



TARGET

Keep Antibiotics Working

# Managing Recurrent UTI and Reviewing Long-Term and Repeat Antibiotic Therapy

TARGET Antibiotics Webinar

March 2025

# Introductions – TARGET and RCGP



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Catherine Hayes



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Julie Brooke



Liam Clayton



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# Introductions – Speakers and Panellists



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Speaker/Panellist



**Naomi Fleming**  
Regional Antimicrobial  
Stewardship Lead  
East of England  
Region, NHS England

Panellist



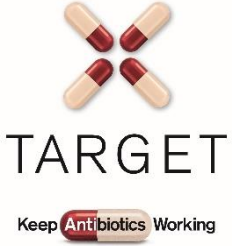
**Avril Tucker**  
Antimicrobial  
Pharmacist,  
NHS Wales

Panellist



**Dr Philippa Moore**  
Consultant Medical  
Microbiologist,  
Gloucestershire Hosp.  
NHS Foundation Trust

Panellist



# Aims

1. Explore the dynamics of recurrent UTI through the lens of patient and healthcare providers.
2. Highlight recent changes to national guidance for recurrent UTI management.
3. Discuss the process for reviewing patients on long-term antibiotics for the prevention and treatment of recurrent UTI using the TARGET 'how to' guide



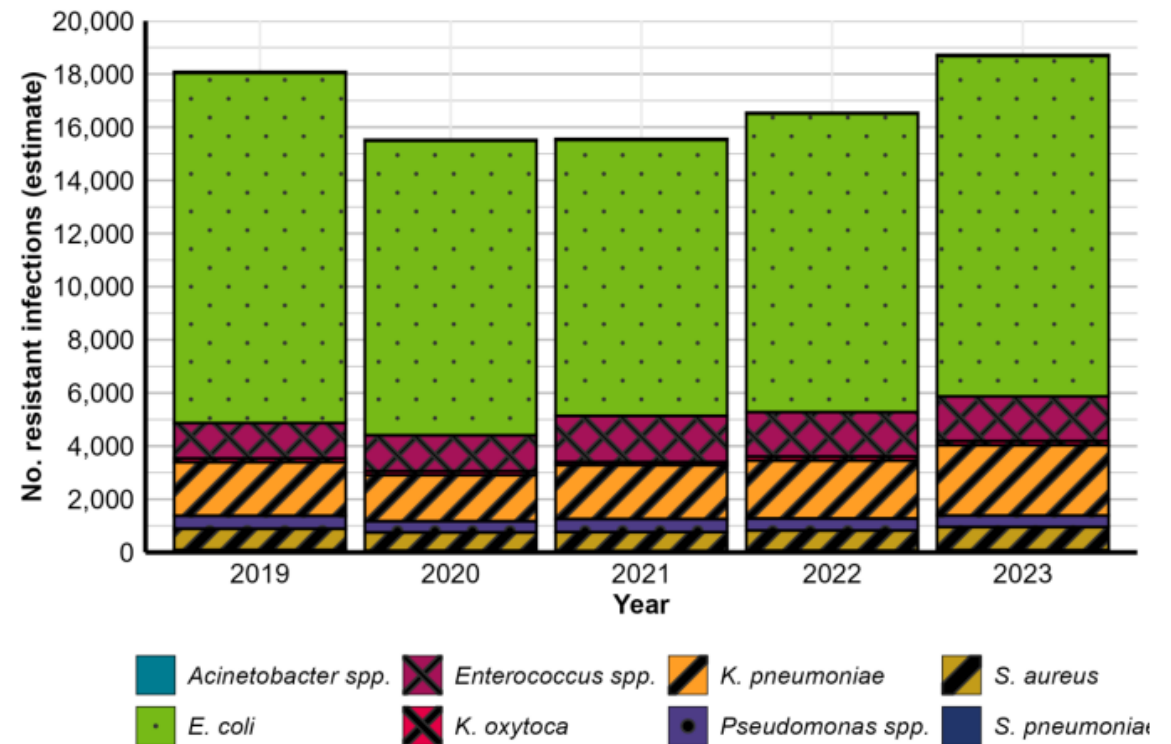
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# Linking UTIs to health outcomes

- Rates of antibiotic-resistant *E. coli* blood stream infections have been rising over the last two years.<sup>1</sup>
- **51%** of *E. coli* blood stream infections are linked to the urogenital tract.<sup>2</sup>
- After RTIs, UTIs are the most prescribed for infection in primary care.<sup>3</sup>
- Longer duration and multiple courses of antibiotics for UTI is associated with greater odds of resistance. This can last for a year after treatment.<sup>4</sup>

