# Antibiotic Management of Recurrent Urinary Tract Infections in Adults

## Introduction

This document gives guidance on the management of adult patients with recurrent lower urinary tract infections (RUTI). RUTI is defined as 3 or more episodes of urinary tract infection in the last 12 months or 2 or more in the last 6 months[1]. Risks factors for RUTI in women are genetic and behavioral. In pre-menopausal women sexual activity and use of spermicide are associated and in post-menopausal vesical prolapse, incontinence, post voiding residual urine and significant pathology are associated with RUTI.

## General Principles

- **Prophylactic antibiotics should NOT be started by a non specialist** i.e. prophylactic antibiotics may only be initiated by an expert such as a urologist **after** appropriate investigation and intervention.
- A UTI diagnosed before or whilst the patient is awaiting a urological appointment should be treated appropriately.
- Except for in pregnancy, **asymptomatic bacteruria should not be treated with an antibiotic.**

## Antibiotic Choice and Duration of Prophylaxis

- **Prophylactic Antibiotics may only be started by an expert, e.g. urologist after appropriate investigation**
- First line choice is trimethoprim 100mg at night or Nitrofurantoin 50mg at night.
- Break through infections should be treated according to culture and sensitivity results, once the infection is resolved the original prophylaxis should be re-started
- Quinolones or cephalosporins should not be used for prophylaxis unless no alternative due to risk of *C difficile* infection and in addition for quinolones induction of resistance including MRSA.
- If RUTI occur whilst a patient is receiving prophylactic antibiotics then prophylaxis has proved ineffective and should be stopped. Recurrent infections should be treated as appropriate. The patient should be reviewed and re-assessed by a urologist
- Antibiotic Prophylaxis is generally only given for 6 months[3]
- Patients who have been receiving antibiotic prophylaxis long term, i.e. for more than 6 months and are no longer under the care of a urologist should have their antibiotics stopped. If RUTI occur then the patient should be managed as above i.e. UTI treated and referred to a urologist.

## Management of Recurrent Lower Urinary Tract infections in Women

- Any women (i.e. all age ranges) with a minimum of three RUTI in a year or a single episode of pylonephritis should be referred to a urologist for investigation. The expected investigation would be an ultra sound and a flexible cystoscopy dependent on clinical judgement.
- Causes of RUTI in older women may include significant pathology for example urethral stenosis or bladder/kidney stones. Women may benefit from urethral dilatation.
- Interventions for preventing RUTI:
    - In adult women cranberry products[2], although product strengths are not standardised high dose capsules may be more convenient and effective. Cranberries should be avoided in women taking warfarin.
    - In sexually active women post coital voiding.
- In post menopausal women topical oestrogen replacement (e.g. vagifem tablets)

**Antibiotic Management of Recurrent Urinary Tract Infections in Adults Continued…**

## Management of Recurrent Lower Urinary Tract infections in Men

- UTI in men are by definition "complicated" and should be considered for early referral to a Urologist.

## Management of Recurrent UTI in Patients with Long Term Urinary Catheters

- Patients with recurrent bacteraemias of urinary tract origin, frequent catheter blockages or recurrent symptomatic UTI should be referred to a urologist for investigation and intervention as appropriate.
- Common causes of recurrent catheter problems include bladder stones
- Symptomatic UTI diagnosed whilst the patient is awaiting a urological appointment should be treated with an appropriate antibiotic and catheter change.

## Management of Recurrent UTI in Patients with Nephrostomies, Ureteric Stents, Ileal conduits, and Supra-pubic Catheters

- There is no evidence to support the use of prophylactic antibiotics
- If an infection occurs then the stent, nephrostomy or supra-pubic catheter should be changed and the infection treated with an appropriate antibiotic.
- Patients with urinary diversion (ileal conduits) are prone to urinary tract infection and if this cannot be corrected surgically then prophylactic antibiotics may be started by a specialist i.e. a urologist.

## Management of Recurrent UTI in Patients with Structural Abnormalities or Functional Abnormalities or Underlying Disease (complicated UTIs)

- There is no evidence to support the use of prophylactic antibiotics
- If a UTI occurs it should be treated for 7 to 14 days and a urine sample sent for culture, hospitalisation and supportive care may be required
- Patients with RUTI and underlying complications should be referred to a urologist for assessment and intervention

## References

1. European Association of Urology: Guidelines on urological infections 2009
2. Jepson RG, Mihaljeviz L, Craig J. Cranberries for presenting urinary tract infection (Cochrane Review). The Cochrane Library, Issue 4, 2002. Chichester, UK: John Wiley & Sons Ltd.
3. Albert X, Huertas I, Pereiro I et al. Antibiotics for preventing recurrent urinary tract infections in non- pregnant women (Cochrane Review). The Cochrane Library, Issue 2, 2009. Chichester, UK: John Wiley & Sons Ltd.