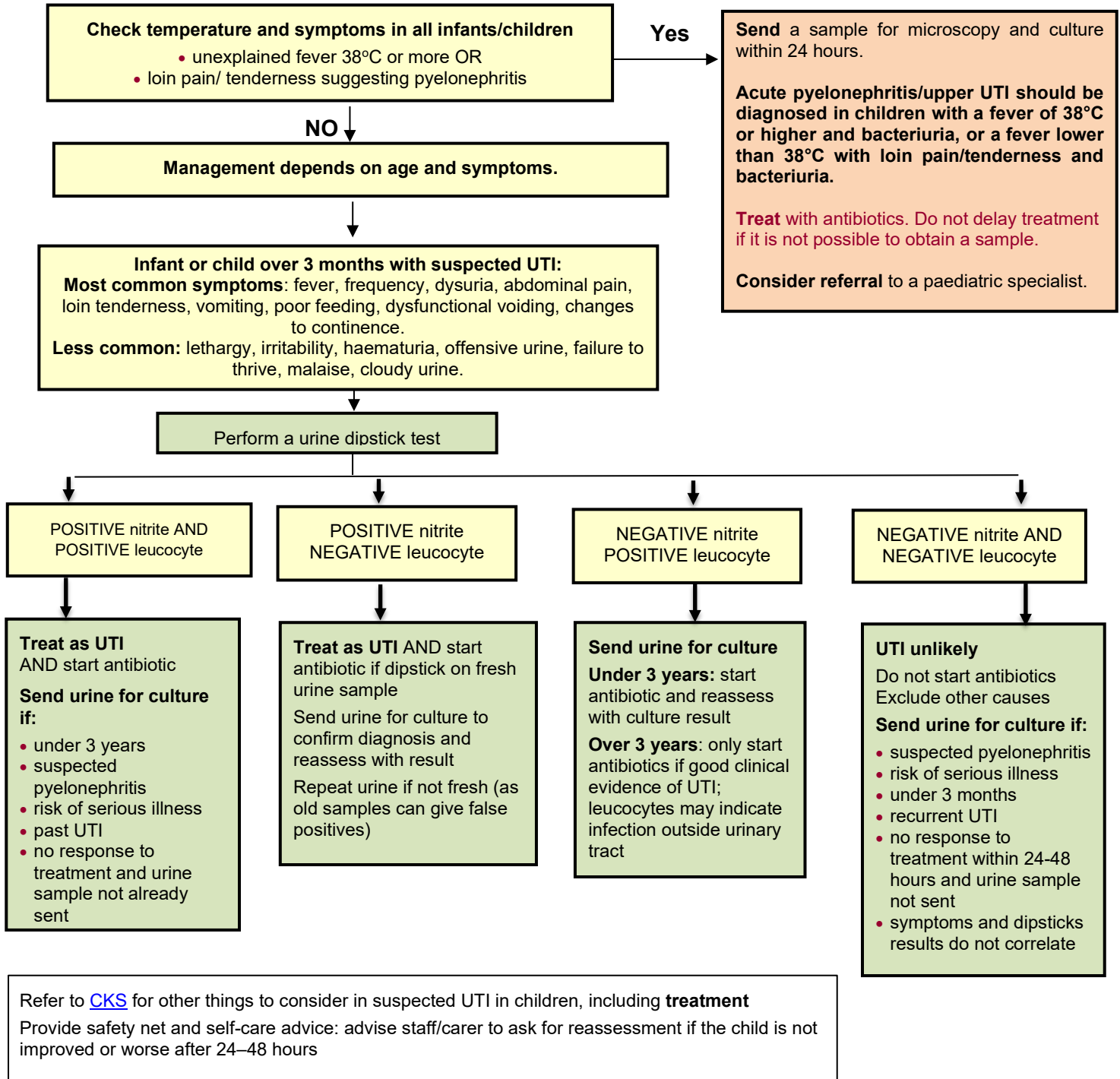
Change record.