Figure 2.2. Annual estimated total of the burden of antibiotic-resistant bacteraemia episodes, England 2019 to 2023



# How are we defining Recurrent UTI?

2 or more UTIs in the last 6 months

or

3 or more UTIs in the last 12 months<sup>1</sup>

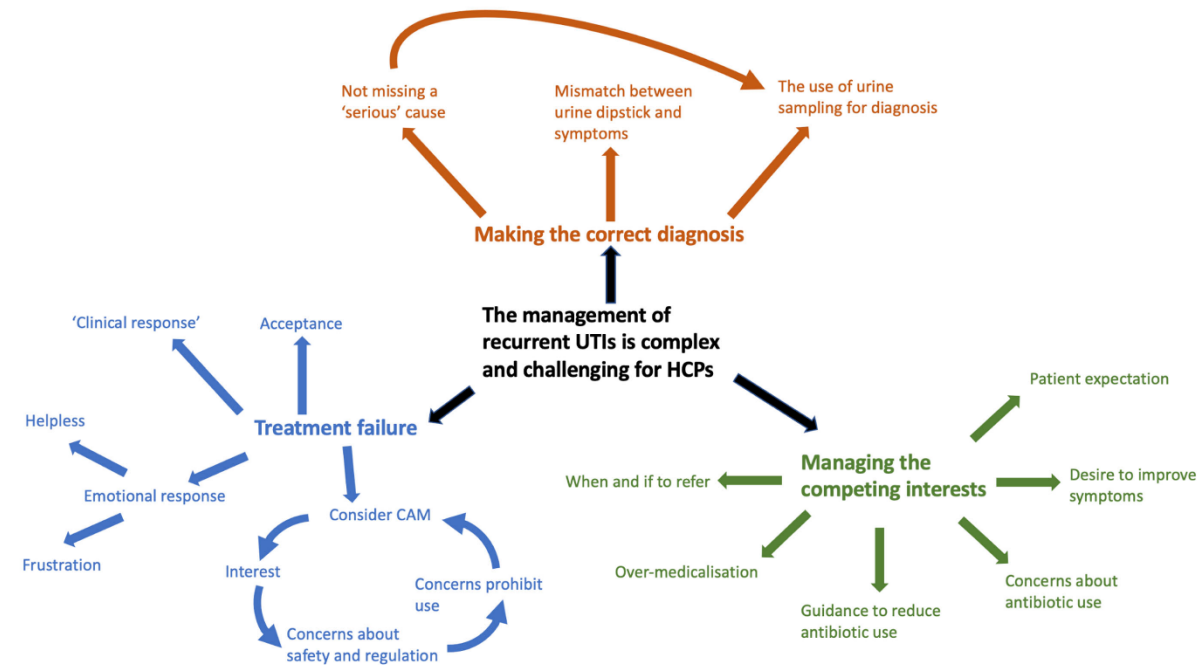
**Urinary tract infection  
(recurrent): antimicrobial  
prescribing**

NICE guideline  
Published: 31 October 2018  
Last updated: 12 December 2024

[www.nice.org.uk/guidance/ng112](http://www.nice.org.uk/guidance/ng112)

# Patients' and Healthcare Professionals' Experiences and Views of Recurrent UTI in Women

- Recurrent UTI is a 'chronic' condition with a significant impact on the lives of those affected
- Patients have serious concerns about prophylactic antibiotic use and feel that non-antibiotic options need further research and discussion
- HCPs find the management of rUTIs complex and challenging

