Recurrent Urinary Tract Infection in Adults

Urinary tract infection is common in women with around 20-30% of women experiencing at least one recurrence of urinary tract infection (UTI).

Do Not dipstick urines or send urine samples in patients with no symptoms of UTI (aside from asymptomatic screening in pregnancy) as treatment of asymptomatic bacteriuria worsens patient outcomes and leads to the risk of future resistant organisms in the event of a true urinary tract infection.

The term 'recurrent urinary tract infection' includes both lower and upper urinary tract infections.

Recurrent Urinary Tract Infection is defined as:

- At least 2 UTI's in 6 months
- At least 3 UTI's in 1 year

NICE Guidelines recommend referral to a specialist for the following groups with recurrent UTI:

- Children and young people under 16yrs https://www.nice.org.uk/guidance/ng224
- Men
- Pregnant Women
- People with recurrent Upper Urinary Tract Infection
- People with recurrent Lower UTI with no clear cause
- People with suspected cancer

Risk Factors for Recurrent Urinary Tract Infections in Women

Pre-Menopausal	Post-Menopausal
Sexually active	History of UTI before menopause
Use of spermicide	Urinary incontinence
New sexual partner	Atrophic vaginitis
History of childhood UTI	Increased post-void urine volume
History of UTI in mother	Cystocele
	Urinary catheterisation and deterioration of functional status in elderly institutionalised women

Consider examination / assessment for non-urological underlying causes for both Men and Women:

- Diabetes
- Constipation
- Sexually transmitted infections
- Structural abnormalities including stones and tumours
- Prostatitis
- Vaginal prolapse

Investigations such as ultrasound, cystoscopy are ***not routinely recommended*** for uncomplicated recurrent UTI unless a structural underlying cause is suspected.

Initial Management of Recurrent UTI

1. Send MSU for MC&S to confirm UTI
2. Treat empirically ideally based on previous sensitivities and adjust this as needed depending on sensitivities when available.
3. Consider treating with a longer course of antibiotics to ensure penetration of the bladder wall +/- prostate
   2 weeks for women
   4 weeks for men

<u>Longer term strategies for Management of Recurrent UTI</u>

Self-care Measures

- Ensure adequate fluid intake
- Advise women to wipe front to back after using the toilet
- Avoid tight fitting clothing and change underwear daily
- Non-pregnant women may wish to consider D-Mannose or Cranberry products although evidence to support benefit is weak.
- Methenamine Hippurate can be considered as an alternative to antibiotic prophylaxis
- Weight/diet, probiotics
- Pelvic floor exercises

Other Strategies for Preventing Recurrence in Specific Groups

- Voiding of urine immediately after sexual intercourse
- Initiating vaginal oestrogens for post-menopausal women
- Avoid washing with soaps, replace with emollient if skin sore

Antibiotic Prophylaxis

Consider antibiotic prophylaxis where self-care and other non-antibiotic measures have failure to sufficiently manage recurrent urinary tract infections.

All antibiotic prophylaxis should be reviewed 3 months after initiation. A urine diary should be kept pre, during and post prophylaxis trial to look for objective evidence of whether there has been a benefit.

- Single dose antibiotic prophylaxis (non-pregnant women only) can be effective for pre-menopausal women who identify sexual intercourse as a trigger for their recurrent urinary infections.
- Daily dose antibiotic prophylaxis should be stopped and reviewed after a 3-month trial if initiated but routine use of daily antibiotic prophylaxis is discouraged.
    - Use previous sensitivities to guide prophylaxis, but also patient response to therapy
    - Consider risk vs benefit including potential side effects
    - Nitrofurantoin should not be used for long term daily dose prophylaxis due to the risk of lung fibrosis and hepatitis.

