

Diagnosis & Management of Urinary Tract Infection (UTI) in Long Term Care Residents > 65 years

KEY MESSAGES

- ❖ **Diagnosis of UTI in residents > 65 years requires a combination of reliable clinical signs and symptoms AND a positive urine culture result.**
- ❖ **Only perform urine dipstick testing or send urine for culture in patients who are symptomatic. Do not perform urine dipstick testing or send urine for culture solely on the basis of urine odour or appearance**
- ❖ **Residents in long term care facilities have high rates of abnormal dipstick and urine test results WITHOUT infection necessarily being present. Antibiotic therapy in these cases does not reduce mortality or prevent symptomatic episodes, rather it increases side effects and leads to antibiotic resistance.**
- ❖ **DO NOT ROUTINELY USE ANTIBIOTIC PROPHYLAXIS TO PREVENT URINARY TRACT INFECTION**

1: SIGNS AND SYMPTOMS OF UTI

- Diagnosis of UTI should be based on a full clinical assessment.
- Symptoms & signs suggestive of urinary tract infection include:

Dysuria	Frequency	Urgency	New onset incontinence
Fever >38°C	Suprapubic tenderness	Haematuria	
- In patients with a urinary catheter loin pain and fever >38°C are significant indicators of a UTI.
 - ***DO NOT SEND URINE FOR CULTURE IF THERE ARE NO SIGNS AND SYMPTOMS OF UTI***
- Dipstick urine testing is NOT a reliable way to diagnose UTI. Do not perform dipstick urinalysis if patients are asymptomatic or if a urinary catheter is present as false positives will occur.
- Empiric treatment may be considered in a SYMPTOMATIC patient with a positive dipstick. A urine sample should be sent to the microbiology laboratory for culture and antimicrobial susceptibility testing in these cases.
- A positive urine dipstick result in an asymptomatic patient is not significant and should not be treated.

2: HOW TO INTERPRET URINE CULTURE RESULTS IN RESIDENTS WITHOUT A URINE CATHETER

Microscopy

White Cells	<ul style="list-style-type: none"> • No white cells present indicate no inflammation therefore culture result is unlikely to indicate UTI. • White cells $\geq 100/\mu\text{l}$ are considered to represent inflammation.
Epithelial cells/mixed growth	<ul style="list-style-type: none"> • Presence indicates perineal contamination and therefore culture result is unlikely to indicate UTI
Red cells	<ul style="list-style-type: none"> • May be present in UTI, patients with persistent hamaturia post UTI should be referred

Culture

Single organism $\geq 10,000$ (10^4) colony forming units (CFU)/mL OR
 $\geq 100,000$ (10^5) mixed growth with one predominant organism OR
Escherichia coli or *Staphylococcus saprophyticus* $\geq 1,000$ (10^3)CFU/mL

Usually indicates UTI but only in patients with symptoms

Positive culture/microscopy result and no symptoms = bacteriuria, not infection and does not require antibiotic treatment.

- Laboratory microscopy should not be used to diagnose UTI in catheterised patients as urine white cells are often elevated due to the presence of the catheter
- If the urine culture result is positive (see section 2) treat only if the resident has symptoms or signs suggestive of UTI and no other source is identified.
- In the presence of a urinary catheter antibiotics will not eradicate bacteriuria

4: EMPIRICAL TREATMENT OF UTI IN RESIDENTS

- Only consider empiric antibiotic therapy in SYMPTOMATIC patients pending urine culture result.
- Choice of empirical therapy should be guided by local resistance rates where available.
- **Modify treatment according to culture result when available.**
- For treatment of uncomplicated UTI in patients < 65, please refer to page 9 of the National Guidelines for Antimicrobial Prescribing in Primary Care in Ireland (2011)¹

4a: EMPIRICAL TREATMENT OF UTI IN RESIDENTS *WITHOUT* A URINARY CATHETER

Uncomplicated UTI i.e. no fever or flank pain, first presentations / low risk of resistant organisms

Trimethoprim 200mg BD
 OR Nitrofurantoin* 50-100mg QDS
 (*Avoid in renal impairment)
 For 7 days

Use of Cephalexin 500mg BD or Co-amoxiclav 500/125mg TDS may also be considered - based on local resistance rates

Acute pyelonephritis

Co-amoxiclav 500/125mg TDS for 14 days
 OR Ciprofloxacin 500mg BD for 7 days

If no response within 24 hours consider hospital referral

4b: EMPIRICAL TREATMENT OF UTI IN RESIDENTS *WITH* A URINARY CATHETER

First presentations / low risk of resistant organisms

Trimethoprim 200mg BD
 OR
 Nitrofurantoin 50-100mg QDS*
 (*Avoid in renal impairment)

Previous resistance to, or risk of, trimethoprim or nitrofurantoin resistance

Cephalexin 500mg BD
 OR
 Co-amoxiclav 500/125mg TDS
 (Consider based on local resistance rates)

Duration of therapy

Prompt resolution of symptoms: 7 days

Delayed response (regardless of whether patient remains catheterised or not): 10-14 days

If an indwelling catheter has been in place for >2 weeks at the onset of UTI and is still indicated, the catheter should be replaced.

5: ANTIBIOTIC PROPHYLAXIS

DO NOT ROUTINELY USE ANTIBIOTIC PROPHYLAXIS TO PREVENT URINARY TRACT INFECTION

Antibiotic prophylaxis is not recommended for the prevention of symptomatic UTI in catheterised patients.

Antibiotic prophylaxis is not recommended for urinary catheter changes unless there is a definite history of symptomatic UTIs due to catheter change.

Antimicrobial prophylaxis may be considered in patients for whom the number of urinary infections are of such frequency or severity that they chronically impinge on function and well-being.

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