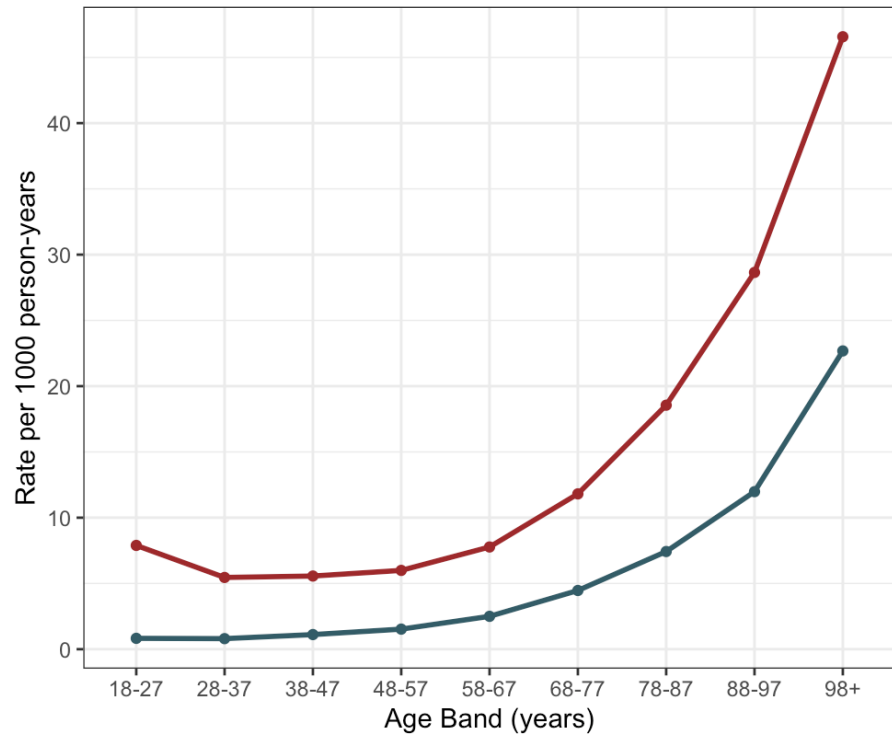




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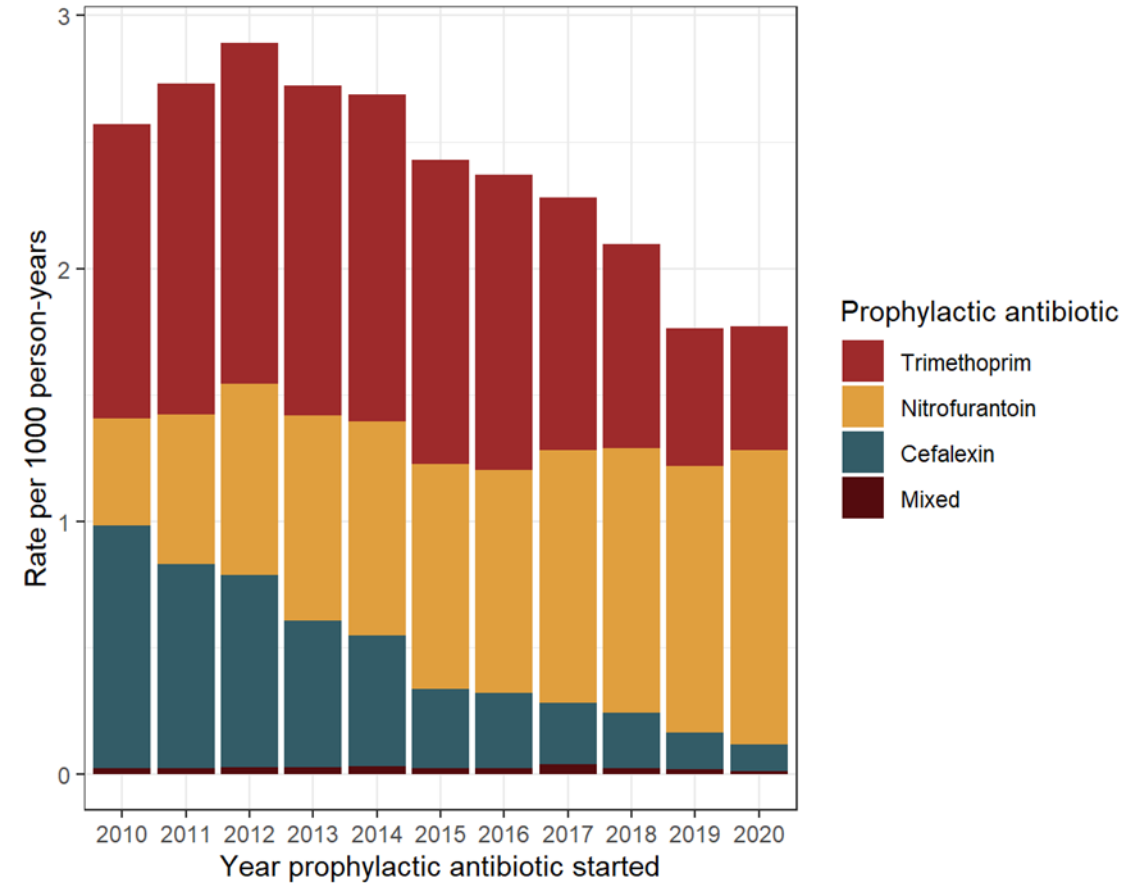
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# Recurrent UTI and prophylactic antibiotic use in women: a cross-sectional study in primary care