<u>Diagnosing UTI in Special Groups</u>

Catheterised Adults or those over 65years

CHECK ALL FOR NEW signs/symptoms of UTI
- ☐ new onset dysuria alone[2B+,3D,19C]

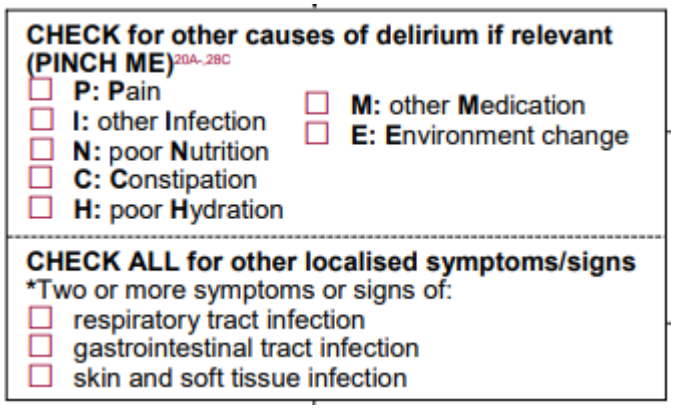
OR 2 or more:
- ☐ temperature 1.5°C above patient's normal twice in the last 12 hours[2B+,4B-]
- ☐ new frequency or urgency[2B+,3D,19C]
- ☐ new incontinence[2B+,3D]
- ☐ new or worsening delirium/debility[2B+,3D,20A-]
- ☐ new suprapubic pain[2B+,3D,19C]
- ☐ visible haematuria[2B+,3D,19C]

If fever and delirium/debility only: consider other causes before treating for UTI (*see box below)[20A-]

If urinary catheter: also check for catheter blockage AND consider catheter removal or replacement[20A-,24A+]

Consider UTI in those with two or more NEW signs or symptoms

Consider other causes of delirium and debility in these groups especially if other signs and symptoms of UTI are not present. See PINCH ME check list:



https://assets.publishing.service.gov.uk/media/5f89809ae90e072e18c0ccc2/UTI_diagnostic_flowchart_NICE-October_2020-FINAL.pdf

Catheter Associated Recurrent UTI

Assessing and treating catheter associated UTI's is complex, as symptoms can vary and typical symptoms which are a high predictor of UTI in non-catheterised patients such as dysuria and frequency are generally absent. This is further complicated by the fact that asymptomatic bacteria, is common in catheterised patients which can make diagnosis of a genuine UTI vs asymptomatic bacteria difficult.

Symptoms that may suggest a diagnosis of catheter associated UTI:

2 or more of:	
Fever or rigors	**New or worsening delirium / debility**
New frequency / urgency	**New flank or suprapubic pain**
Visible haematuria (exclude Hx trauma)	**New incontinence**

Key points:

- Promote TWOC where possible
- Do not routinely test for asymptomatic bacteriuria in catheterised patients unless there is specific need, eg prior to an invasive urological procedure.
- The presence or absence of malodourous or cloudy urine alone, cannot be used to differentiate between asymptomatic bacteriuria and infection.
- In patients with genuine recurrent catheter associated UTI consider whether alternatives to an indwelling urinary catheter are possible.
- Prophylactic antibiotics have not been shown to reduce recurrence of catheter associated UTI.
- Consider specialist input in the case of recurrent catheter associated UTI.

Referral

- Online community for patients:

https://www.bladderandbowel.org/

- The bowel and bladder care team at RDUH review complex cases of recurrent UTI

References

1) https://assets.publishing.service.gov.uk/media/5f89809ae90e072e18c0ccc2/UTI_diagnostic_flowchart_NICE-October_2020-FINAL.pdf
2) European Association of Urologists Guidelines on Urological Infections https://uroweb.org/guidelines/urological-infections/panel
3) NICE Guideline: Urinary tract Infection (Recurrent) Antimicrobial Prescribing https://www.nice.org.uk/guidance/ng112
4) NICE Guideline: Urinary Trace Infection (catheter associated) antimicrobial prescribing https://www.nice.org.uk/guidance/ng113