Version	Date	Amendment details	Status
5.2	26 Jan 2017	Update of UTI flow charts Update of Sepsis guidance Updated QTc advice Simplified interaction advice	Superseded
5.3	04 Nov 2019	Update of hyperlink to prescribing guidelines for TEWV prescribers in NYY locality (link to webpage instead of document)	Superseded
5.4	02 Sep 2021	Update of hyperlink to NICE prescribing guidelines for TEWV prescribers in TEES, CDD & Forensics localities	Superseded
6	23 May 2023	Full review and update of document. Links to NICE and local prescribing guidelines replaced with single link to RCGP webpage	Approved

Appendix 1 – Flow charts for diagnosing and treating urinary tract infections.

Flowchart for infants/children under 16years with suspected UTI

Consider UTI in any sick child and every child with unexplained fever



Flowchart for women (under 65years) with suspected UTI

This guide excludes patients with recurrent UTI (2 episodes in last 6 months, or 3 episodes in last 12 months)

Urinary signs/symptoms

Do not treat asymptomatic bacteriuria in non-pregnant women as it does not reduce mortality or morbidity

Follow relevant diagnostic guide and safety-netting

First exclude vaginal and urethral causes of urinary symptoms:

- vaginal discharge: 80% do not have UTI
- urethritis - inflammation post sexual intercourse, irritants
- check sexual history to exclude sexually transmitted infections
- genitourinary syndrome of menopause (vulvovaginal atrophy)

THINK SEPSIS - check for signs/symptoms using EWS

check for any new signs/symptoms of pyelonephritis

Consider pyelonephritis or suspected sepsis:

- kidney pain/tenderness in back under ribs
- new/different myalgia, flu like illness
- shaking chills (rigors) or temperature 37.9°C or above
- nausea/vomiting
- send urine for culture but do not delay treatment
- immediately start antibiotic/management for upper UTI/sepsis
- refer if signs or symptoms of serious illness or condition

Does patient have any of 3 key diagnostic signs/symptoms?

- dysuria (burning pain when passing urine)
- new nocturia (passing urine more often than usual at night)
- urine cloudy to the naked eye

2-3 Symptoms	1 Symptom	No Symptoms
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Are there other urinary symptoms that are severe?

- Urgency
- frequency
- visible haematuria
- suprapubic tenderness

YES

YES

NO

Perform Urine Dipstick Test

POSITIVE nitrite OR leukocyte and RBC POSITIVE

NEGATIVE nitrite POSITIVE leukocyte

NEGATIVE for ALL nitrite, leukocyte, RBC

YES

YES

YES

UTI likely

UTI equally likely to other diagnosis

UTI LESS likely

Send urine culture if risk of antibiotic resistance - see red box in [appendix 2](#) for details.

If not pregnant and mild symptoms, watch & wait with symptom and EWS monitoring
OR Consider immediate antibiotic

Review time of specimen (*morning is most reliable*)
Send urine for microscopy and culture to confirm diagnosis
Consider immediate antibiotic OR (if not pregnant) watch & wait with symptom and EWS monitoring, depending on symptom severity

No urine culture
Reassure that UTI less likely
Consider other diagnosis

ALL PATIENTS: share self-care and safety-netting advice using **TARGET UTI leaflet**
If pregnant always send urine culture – follow national treatment guidelines if any bacteriuria

Key:

Suspected sepsis alert

UTI symptom

Action advised.

Other advice

Diagnostic points for men under 65 years

Suspect a lower urinary tract infection (UTI) if a man has:

- **Symptoms of a UTI – this may include:**
 - Dysuria (pain or discomfort on passing urine).
 - Frequency.
 - Urgency (the desire to pass urine immediately).
 - Nocturia (having to urinate during the night more frequently than usual).
 - Suprapubic pain.
- **Signs of a UTI – this may include:**
 - Suprapubic tenderness.
 - Odorous urine.
 - Cloudy urine.
 - Haematuria.
- In men who are frail and elderly, and/or catheterized, and/or in institutional care, do not rely on classical symptoms or signs to predict the likelihood of UTI – in these men, UTI may present with atypical symptoms.
 - In men aged 65 years or over, UTI is likely if dysuria alone is present, or two or more of the following:
 - Temperature 1.5°C above normal twice in 12 hours.
 - New frequency or urgency.
 - New incontinence.
 - New or worsening delirium/debility.
 - New suprapubic pain.
 - Visible haematuria.

