



User Guide to the Clinical Pathway for older people in aged care homes:

Suspected Urinary Tract Infections

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Australian Government
Aged Care Quality and Safety Commission

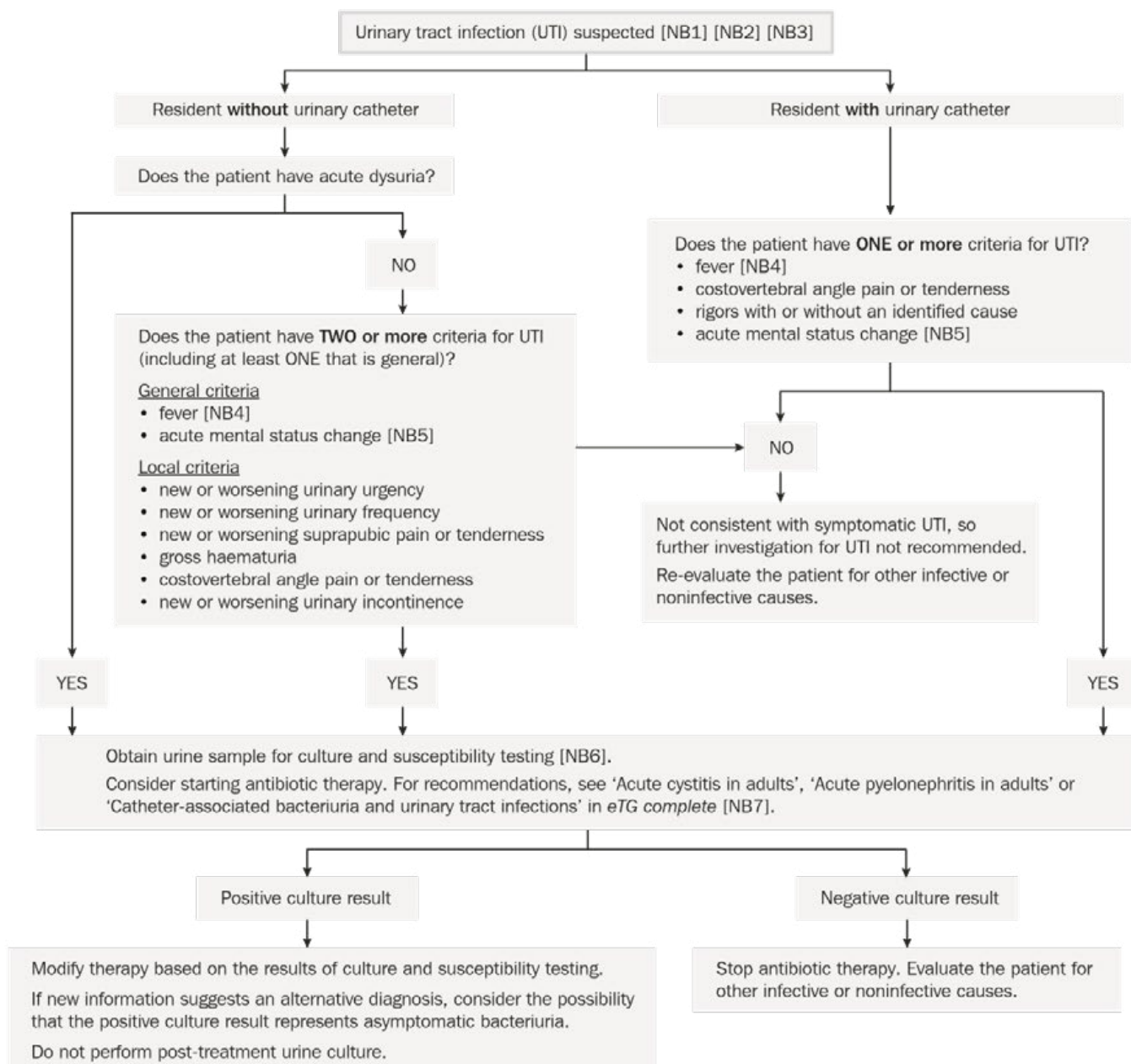


Better use
of antibiotics

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Therapeutic Guidelines: Algorithm for assessing and managing aged-care facility residents with suspected UTI



NB1: Do not investigate or treat cloudy or malodorous urine in aged-care facility residents who do not have other signs or symptoms of UTI.

NB2: Consider whether an alternative diagnosis is likely. Consider both infective (eg pneumonia) and noninfective (eg medication-related adverse events) causes. NB3: Establish whether an advance care plan is in place as it may influence assessment and management (eg whether investigations are performed or antibiotics are given).

NB4: Fever is defined as a temperature higher than 38°C or an increase of more than 1.5°C above baseline temperature.

NB5: Acute mental status changes include new change in level of consciousness, periods of altered perception, disorganised speech and lethargy.

NB6: If the resident has an indwelling urinary catheter, see *eTG complete* for a guide to collecting urine samples in patients with indwelling urinary catheters.

NB7: The duration of therapy does not need to be modified for this patient group and should always be stated on the prescription.

How to use the Clinical Pathway

The Clinical Pathway is based on the 'Therapeutic Guidelines: Assessment and treatment of Aged Care Facility residents with suspected UTI'.

There are two versions of the Clinical Pathway. One is for use in **residents with catheters** and the other is for residents **without a catheter**.

The Clinical Pathway has three sections

- Initial Assessment section — observations and symptoms and signs
- Assessment section — interpretation of obs, symptoms and signs
- Further actions section

Who fills in the form?

