CHS guideline for relapsing or recurrent UTI in adults v1.3

Relapsing UTIs (symptoms recur within two weeks of stopping antibiotics):

These represent treatment failures - typically the same organism is isolated again from urine samples. A standard antibiotic course for uncomplicated UTI is particularly likely to be followed by relapse in the following circumstances:

- pyelonephritis
- structural abnormality (renal stones, obstruction)
- chronic bacterial prostatitis

Recommended approach:

- repeat urine culture
- in catheterised patients a catheter change half-way through a course of antibiotics for UTI reduces the risk of relapse
- consult a medical microbiologist: a different antibiotic and/or a longer course might be more appropriate
- chronic prostatitis: the risk of relapse is lower if antibiotics with good prostatic penetration are given for 4-6 weeks, eg co-trimoxazole or ciprofloxacin: the choice between these agents depends on sensitivity results and concerns that ciprofloxacin carries a higher risk of *Clostridium difficile* infection

Recurrent UTIs due to reinfection (symptoms recur >2 weeks after previous antibiotics) with a frequency of at least three episodes per year:

Is the patient genuinely symptomatic? Recurrent or persistent bacteriuria without symptoms does not require antibiotic treatment, especially in the elderly and catheterised patients.

There is limited evidence on the efficacy of antibiotic prophylaxis against UTI.
The arguments against long-term prophylaxis for UTIs are:

- any beneficial effects tend to be short-lived - published trials limited to 6-12 months
- side effects can occur: all antibiotics can cause intolerance, allergy or candidiasis - nausea is frequent with nitrofurantoin - trimethoprim can cause blood cell dyscrasias - co-amoxiclav often causes diarrhoea
- break-through UTIs can occur and become progressively harder to treat due to multi-resistance: cefalexin and co-amoxiclav are the antibiotics most likely to select multi-resistant coliforms and are best used for treatment rather than prophylaxis

Management of patients with frequent recurrent UTIs - we recommend these strategies whenever possible in preference to long-term prophylaxis:

- consider the **investigations** listed in Table 1 and address any identified causes
- consider **urology referral** if certain 'red flag' conditions are present (see Table 2)
- consider **gynaecology referral** for women with uterine prolapse
- **self-start UTI treatment (community) or treat each UTI as it occurs (in-patients):** in patients with good cognitive function prescribers are encouraged to issue pre-emptive prescriptions so patients can self-initiate treatment when symptoms begin
- **women with UTIs after sexual intercourse**: single-dose antibiotic prophylaxis is an option combined with advice to recommend 'early post-coital voiding' - spermicidal creams or spermicidal condoms should be avoided

- **post-menopausal women: intra-vaginal oestrogen pessaries (or creams)** can reduce the frequency of UTIs - this approach is particularly effective in women with atrophic vaginitis and will often be initiated after referral to a urologist or gynaecologist
- a trial in older women has shown that **cranberry extract** 500mg capsule once daily is as effective as trimethoprim in preventing recurrent UTI - cranberry juice 250ml 3 times daily is an alternative. **Cranberry juice should be avoided in patients on warfarin as it can potentiate the anticoagulant effect.**
- Note that methenamine hippurate, which is metabolised and excreted into the urine as formaldehyde, used in the past for urinary alkalinisation in the hope that it would reduce UTIs, is no longer available via the NHS because of its poor evidence base.

Long term antibiotic prophylaxis:

For outpatients, long-term antibiotic prophylaxis can be prescribed if recommended by a senior doctor or by a specialist, particularly in situations where none of the alternative strategies appear to be suitable: nitrofurantoin 50mg nocte or trimethoprim 100mg nocte would be the best choice, cefalexin and co-amoxiclav should be avoided whenever possible as they tend to select multi-resistant isolates.

Adult patients on long-term antibiotics for UTI prophylaxis should normally have these antibiotics suspended when admitted to hospital.

Table 1. Investigations that should be considered in patients with frequent recurrent UTIs (at least 3 UTI episodes per year)
• diabetes screening: if family history or obese • ultrasound of the urinary tract with post-micturition residual • KUB x-ray esp. in patients with haematuria, relapsing infections caused by Proteus or if stones suspected

Table 2. Refer to urology clinic if these 'red flag' conditions are present in patients with frequent recurrent UTIs (at least 3 UTI episodes per year with symptoms - asymptomatic bacteriuria does not need referral)
• neurological disease (esp spina bifida, spinal cord injury) • long-term catheters • other significant urological problems (eg renal stones) • pneumaturia (air in urine) • persistent unexplained haematuria • pyelonephritis with obstruction • post-micturition residual >150ml • repeat culture of urea-splitting organisms eg Proteus

References:

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