Consider other genitourinary causes of urinary symptoms.

- in sexually active, check sexual history for STIs for example chlamydia and gonorrhoea.
- urethritis due to urethral inflammation post sexual intercourse, irritants, or STIs

Check for pyelonephritis, prostatitis, systemic infection, or suspected sepsis using local policy.

- urinary symptoms with fever or systemic symptoms in men are strongly suggestive of prostatic involvement or pyelonephritis
- acute prostatitis may present with feverish illness of sudden onset, symptoms of prostatitis (low back, suprapubic, perineal, or sometimes rectal pain), symptoms of UTI (dysuria, frequency, urgency, or retention), or exquisitely tender prostate on rectal examination
- recurrent or relapsing UTI in men should prompt referral to urology for investigation.

Diagnostic points in men

- always send a mid-stream urine sample for culture, collected before antibiotics are given.
- dipsticks are poor at ruling out infection. Positive nitrite makes UTI more likely (PPV 96%). Negative for both nitrite and leucocyte make UTI less likely, especially if symptoms are mild
- if suspected UTI, offer immediate treatment according to local guideline and review choice of antibiotic with pre-treatment culture results.

Flowchart for men and women over 65 years with suspected UTI

Urinary signs/symptoms, abnormal temperature, non-specific signs of infection

↓ YES

Do not perform urine dipsticks
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.

↓ ALL

THINK SEPSIS - check for signs/symptoms using EWS
CHECK for signs/symptoms of pyelonephritis

- kidney pain/tenderness in back, under ribs
- new/different myalgia, flu-like illness
- nausea/vomiting
- shaking chills (rigors)

OR temp over 37.9°C OR 36°C or below

YES

Consider sepsis OR pyelonephritis

- if urinary catheter: consider changing or removing before starting antibiotics
- send urine for culture
- immediately start antibiotic/ management for upper UTI/sepsis, and considering resistance risk
- refer if signs/symptoms of serious illness or condition

↓ NO

CHECK ALL FOR NEW signs/symptoms of UTI

- new onset dysuria alone

OR two or more:

- temperature 1.5°C above patient's normal twice in the last 12 hours
- new frequency or urgency
- new incontinence
- new or worsening delirium/debility
- new suprapubic pain
- visible haematuria

If fever and delirium/debility only: consider other causes before treating for UTI (*see box below)

If urinary catheter: also check for catheter blockage AND consider catheter removal or replacement

Consider Genitourinary Syndrome of Menopause (vulvovaginal atrophy), urethritis, sexually transmitted infections, and prostatitis

UTI LIKELY: share self-care and safety-netting advice using **TARGET UTI leaflet**

- always send urine culture if feasible before starting antibiotics, as greater resistance in older adults
- if mild symptoms consider watchful waiting while monitoring symptoms and EWS in women without catheters and low risk of complications
- offer immediate antibiotics using local guidelines.
- review antibiotic choice and culture result

If indwelling urinary catheter for over 7days

- consider changing (if possible remove) catheter as soon as possible (before giving antibiotic) and send MSU or urine from new catheter for culture

Patient unable to discuss symptoms

Obtain MSU and send for culture
Where possible wait until culture results available before making prescribing decision. See guidance on interpretation, in green box appendix 2.

↓ NO

CHECK for other causes of delirium if relevant (PINCH ME)

- P:** Pain
- I:** other Infection
- N:** poor Nutrition
- C:** Constipation
- H:** poor Hydration

CHECK ALL for other localised symptoms/signs
*Two or more symptoms or signs of:

- respiratory tract infection
- gastrointestinal tract infection
- Skin and soft tissue infection

YES

Consider other local/national resources for delirium management
Give safety-netting advice about consulting if:

- worsening symptoms
- signs of pyelonephritis
- any symptom/sign of sepsis

YES

Follow local diagnostic and treatment guidance

ALL

ALL

If worsening signs or symptoms consider: admission or start/change antibiotic according to culture results

Advise "watchful waiting" with further investigation for other causes

Key:	Suspected sepsis alert	UTI symptom	Action advised	Other advice
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Appendix 2 – Urine cultures – When to send and how to interpret.

