

<b>Enclosure No:</b>	6/AWMSG/0718
<b>Agenda item No:</b>	10 – Primary Care Empirical UTI Treatment Guidelines
<b>Author:</b>	All Wales Antimicrobial Guidance Group (AWAGG)
<b>Contact:</b>	Tel: 02920 71 6900 <a href="mailto:awttc@wales.nhs.uk">awttc@wales.nhs.uk</a>

## 1.0 ACTION FOR AWMSG

AWMSG members are asked to consider the *Primary Care Empirical UTI Treatment Guidelines* document for endorsement.

## 2.0 PURPOSE

This document represents a refresh of the empirical antimicrobial treatment guidelines for UTI in primary care. These have been updated to take into account increasing incidences of antimicrobial resistance in Wales. By treating UTIs more effectively it is hoped that the number of treatment failures, and hence progression to urosepsis, will decrease. This is in support of a Department of Health ambition to halve the number of healthcare associated gram-negative bloodstream infections by March 2021. This guidance is adapted from Public Health England's antibiotic guidance for primary care, *Management and treatment of common infections*.

The intended audience is all prescribers in primary care, including GPs and Advanced Nurse Practitioners. The launch of this guideline and other tools to help achieve this ambition will be announced to the service in a Welsh Health Circular. The guideline will be made available to the service through the local Health Board Microguide or RxGuidelines mobile phone apps, and online platforms.

Following the launch of the guideline, the intention is to monitor the impact by automated surveillance; including changes to the volume of antimicrobial agents prescribed (including cefalexin, fosfomycin, nitrofurantoin, pivmecillinam and trimethoprim). Changes in the patterns of resistance to these agents, changes in admission rates to hospital due to urosepsis, re-presentation rates in GP practices and changes to *Escherichia coli* bacteraemia rates in healthcare and non-healthcare associated settings will also be monitored.

This document is pertinent to:

- **AWMSG Five-year Strategy 2013–2018 ‘Improving the patient’s experience of medicines Wales’:**  
*Recommendation 2: Improving health – Prescribing guidance*  
*AWMSG will work with health boards and other stakeholders to promote the safe, effective and cost-effective use of medicines in Wales.*
- **National Prescribing Indicators 2018–2019**  
*2.0 Antimicrobial stewardship indicators*

## 2.1 Process

- January 2018: Project proposal received and accepted by AWTTTC
- March 2018: Draft paper to AWPAG for comment
- April 2018: Draft paper sent out for consultation
- June 2018: Draft paper to AWPAG
- July 2018: Draft paper to AWMSG SC
- *July 2018: Draft paper to AWMSG*

## DRAFT FOR ENDORSEMENT

### 3.0 SUMMARY

This guideline, originally developed by the All Wales Antimicrobial Guideline Group based on Public Health England's antimicrobial guidance, presents up-to-date advice for primary care on the empirical antimicrobial treatment of patients in Wales presenting with a UTI. These guidelines should contribute to limiting the incidence of antimicrobial resistance, treatment failure, and hence progression to urosepsis.

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## DRAFT FOR ENDORSEMENT

### GLOSSARY

<b>BASHH</b>	British Association for Sexual Health and HIV
<b>BD</b>	Twice daily
<b>BNF</b>	British National Formulary
<b>CKS</b>	Clinical Knowledge Summaries
<b>EAU</b>	European Association of Urology
<b>GFR</b>	Glomerular filtration rate
<b>MC&amp;S</b>	Microscopy, culture and sensitivities
<b>M/R</b>	Modified-release
<b>MSU</b>	Mid-stream urine
<b>NICE</b>	National Institute for Health and Care Excellence
<b>PHE</b>	Public Health England
<b>QRG</b>	Quick reference guide
<b>SIGN</b>	Scottish Intercollegiate Guidelines Network
<b>SPC</b>	Summary of Product Characteristics
<b>TDS</b>	Three times daily
<b>UKTIS</b>	United Kingdom Teratology Information Service
<b>UTI</b>	Urinary tract infection

## DRAFT FOR ENDORSEMENT

### APPROPRIATE PRESCRIBING OF ANTIBIOTICS IN THE TREATMENT OF URINARY TRACT INFECTION IN PRIMARY CARE

Ensure appropriate dosing—adjusted for age, body weight, renal and hepatic function—and consider potential drug interactions and adverse drug reactions. See SPC or BNF for further details.

