**Aged Care CLINICAL Pathway**  
**Urinary Tract Infection** (Cystitis)

**Practice points**

1. **TYPICAL CLINICAL PRESENTATION** (Day 1)  
   At least one criterion between 1-3 OR 4-7 must be present

2. NO indwelling catheter (1-3)  
   - Acute dysuria or acute pain, swelling or tenderness of the testes, epididymis or prostate.

2. **Fever** or **leucocytosis** & **one localised urinary tract sub-criteria**.

3. In the absence of **fever** or **leucocytosis**, **two or more localised urinary tract sub-criteria**.

**Indwelling catheter** (4-7)  
4. **Fever**, **rigors** or new onset hypotension, with no alternate site of infection.

5. Either acute change in mental status or acute functional decline, with no alternate diagnosis & **leucocytosis**.

6. New onset supra-pubic pain or costo-vertebral angle pain or tenderness.

7. Purulent discharge from around the catheter or acute pain, swelling or tenderness of the testes, epididymis or prostate.

**INITIAL MANAGEMENT** (Day 1)  

Fluid intake increased unless the resident is on fluid restriction.

Urinary dipstick test performed.  
Results: Blood____Leucocytes____Nitrite____PH____Protein____SG____

Treating Doctor informed.  
Provisional diagnosis (tick one only):  
Cystitis____Pyelonephritis____Prostatitis____Other____  
For cystitis only, proceed with clinical pathway.

**MEDICAL MANAGEMENT** (Day 1-2)  

A MSU/CSU should be collected BEFORE antibiotics are commenced.  
Specimens should be transported to Pathology within 30 minutes or if delayed, refrigerated asap.

Antibiotic(s) prescribed.  
Antibiotics prescription consistent with Therapeutic Guidelines Antibiotic (TGA).

**MICROBIOLOGICAL RESULT** (Day 2-4)  

Antibiotic therapy should be guided by susceptibility results.  
Early treatment failure can be due to a resistant organism.

UTI classified as a **recurrent infection**  
See TGA for specific recommendations regarding recurrent infection

**REASSESSMENT** (>Day 3)  

UTI resolved without antibiotic use  
UTI resolved and antibiotic(s) ceased. Date____________

UTI resolved yet prophylactic antibiotics commenced. Date____________

UTI NOT resolved - Typical clinical presentation still evident.

Comments

For further information contact your Infection Control Practitioner.

**ONCE COMPLETED,** this form is to be filed in resident’s medical record and a copy forwarded to your Infection Control Practitioner.
**DEFINITIONS**

- **Cystitis** Inflammation of the bladder
- **Pyelonephritis** Inflammation of the renal parenchyma, calyces & pelvis
- **Prostatitis** Inflammation of the prostate gland

**Asymptomatic bacteruria** The presence of bacteria in the urine of residents who do not have symptoms of a urinary tract infection. It occurs frequently in women, the elderly and in those with an indwelling catheter insitu.

**Clinical presentation**

**Fever**
- Single oral temperature >37.8°C
- Repeated oral temperatures >37.2°C or rectal temperatures >37.5°C
- Single temperature >1.1°C over baseline from any site (oral, tympanic, axillary)

**Leucocytosis**
Increase in the number of leucocytes or white blood cells in the blood, not urine.

As according to full blood examination (FBE) results
- Neutrophilia (>7.5 x 10^9 g/L). Neutrophils are a common type of leucocyte.
- Left shift (>6% bands or ≥1,500 bands/mm^3) Left shift = increase in no. of immature leukocytes in the peripheral blood.

**Localised urinary tract sub-criteria**
- For residents with **No indwelling catheter** only - Acute costo-vertebral angle pain or tenderness
- Supra-pubic pain
- Gross hematuria
- New or marked increase in incontinence
- New or marked increase in urgency
- New or marked increase in frequency

**Significant microbiological results**

**NO indwelling catheter**
- At least 10^5 cfu/mL or 10^8 cfu/L of no more than two species of microorganism in a voided urine sample
- At least 10^2 cfu/mL or 10^5 cfu/L of any number of organisms in a specimen collected by in and out catheter

**Indwelling catheter**
- Urinary catheter specimen culture with at least 10^5 cfu/mL or 10^8 cfu/L of any organism(s)

**Classification**

**Recurrent UTI:** May be as a result of a relapse or re-infection
- >3 culture confirmed UTIs in 1 year with the same or different organisms, or
- >2 culture confirmed UTIs in 6 months with the same or different organisms

**Relapse UTI**
- Repeat infection with the same infecting organism, usually occurring within 4 weeks of previous UTI

**Therapeutic Guidelines Antibiotic Recommendations:** **Acute cystitis**

For **empirical therapy** of acute uncomplicated cystitis in **non-pregnant women**, use:

1. trimethoprim*: 300 mg orally, daily for 3 days (first line therapy)
   or
   Nitrofurantoin**: 100 mg orally, 6-hourly for 5 days (second line therapy)

If trimethoprim and nitrofurantoin cannot be used, use cefalexin 500 mg orally, 12-hourly for 5 days

For **empirical therapy** of acute cystitis in **men** in whom prostatitis is unlikely use:

1. trimethoprim*: 300 mg orally, daily for 7 days (first line therapy),
   or
   2. Nitrofurantoin**: 100 mg orally, 6-hourly for 7 days (second line therapy)

If trimethoprim and nitrofurantoin cannot be used, use cefalexin 500 mg orally, 12-hourly for 7 days.

*If the patient has been treated with trimethoprim in the previous 3 months, or had a trimethoprim-resistant Escherichia coli isolate during this time, use an alternative antibiotic for empirical therapy.

** Do not use nitrofurantoin unless the patient is afebrile and prostatitis is considered unlikely, because therapeutic concentrations of nitrofurantoin are not reached in the prostate.

^ An alternative regimen is 100 mg 12-hourly for 5 days. This is from a study using Macrobid®, a formulation unavailable in Australia. The Macrobid product information states that urine concentrations from this product are similar to those obtained with formulations available in Australia, however no data are available to confirm this claim. |[](https://www.therapeutic-guidelines.org.au)


**Disclaimer**
This clinical pathway is an acceptable basis for management of residents but there may be sound reasons for modifying therapy in certain residents or specific facilities. In complicated situations especially, this clinical pathway is not a substitute for expert advice.