Legend

- Women with Recurrent UTIs
- Prophylactic antibiotic use





# TARGET 'How to...?' Booklet for Recurrent UTI



- + Worked examples
- + Quick-reference checklists



Time constraints of consultations in practice makes it difficult to provide a targeted review



Need for structured approach to medication review with relevant treatment guidelines, patient facing material, self-care and digital apps



Role play of 'typical consultation' with production of the resource



Developed by expert stakeholders and reviewed by representatives across the country

Consultation - TARGET How to...?  
Resources for recurrent UTI



# Access the 'How to...?' guides via the TARGET Toolkit



Sign up - free webinars for 2024/25



Summary of antimicrobial guidance



Discussing antibiotics with patients



Urinary tract infection resource suite



Respiratory tract infection resource suite



Leaflets to discuss with patients



Antibiotic stewardship tools, audits and other resources



Antibiotic and diagnostic quick reference tools



Getting the most from the TARGET toolkit

## Chronic obstructive pulmonary disease (COPD)




- How to...? resource for COPD V1.1 (PDF file, 402 KB)
- How to...? worked examples for COPD V1 (PPT)

## Acne Vulgaris



- How to...? resource for Acne Vulgaris V1.1 (PDF file, 362 KB)
- How to...? worked examples for Acne Vulgaris V1 (PPT)



**The 'How to...?' Series**

How to Manage and Review Adults on Long-term and Repeated Antibiotics for the Prevention and Treatment of Chronic Obstructive Pulmonary Disease Exacerbations



**The 'How to...?' Series**

How to Manage and Review Adults and Children Over 12 Years of Age on Long-term and Repeated Antibiotics for the Prevention and Treatment of Acne Vulgaris

<https://elearning.rcgp.org.uk/mod/book/view.php?id=12649>



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**NICE** National Institute for  
Health and Care Excellence  
 Public Health  
England



## Urinary tract infection (recurrent): antimicrobial prescribing

NICE guideline  
Published: 31 October 2018  
Last updated: 12 December 2024

[www.nice.org.uk/guidance/ng112](https://www.nice.org.uk/guidance/ng112)

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# Clinical Scenarios

Guideline based management



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# Scenario – Mei Ling

## Consider the following details:

- A 64-year-old female, postmenopausal with recurrent UTI
- Has tried personal hygiene measures and self-care treatments including OTC cranberry capsules

## On examination/review:

- Abdominal examination normal
- Has experienced 3 UTIs in the last 12 months
- Feels cranberry capsules are not helpful



# Patient centred review



	Item to consider	Patient response
<b>Condition and consultation history</b>	Establish history of patients' condition	<ul style="list-style-type: none"> <li>Experienced recurrent UTIs since going through the menopause (3 in the last 12 months)</li> <li>Vaginal dryness in the last 3 months</li> <li>No haematuria</li> </ul>
	Patient baseline habits	<ul style="list-style-type: none"> <li>Practicing personal hygiene measures</li> <li>Eats well and sleeps well</li> </ul>
	Are they under a specialist consultant	<ul style="list-style-type: none"> <li>Not currently under a specialist consultant</li> </ul>
<b>Treatment History</b>	Treatment/Prescription history	<ul style="list-style-type: none"> <li>OTC cranberry capsules</li> <li>No other relevant medications</li> <li>Acute: 3 courses of nitrofurantoin within last 12 months (MSU completed each time and confirm susceptibility)</li> </ul>
	Side effects to treatment	<ul style="list-style-type: none"> <li>None reported</li> </ul>
	Adherence to treatment	<ul style="list-style-type: none"> <li>Compliant with GP advice</li> </ul>
	Patient's perception of their condition	<ul style="list-style-type: none"> <li>Feels current prevention strategies have had minimal effect</li> </ul>
<b>Patient Impact and preference</b>	Explore impact UTIs have had on self-esteem or mental health	<ul style="list-style-type: none"> <li>Patient feels concerned with risk of UTIs coming back, creating anxiety and reluctance to plan holidays</li> </ul>
	What are the patient's preferences and expectations from treatment?	<ul style="list-style-type: none"> <li>Aim is to prevent the UTI infections from occurring</li> <li>Would be happy to trial oral or topical treatment</li> <li>Would like treatment for vaginal dryness</li> </ul>