Infection	Formulary Choice	Adult Dose (unless otherwise specified)	Duration of Treatment
<b>UTI in adults (no fever or flank pain)</b> <a href="#">PHE QRG</a> <a href="#">EAU 2017</a> <a href="#">SIGN 88</a> <a href="#">NICE CG139</a> <a href="#">NICE QS90</a> <a href="#">NICE CKS women</a> <a href="#">NICE CKS men</a>	<b>Treat according to sensitivities on recent MSU results if available, otherwise treat empirically</b>		
	<p><b>Do not treat asymptomatic bacteriuria except in pregnancy</b>, or in exceptional circumstances after consultation with a relevant specialist team (e.g. urology, renal transplant teams, etc.); it is common in adults &gt; 65 years but is not associated with increased morbidity.</p> <p><b>Catheter in situ: antibiotics will not eradicate asymptomatic bacteriuria</b>; only treat if systemically unwell or pyelonephritis likely. Do not use prophylactic antibiotics for catheter changes unless history of catheter-change-associated UTI or trauma (<a href="#">NICE</a> and <a href="#">SIGN</a> guidance).</p> <p><b>Men:</b> If symptoms mild/non-specific, use negative dipstick to EXCLUDE UTI. If infection is indicated, consider prostatitis and send pre-treatment MSU. Nitrofurantoin is not recommended for men with suspected prostate involvement because it is unlikely to reach therapeutic levels in the prostate.</p> <p>Resistance to many agents is increasing, particularly in the elderly (&gt; 65 years). <b>If high risk of resistance, send urine for MC&amp;S.</b></p> <p><b>Risk factors for resistance:</b> Care home resident, recurrent UTI, hospitalisation for &gt; 7 days in the last 6 months, unresolving urinary symptoms, recent travel to areas of high antimicrobial resistance (outside northern Europe &amp; Australasia), previous resistant UTI.</p> <p><b>Complicated</b> infection defined as all males, females with renal impairment, abnormal urinary tract, poorly controlled diabetes or immunosuppression.</p>		
Patient <65 years and NO risk factors for resistance	Nitrofurantoin (if GFR over 45 mL/min) <b>or</b> Trimethoprim	100 mg m/r BD  200 mg BD	<b>Uncomplicated</b> - 3 days <b>Complicated</b> - 7 days
Patient ≥ 65 years or risk factors for resistance present	<b>First line:</b> Nitrofurantoin (if GFR over 45 mL/min)  (Trimethoprim can be used if a recent MSU shows sensitivity)	100 mg m/r BD  (200 mg BD)	<b>Uncomplicated</b> - 3 days <b>Complicated</b> - 7 days
	<b>Second line:</b> Pivmecillinam (Warning: β-lactam, do not use if allergic to penicillin)  <b>or</b> Fosfomycin	400 mg TDS  3 g sachet	<b>Uncomplicated</b> - 3 days <b>Complicated</b> - 7 days  <b>Women:</b> 3 g PO stat (plus additional 3 g dose 3 days later if complicated UTI) <b>Men:</b> 3 g PO stat plus 3 g dose 3 days later (Prescribing in men and complicated UTIs are both off-label)

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Infection	Formulary Choice	Adult Dose (unless otherwise specified)	Duration of Treatment
<b>Acute prostatitis</b> <a href="#">BASHH</a> <a href="#">NICE CKS</a>	Send MSU for culture and start antibiotics. A 4 week course may prevent chronic prostatitis. Fluoroquinolones achieve higher prostate levels.		
	<b>First line:</b> Ciprofloxacin <b>or</b> Ofloxacin	500 mg BD	14–28 days (review at 14 days)
	<b>Second line:</b> Trimethoprim (if known sensitivities and fluoroquinolone not appropriate)	200 mg BD	
		200 mg BD	
<b>Acute pyelonephritis</b> <a href="#">NICE CKS</a>	If admission not needed, send MSU for MC&S and start antibiotics. If no response within 24 hours, admit.		
	Ciprofloxacin	500 mg BD	7 days
	<b>or</b> Co-amoxiclav	625 mg TDS	7 days
<b>UTI in pregnancy</b> <a href="#">PHE QRG</a> <a href="#">NICE CKS women</a> <a href="#">UKTIS – amoxicillin</a> <a href="#">UKTIS – cephalosporins</a>	Send MSU for culture and start antibiotics. Short-term use of <a href="#">nitrofurantoin in pregnancy</a> is unlikely to cause problems to the foetus. Avoid at term and close to or during labour or delivery due to risk of neonatal haemolysis. This includes patients with threatened pre-term labour.		
	<b>First line:</b> Nitrofurantoin (Avoid at term - may produce neonatal haemolysis)	100 mg m/r BD	7 days
	Amoxicillin ( <b>If susceptible MC&amp;S results</b> )	500 mg TDS	7 days
	<b>Second line:</b> Cefalexin	500 mg BD	7 days

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Infection	Formulary Choice	Adult Dose (unless otherwise specified)	Duration of Treatment
<b>Lower UTI in children</b> <a href="#">PHE QRG</a> <a href="#">NICE</a>	Send pre-treatment MSU for all children with suspected UTI. <b>Child &lt; 3 months:</b> refer urgently for assessment. <b>Child ≥ 3 months:</b> use positive nitrite to guide antibiotic use. Imaging: only refer if child < 6 months, or recurrent or atypical UTI.		
	<b>First line:</b> Nitrofurantoin <b>or</b> Cefalexin	See BNF for Children*	3 days
	<b>Second line:</b> Trimethoprim	See BNF for Children*	3 days
	<b>If susceptible (MC&amp;S):</b> Amoxicillin	See BNF for Children*	3 days
<b>Upper UTI in children</b> <a href="#">PHE QRG</a> <a href="#">NICE</a>	Refer all cases to a paediatrician. Send pre-treatment MSU for all children with suspected UTI. <b>Child &lt; 3 months:</b> refer urgently for assessment. <b>Child ≥ 3 months:</b> use positive nitrite to guide antibiotic use. Imaging: only refer if child < 6 months, recurrent or atypical UTI.		
	<b>First line:</b> Co-amoxiclav	See BNF for Children*	10 days
*Dosages in Children: Details of drug dosage and administration can be found in the BNF for Children			