Sending urine for culture and interpreting results in ALL adults

Review needs for culture when considering treatment

Send a urine for culture in:

- over 65-year-olds if symptomatic and antibiotic given
- pregnancy: for routine antenatal tests, or if symptomatic
- suspected pyelonephritis or sepsis
- suspected UTI in men
- failed antibiotic treatment or persistent symptoms
- recurrent UTI (2 episodes in 6m or 3 in 12m)
- if prescribing antibiotic in someone with a urinary catheter
- as advised by local microbiologist

Consider risk factors for resistance and send urine for culture if:

- previous UTI resistance
- abnormalities of genitourinary tract
- renal impairment
- care home resident
- hospitalisation for > 7 days in last 6m
- recent travel to a country with increased resistance

If prescribing an antibiotic, review choice when culture and antibiotic susceptibility results are available

Sampling in all men and women

Women: mid-stream urine ([NHS choices](#)) and holding the labia apart may help reduce contamination but if not possible, sample can still be sent for culture. Do not cleanse with antiseptic, as bacteria may be inhibited.

Elderly frail: only take urine sample if symptomatic and able to collect good sample. If incontinent, clean catch in disinfected container and condom catheters for men may be viable options but little evidence to support.

Men: advise on how to take a mid-stream specimen ([NHS choices](#))

People with urinary catheters: if changed, collect from newly placed catheter using aseptic technique, drain a few mL of residual urine from the tubing, then collect a fresh sample from catheter sampling port

Culture urine within 4 hours of collection, refrigerate, or use boric acid preservative. Boric acid could cause false negative culture if urine not filled to correct mark on specimen bottle and can affect urine dipstick tests)

How do I interpret a urine culture result if I suspect a UTI?

Culture should be interpreted in parallel to severity of signs/symptoms. False negatives/positives can occur.

Do not treat asymptomatic bacteriuria unless pregnant as it does not reduce mortality or morbidity

Urine culture results in patients with urinary symptoms that usually indicate UTI:

- many labs use growth of 10^7 - 10^8 cfu/L (10^4 - 10^5 cfu/mL) to indicate UTI.
- lower counts can also indicate UTI if patient symptomatic:
 - strongly symptomatic women - single isolate $\geq 10^5$ cfu/L ($\geq 10^2$ cfu/mL) in voided urine
 - in men counts as low as 10^6 cfu/L (10^3 cfu/mL) of a pure or predominant organism
 - any single organism $\geq 10^7$ cfu/L ($\geq 10^4$ cfu/mL)
 - *Escherichia coli* or *Staphylococcus saprophyticus* $\geq 10^6$ cfu/L ($\geq 10^3$ cfu/mL)
 - $\geq 10^8$ cfu/L ($\geq 10^5$ cfu/mL) mixed growth with 1 predominant organism

Epithelial cells/mixed growth:

- the presence of epithelial cells is not necessarily an indicator of perineal contamination, culture result should be interpreted with symptoms and repeated if significance is uncertain.
- mixed growth may indicate perineal contamination; however a small proportion of UTIs may be due to genuine mixed infection. Consider a re-test if symptomatic.

Red cells:

- may be present in UTI.
- chemical tests may be more sensitive than microscopy as a result of the detection of haemoglobin released by haemolysis
- refer patients with **persistent haematuria** post-UTI to urology

White blood cells/ leucocytes:

- white cells $\geq 10^7$ WBC/L ($\geq 10^4$ WBC/mL) are considered to represent inflammation in urinary tract, this includes the urethra.
- white cells can be present in older people with asymptomatic bacteriuria, as the immune system does not differentiate colonisation from infection.

Sterile pyuria:

- in sterile pyuria, consider *Chlamydia trachomatis* (especially if 16-24 years), other vaginal infections, other non-culturable organisms including TB or renal pathology.
- If recurrent pyuria with UTI symptoms, discuss with local microbiologist as lower counts down to 10^5 cfu/L (10^2 cfu/mL) may be significant. Higher volume of urine may need to be cultured, including for fastidious organisms

For all patients: take into account of antibiotic susceptibility results and resistance when deciding on management and reviewing antibiotic treatment. **Please refer to local guidance.**

Follow up: Do not send follow-up urine unless pregnant, or advised by the laboratory.