# Management



## Prescribing

- Discuss options with patient
- Consider prescribing **vaginal oestrogen**
  - Explain possible benefits for related symptoms such as vaginal dryness
  - Vaginal oestrogen use for recurrent UTI prevention is off-licence but is recommended by NICE<sup>1</sup>



## Prevention/Advice

- Continue to practice prevention measures and maintain adequate hydration
- Explain that vaginal oestrogen is absorbed locally – a minimal amount is absorbed into the bloodstream, but this is unlikely to have a significant effect throughout the body
- Signpost patient to NHS menopause help and support groups<sup>2</sup>
- Provide TARGET Treating Your UTI patient information leaflet



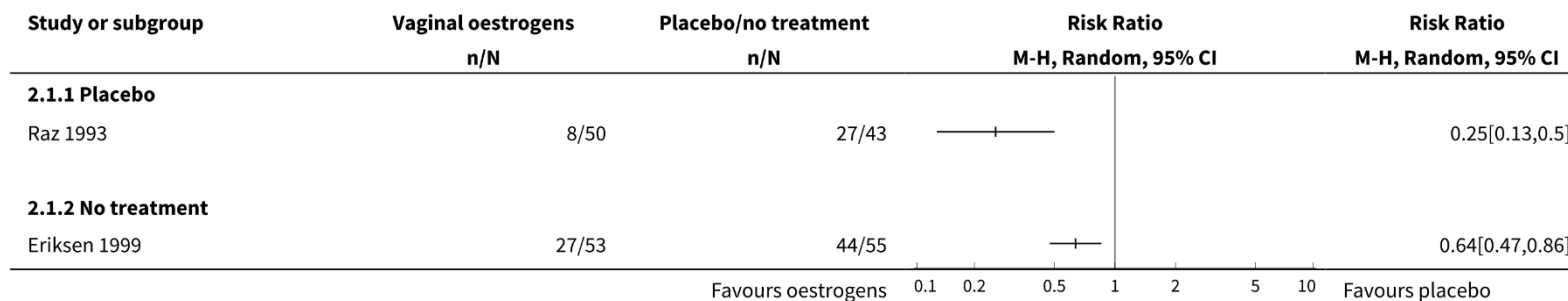
# Evidence for Vaginal Oestrogens

## Oestrogens for preventing recurrent urinary tract infection in postmenopausal women

Vaginal oestrogen cream significantly reduced the risk of recurrent UTI in postmenopausal women compared with placebo

- Oestrogen creams were significantly more effective than antibiotics in reducing the risk of recurrent UTI over a 3-month period
- Oestrogen administered via a pessary was not as effective as antibiotics over a 9-month period

**Analysis 2.1. Comparison 2 Vaginal oestrogens versus placebo/ no treatment, Outcome 1 UTI at the end of the treatment period.**

