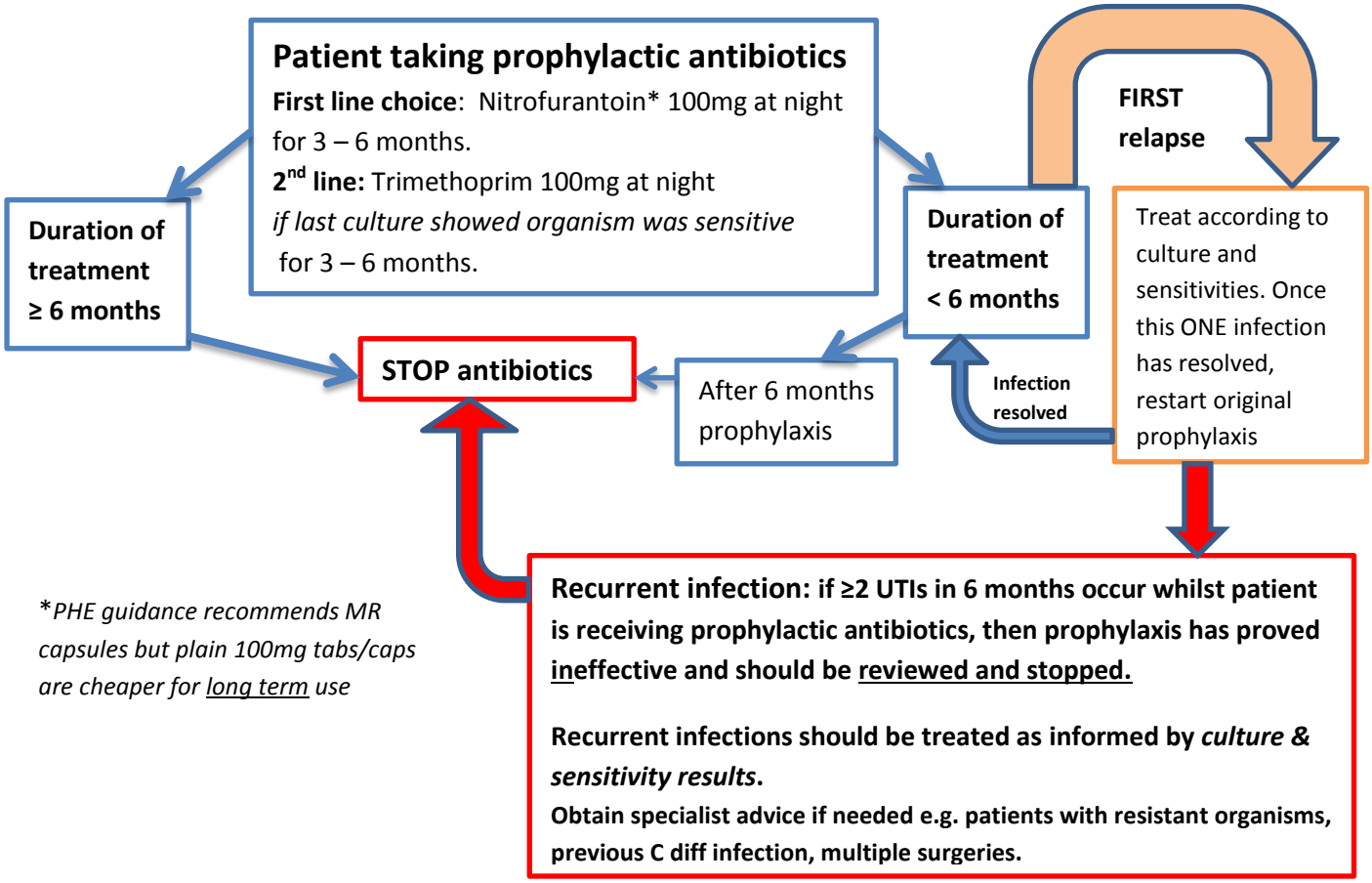
Antibiotic Management of Lower Recurrent UTIs in non-pregnant females: Choice and duration of prophylaxis