Consider non-urgent referral for bladder cancer in patients ≥ 60 years with recurrent/persistent unexplained UTIs

Appendix 3 – Prescribing in Penicillin Allergy

Allergy is one of the most commonly reported adverse effects of penicillins. The table below gives information on the suitability of available antibiotics in patients who give a history of penicillin allergy. These are colour coded **RED** indicating high risk, **AMBER** to be used with caution and **GREEN** for antibiotics considered safe.

The risk should be assessed by taking a careful history from the patient. Patients often describe symptoms such as nausea and diarrhoea as allergies, but these are more likely side effects rather than a true allergy. Patients are disadvantaged by being incorrectly labelled as Penicillin allergic as less effective antibiotics more likely to lead to antibiotic resistance are used as an alternative. Patients with a minor skin rash restricted to small areas of the body or a rash that develops more than 72 hours after exposure probably do not have genuine hypersensitivity.

Always record allergies carefully on PARIS and on the prescription / administration chart (Kardex)

Check with the patient and the allergy section on PARIS and the Kardex before prescribing or administering drugs.

Risk to patients with a history of penicillin allergy	Agent
<p>HIGH (Contraindicated) Any patient describing true allergy following penicillin exposure must not be prescribed any penicillin again. Speak to microbiology for advice</p>	<p>Amoxicillin Ampicillin Co-amoxiclav Flucloxacillin Penicillin V Pivmecillinam</p>
<p>LOW (Caution) Avoid if serious type 1 penicillin allergy (e.g. anaphylaxis/ angioedema) Use with caution if non-severe allergy (e.g. minor rash only) N.B. risk of allergic reaction is greater in β-lactams most similar to penicillins in underlying structure.</p>	<p>Cefaclor Cefalexin Cefotaxime Ceftriaxone</p>
<p>Considered Safe</p>	<p>Azithromycin Ciprofloxacin Clarithromycin Clindamycin Co-trimoxazole Doxycycline Erythromycin Fidaxomicin Lymecycline Metronidazole Minocycline Moxifloxacin Nitrofurantoin Ofloxacin Oxytetracycline Rifampicin Sodium fusidate Tetracycline Trimethoprim Vancomycin</p>

Appendix 4 – Treatment for patients at risk of QT prolongation

- Macrolides (Clarithromycin, Erythromycin and Azithromycin) and Quinolones (e.g., ciprofloxacin and levofloxacin) can cause QT prolongation.
- Although the QT effects are mild the macrolides are also inhibitors of liver enzymes that can increase the levels of antipsychotics and other medication increasing risk of adverse effects.
- Service users in the following groups should only be treated with a QT prolonging antibiotic if other options are not available:
 - Service users prescribed psychotropic medications (Haloperidol, Citalopram and Escitalopram) that are contra-indicated with other QTc prolonging drugs.
 - Service users with prolonged QTc intervals
 - Service users taking high dose antipsychotic therapy.
- If a service user is in one of the above groups **and** following the antimicrobial guidance above they would be treated with a QT prolonging drug contact pharmacy or microbiology for advice. Microbiology details can be found in the local procedure.


Appendix 5 – Potential Drug Interactions between Antibiotics and Psychotropic Drugs

Prescribers should always refer to the current [BNF](#) or BNF App for further information. Absence of information should not be assumed to indicate no interaction. Please see above for QTc prolongation interaction information.

Table compiled from BNF Number 72 (September 2016)