The Clinical Pathway can be initiated by PCA / carer or nurse who completes the initial assessment section. The other sections are completed by nursing staff.

The assessment section is completed on the day that the Clinical Pathway is initiated.

The further actions section should be updated as information comes to hand e.g., antibiotics may not be prescribed on day the Clinical Pathway initiated if resident is not unwell e.g., when urine culture results come back.

Practical tips on urine testing

- Urinalysis and urine cultures results do not diagnose UTIs
- Symptoms and signs in residents that point towards UTI are used to diagnose UTIs
- Cloudy urine without any other symptoms or signs does not mean UTI
- Smelly urine without any other symptoms or signs does not mean UTI
- Performing routine urinalysis in residents with no symptoms or signs (e.g., resident newly admitted to service) will overdiagnose asymptomatic bacteriuria
- Urinalysis and urine cultures should not be performed after antibiotic treatment for UTI as proof of cure.

The role of urine dipstick testing in UTI assessment

- Some GPs may request dipstick testing to **rule out** UTI in situations where a resident has suspected infection AND top to toe assessment performed and source unclear. Because of high rates of ASB in elderly, dipstick testing is not useful as a test to **rule in** UTI.
- Not necessary for UTI proof of cure
- Not necessary in residents with no symptoms or signs of concern

When to perform urine culture

- GPs should routinely request urine culture as part of work up for suspected UTI; this is important in making sure the diagnosis is confirmed and the correct antibiotic is used
- GPs can occasionally request after completion of treatment for complicated UTI e.g., relapsed UTI, urinary stent in place.

Urine culture: other considerations

- Urine culture results usually take at least 2-3 days to come back
- Most useful results are if the urine culture has been collected in a way to minimise contamination of sample with bacteria on skin and stored at 4-10°C until ready for transport. If antibiotics are planned, results are best from samples collected before antibiotic start
- Urine culture results are useful in working out if the best guess antibiotic that the resident has been started on is the best choice e.g., most narrow spectrum. In residents that are slow to get better, results can guide us whether the best guess antibiotic is effective, or the resident has a resistant infection
- NCAS (National Centre of Antimicrobial Stewardship) has a [guide to interpretation of urine culture results](#)
- Urine cultures or urinalysis after completing antibiotic treatment as a proof of cure are not recommended; usually the best assessment of cure is based on resident getting better.

Initial management of resident with suspected UTI

Initial clinical care is determined by how unwell the resident is, not by dipstick testing result. The correct approach depends on resident's clinical status.

- (1) if unwell — don't delay antibiotics. Start them and when urine culture returns in >48 hours, this will confirm whether antibiotic treatment for UTI is ceased because it wasn't a UTI or it confirms that it was a UTI and let's us know what best antibiotic to use
- (2) if not unwell, send off urine culture. If urine culture returns in >48 hours and confirms UTI **and** resident still symptomatic, then culture guides you on best antibiotic to use.

Sending off a urine culture initially can help guide management when the result returns (usually within 2-3 business days). An initial dipstick test result cannot (1) confirm growth of a specific uropathogen (bacteria in urine that are likely causes of UTI rather than due to contamination) or (2) guide us on what antibiotic to use in someone who is still symptomatic two to three days later.

Antibiotic recommendations for treatment of UTI in aged-care facility residents (current September 2021)^{1,2}

Acute cystitis

Trimethoprim 300mg orally, daily for 3 days (7 days for men)

Nitrofurantoin 100mg orally, 6-hourly for 5 days (7 days for men)

If contraindication or factor that precludes use of above antibiotics, use

Cefalexin 500mg orally, 12-hourly for 5 days (7 days for men)

Contraindications include: allergy.

Factors that preclude use of trimethoprim: use of trimethoprim or documented trimethoprim-resistant *E.coli* in previous 3 months

Factors that preclude use of nitrofurantoin: eGFR 30-60mL/min - limit duration to 5-7 days. eGFR < 30mL/min: Do not use — may be ineffective due to low urinary concentrations. Increased risk of adverse effects.

If urine culture identifies resistant pathogen but resident improving, there is no need to modify therapy. If urine culture identifies resistant pathogen and resident not improving, change antibiotic to narrowest spectrum based on susceptibility.

Acute prostatitis

Trimethoprim 300mg orally, daily

Cefalexin 500mg orally, 6-hourly

Modify antibiotics according to urine culture results using most narrow spectrum antibiotic; treatment course for acute prostatitis is 2 weeks.

Acute pyelonephritis

For severe pyelonephritis, IV therapy is recommended over oral therapy.

For non-severe pyelonephritis

Amoxicillin + clavulanate 875 +125 mg orally, 12-hourly

If contraindication (e.g., allergy) or factor that precludes use of above antibiotic, use **Ciprofloxacin** 500mg orally, 12-hourly

Modify antibiotics according to urine culture results using most narrow spectrum antibiotic; treatment course for acute pyelonephritis is 10 to 14 days.

Other treatments

Cranberry tablets are not effective for UTI prophylaxis.

Methenamine Hippurate (Hiprex^o) does not have clear proven efficacy in preventing or suppressing UTIs. It is not effective in treating UTIs. It should not be used in people with severe renal impairment or dehydration who are put at higher risk of developing crystals in urine. Taking Ural^o at the same time as Hiprex^o counteracts actions of both agents (Hiprex^o lowers the pH of urine, Ural^o increases the pH of urine).

¹ Therapeutic Guidelines: Antibiotics March 2021 online edition [accessed June 2021]

² Australian Medicines Handbook [accessed June 2021]



The Aged Care Quality and Safety Commission acknowledges the traditional owners of country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to elders both past and present.

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