Key points

- Recurrent UTI is defined as ≥2 UTIs in 6 months or ≥3 UTIs in 12 months.
- Antibiotic prophylaxis should not be initiated until eradication of active infection is confirmed by a negative culture *(at least 1-2 weeks after treatment has been discontinued).* It is important to distinguish relapse from re-infection. Relapse usually occurs within 2 weeks of completing therapy and is caused by the same original organism and is due to persistence within the urinary tract. Re-infection occurs after two weeks after complete resolution of the initial infection and is typically a different organism.
- Patients who have received antibiotic prophylaxis long-term i.e. **for more than 6 months** should have their antibiotics reviewed and trial stop as appropriate.
- **If recurrent UTIs (RUTI) i.e. ≥ 2 UTIs in 6 months** occur whilst patient is receiving prophylactic antibiotics, then prophylaxis has proved **in**effective and should be reviewed and stopped.



**PHE guidance recommends MR capsules but plain 100mg tabs/caps are cheaper for long term use*

Conservative management required *before* commencing prophylactic antibiotics:

- Encourage better hydration (1.6L/day recommended) to ensure more frequent urination.
- Encourage urge-initiated voiding and post-coital voiding.
- Advise sexually active women that diaphragm and spermicide use are risk factors for cystitis and discuss alternative contraception.
- Consider advising the patient to obtain and try cranberry products to reduce recurrence. High strength cranberry extract capsules may be more effective & acceptable than juice. Cranberries should be avoided in patients taking warfarin, and if there is a history of kidney stones.
- Consider offering a prescription for a 'stand-by' antibiotic to be taken at the first symptoms of UTI.

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- For recurrent cystitis associated with sexual intercourse: offer nitrofurantoin MR 100mg OR trimethoprim 100mg to be taken within 2 hours of intercourse (off-label use).
- For post-menopausal women with risk factors such as atrophic vaginitis consider prescribing intravaginal or oral oestrogens.
- For post-menopausal women with no obvious risk factors, consider referral to urology for further investigations, particularly if recurrent UTI is a recent problem.

Further information on prophylactic drugs

Counselling prior to initiation of prophylaxis:

- The patient should be counselled at an early stage that antibiotic prophylaxis is not usually a life - long treatment.
- Antibiotics are given in this way to allow a period of bladder healing which makes UTI much less likely.
- There is no evidence they have any additional benefit beyond 6-12 months treatment, therefore the treatment should be discontinued ideally after 6 months.

The broad spectrum antibiotics co-amoxiclav, ciprofloxacin and cephalosporins should not be used for prophylaxis unless no there is no alternative due to risk of C. difficile, and in addition for quinolones: induction of resistance including MRSA.

REMEMBER:

- Long-term antibiotic prophylaxis is strongly associated with the development of antimicrobial resistance.
- **Nitrofurantoin** is contraindicated for long term use if eGFR less than 45 mL/ minute/1.73 m^2.
- **Nitrofurantoin** can cause both acute and chronic pulmonary toxicity, and hepatic complications.
    - Chronic pulmonary toxicity has an insidious onset over months or years and symptoms comprise dyspnoea, dry cough and fatigue. Severe, chronic pulmonary toxicity due to nitrofurantoin is preventable by limiting long-term treatment to six months (unless there are clear benefits of continued treatment) and being vigilant for early warning signs. **This includes advising the patient to report any shortness of breath and cough.** Older age, and renal impairment also appear to increase the risk. If pulmonary toxicity is not detected and allowed to progress, interstitial lung disease and pulmonary fibrosis can develop, which can be fatal. Nitrofurantoin should be stopped at the first signs of toxicity.
    - Patients on long-term nitrofurantoin can also develop hepatic complications: it is advisable to check LFTs at least every six months.
- **Trimethoprim** can cause blood disorders and patients should be told how to recognise the signs and advised to seek immediate medical attention if symptoms such as fever, sore throat, rash, mouth ulcers, purpura, bruising or bleeding develop.