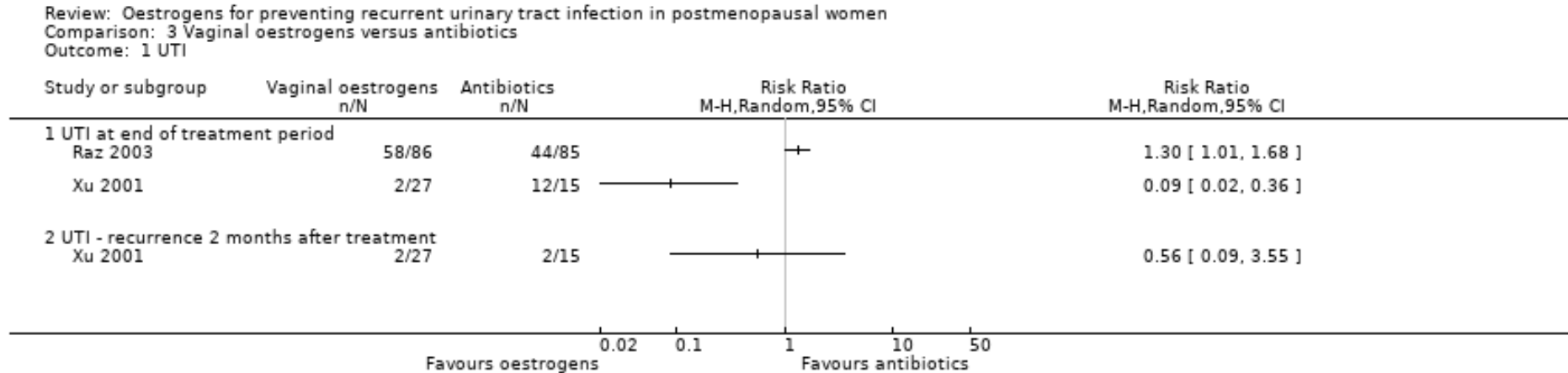


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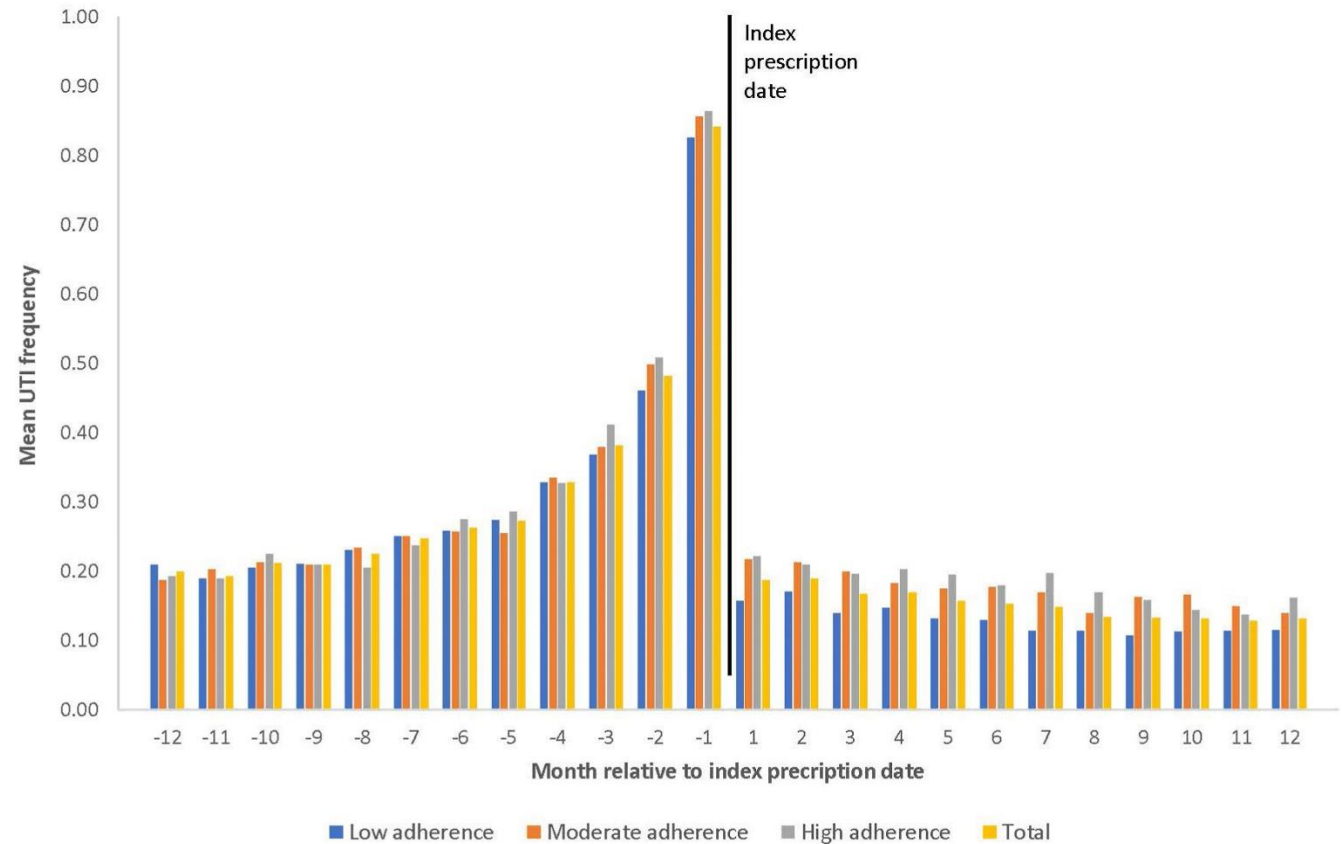