Drug 1	Drug 2	Interaction	Effect/Action
Aripiprazole Benzodiazepines Carbamazepine Clozapine Haloperidol Mirtazapine Phenytoin	Rifamycins (Rifabutin /rifampicin)	Plasma concentration of medications reduced	Avoid combination or possibly increase dose, monitor.
Carbamazepine & Phenytoin	Doxycycline	Metabolism of doxycycline accelerated	Need to double the dose of doxycycline to ensure effective treatment.
Carbamazepine	Erythromycin and clarithromycin	Plasma carbamazepine concentration increased	Monitor for effects
Carbamazepine	Fluconazole	Plasma concentration of carbamazepine increased	Monitor for adverse effects
Clozapine	Ciprofloxacin & Erythromycin	Increased plasma concentration of clozapine	Monitor for adverse effects, Risk of convulsions.
Clozapine	Nitrofurantoin	May reduce white cell count	Avoid
Duloxetine	Ciprofloxacin	Metabolism of duloxetine inhibited	Avoid concomitant use increases risk of serotonin syndrome.
Galantamine	Clarithromycin Erythromycin	Increases plasma concentration of galantamine	Monitor and adjust dose if necessary
Quetiapine	Clarithromycin Erythromycin Ketoconazole Fluconazole	Plasma concentrations increased	Contraindicated because of increased risk of arrhythmias
Reboxetine	Azoles	Plasma concentrations of reboxetine increased	Should not be given together.
Trazodone	Erythromycin Clarithromycin	Reduced clearance of trazadone leading to enhanced effects	Monitor for side effects, adjust dose if necessary
Valproate	Pivmecillinam	Increased risk of carnitine depletion – case report of hyperammonaemic encephalopathy	Avoid concomitant use

Appendix 6 – Sepsis guidance (available at: <https://sepsistrust.org/wp-content/uploads/2022/06/Sepsis-Telephone-Triage-12-Version-1.3.pdf>)

SEPSIS SCREENING TOOL TELEPHONE TRIAGE		AGE 12+								
<p>01 ARE THERE CLUES THAT THE PATIENT MAY BE SERIOUSLY ILL?</p> <p>RISK FACTORS FOR SEPSIS INCLUDE:</p> <table border="0"> <tr> <td><input type="checkbox"/> Age > 75</td> <td><input type="checkbox"/> Recent trauma / surgery / invasive procedure</td> </tr> <tr> <td><input type="checkbox"/> Impaired immunity (e.g. diabetes, steroids, chemotherapy)</td> <td><input type="checkbox"/> Indwelling lines / IVDU / broken skin</td> </tr> </table>			<input type="checkbox"/> Age > 75	<input type="checkbox"/> Recent trauma / surgery / invasive procedure	<input type="checkbox"/> Impaired immunity (e.g. diabetes, steroids, chemotherapy)	<input type="checkbox"/> Indwelling lines / IVDU / broken skin				
<input type="checkbox"/> Age > 75	<input type="checkbox"/> Recent trauma / surgery / invasive procedure									
<input type="checkbox"/> Impaired immunity (e.g. diabetes, steroids, chemotherapy)	<input type="checkbox"/> Indwelling lines / IVDU / broken skin									
<p>02 COULD THIS BE DUE TO AN INFECTION?</p> <p>LIKELY SOURCE:</p> <table border="0"> <tr> <td><input type="checkbox"/> Respiratory</td> <td><input type="checkbox"/> Urine</td> <td><input type="checkbox"/> Skin / joint / wound</td> <td><input type="checkbox"/> Indwelling device</td> </tr> <tr> <td><input type="checkbox"/> Brain</td> <td><input type="checkbox"/> Surgical</td> <td><input type="checkbox"/> Other</td> <td></td> </tr> </table>		<input type="checkbox"/> Respiratory	<input type="checkbox"/> Urine	<input type="checkbox"/> Skin / joint / wound	<input type="checkbox"/> Indwelling device	<input type="checkbox"/> Brain	<input type="checkbox"/> Surgical	<input type="checkbox"/> Other		<p>SEPSIS UNLIKELY, CONSIDER OTHER DIAGNOSIS</p>
<input type="checkbox"/> Respiratory	<input type="checkbox"/> Urine	<input type="checkbox"/> Skin / joint / wound	<input type="checkbox"/> Indwelling device							
<input type="checkbox"/> Brain	<input type="checkbox"/> Surgical	<input type="checkbox"/> Other								
<p>03 ANY RED FLAG PRESENT?</p> <p><input type="checkbox"/> Objective evidence of new or altered mental state</p> <p><input type="checkbox"/> Unable to stand / collapsed</p> <p><input type="checkbox"/> Unable to catch breath / barely able to speak</p> <p><input type="checkbox"/> Very fast breathing</p> <p><input type="checkbox"/> Skin that is very pale, mottled, ashen or blue</p> <p><input type="checkbox"/> Rash that doesn't fade when pressed firmly</p> <p><input type="checkbox"/> Recent chemotherapy</p> <p><input type="checkbox"/> Not passed urine in previous 18 hours</p>										
<p>04 ANY AMBER FLAG PRESENT?</p> <p>IF UNDER 17 & IMMUNITY IMPAIRED TREAT AS RED FLAG SEPSIS</p> <p><input type="checkbox"/> Behavioural change / reduced activity</p> <p><input type="checkbox"/> Immunosuppressed</p> <p><input type="checkbox"/> Trauma / surgery / procedure in last 8 weeks</p> <p><input type="checkbox"/> Breathing harder work than normal</p> <p><input type="checkbox"/> Reduced urine output</p> <p><input type="checkbox"/> Temperature <36°C</p> <p><input type="checkbox"/> Signs of wound infection</p> <p><input type="checkbox"/> Not passed urine in previous 12-18 hours</p>		<p>RED FLAG SEPSIS START BUNDLE</p>								
<p>NO AMBER FLAGS : ROUTINE CARE AND GIVE SAFETY NETTING ADVICE:</p> <p>CALL 111 IF CONDITION CHANGES OR DETERIORATES. SIGNPOST TO AVAILABLE RESOURCES AS APPROPRIATE</p>		<p>FURTHER INFORMATION AND REVIEW REQUIRED:</p> <p>- ARRANGE URGENT FACE-TO-FACE ASSESSMENT USING CLINICAL JUDGEMENT TO DETERMINE APPROPRIATE CLINICAL ENVIRONMENT</p>								
<p>NO AMBER FLAGS : ROUTINE CARE AND GIVE SAFETY NETTING ADVICE:</p> <p>CALL 111 IF CONDITION CHANGES OR DETERIORATES. SIGNPOST TO AVAILABLE RESOURCES AS APPROPRIATE</p>		<p>CALL 999 IF ANY OF:</p> <ul style="list-style-type: none"> Slurred speech or confusion Extreme shivering or muscle pain Passing no urine (in a day) Severe breathlessness 'I feel I might die' Skin mottled, ashen, blue or very pale 								
<p>TELEPHONE TRIAGE BUNDLE:</p> <p>THIS IS TIME-CRITICAL – IMMEDIATE ACTION REQUIRED: DIAL 999</p> <p>AND ARRANGE BLUE LIGHT TRANSFER</p>		<p>COMMUNICATION: Ensure communication of 'Red Flag Sepsis' to crew. Advise crew to pre-alert as 'Red Flag Sepsis'.</p>								
										

Appendix 7 – Approval checklist

To be completed by lead and attached to any document which guides practice when submitted to the appropriate committee/group for consideration and approval.

	Title of document being reviewed:	Yes/No/ Not applicable	Comments
1.	Title		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	Procedure
2.	Rationale		
	Are reasons for development of the document stated?	Yes	
3.	Development Process		
	Are people involved in the development identified?	Yes	
	Has relevant expertise has been sought/used?	Yes	
	Is there evidence of consultation with stakeholders and users?	No	
	Have any related documents or documents that are impacted by this change been identified and updated?	Yes	
4.	Content		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
	Are the statements clear and unambiguous?	Yes	
5.	Evidence Base		
	Is the type of evidence to support the document identified explicitly?	Yes	
	Are key references cited?	Yes	
	Are supporting documents referenced?	Yes	
6.	Training		
	Have training needs been considered?	Yes	
	Are training needs included in the document?	Yes	
7.	Implementation and monitoring		

	Title of document being reviewed:	Yes/No/ Not applicable	Comments
	Does the document identify how it will be implemented and monitored?	Yes	
8.	Equality analysis		
	Has an equality analysis been completed for the document?	Yes	General Pharmacy EA
	Have Equality and Diversity reviewed and approved the equality analysis?	Yes	
9.	Approval		
	Does the document identify which committee/group will approve it?	Yes	
10.	Publication		
	Has the document been reviewed for harm?	Yes	
	Does the document identify whether it is private or public?	Yes	Public
	If private, does the document identify which clause of the Freedom of Information Act 2000 applies?	n/a	