# Evidence for Vaginal Oestrogens

## Efficacy of vaginal oestrogen for recurrent urinary tract infection prevention in hypoestrogenic women

- Women with recurrent UTIs who were prescribed vaginal oestrogen experienced a 52% reduction in UTI frequency (from 3.9 to 1.8) in the following year



Mean UTI frequency in 12 months before and after vaginal estrogen prescription

# TARGET Treating Your UTI Leaflets

## UTI Leaflet – Women Under 65 Years

### Treating your Urinary tract infection (UTI)

For women under 65 years with suspected lower urinary tract infections (UTIs) or lower recurrent UTIs (cystitis or urethritis)



#### Possible urinary signs and symptoms

- Key signs and symptoms
- **Dysuria:** Burning pain when peeing
  - **New nocturia:** Needing to pee in the night
  - **Cloudy urine:** Pee looks cloudy
- Other signs and symptoms to consider
- **Frequency:** Peeing more often than usual
  - **Urgency:** Feeling the need to pee immediately
  - **Haematuria:** Blood in your urine
  - **Suprapubic pain:** Pain in your lower tummy

#### Other things to consider

##### Recent sex

- Inflammation due to sex can feel similar to the symptoms of a UTI.
- Some sexually transmitted infections (STIs) can have symptoms similar to those of a UTI.

##### Changes during menopause

- Some changes during the menopause can have symptoms similar to those of a UTI.

#### Self-care to help yourself get better more quickly

- Drink enough fluids to stop you feeling thirsty. Aim to drink 6 to 8 glasses a day.
- Avoid too much alcohol, fizzy drink or caffeine as these can irritate your bladder.
- Take paracetamol or ibuprofen as advised for pain relief, if you have had no previous side effects.
- You could try taking cranberry capsules or cystitis sachets. Some women find these effective. The evidence to support their use is inconclusive.
- Consider the risk factors in the 'Options to help prevent a UTI' section to reduce future UTIs.

#### The outcome

If you are not pregnant

- If you have none, or only one of, dysuria, new nocturia or cloudy urine, or you have a vaginal discharge (on its own or with any of the above):
  - a UTI is much less likely
  - you may need a urine test to check for a UTI
  - antibiotics are less likely to help, and
  - the infection will usually last 5 to 7 days.
- If you have 2 or more of dysuria, new nocturia, cloudy urine or bacteria in your urine and no vaginal discharge:
  - a UTI is more likely and antibiotics should help
  - you should start to improve within 48 hours, and
  - symptoms usually last 3 days.

If you are pregnant

- Always ask for a urine culture test if a UTI is suspected.

#### Options to help prevent a UTI

- It may help you to consider the following risk factors.
- Stop bacteria spreading from your bowel into your bladder. Wipe from front (vagina) to back (bottom) after using the toilet.
- Avoid waiting to go to the toilet. Pee as soon as you need to.
- Go for a pee after having sex to flush out any bacteria that may be near the opening to the urethra.
- Wash the external vaginal area with water before and after sex to wash away any bacteria that may be near the opening to the urethra.
- Drink enough fluids to make sure you pee regularly throughout the day, especially during hot weather.

If you have repeated UTIs, discuss this with a healthcare professional. The following may help.

- There is good evidence to show that **vaginal hormonal treatment** may help after the menopause.
- You could try taking **cranberry products, D-mannose or probiotics**. Some women find these effective. The evidence to support their use is inconclusive.

#### Recommended care

- **Self-care and pain relief**
  - Symptoms may get better on their own.
- **Delayed or backup prescription with self-care and pain relief**
  - Start antibiotics if your symptoms:
    - get worse, or do not get a little better with self-care within 48 hours.
- **Immediate treatment with antibiotics, plus self-care.**
- **If your symptoms are mild, start delayed or backup treatment with antibiotics, plus self-care.**
- **Immediate treatment with antibiotics, plus self-care.**

#### Types of urinary tract infection

UTIs are caused by bacteria getting into your urethra or bladder, usually from your gut. Infections may occur in different parts of the urinary tract.

##### Kidneys (make urine)

Infection in the upper urinary tract – pyelonephritis (pie-lo-nef-right-is)

##### Bladder (stores urine)

Infection in the lower urinary tract – cystitis (sis-tight-is)

##### Urethra (takes urine out of the body)

Infection or inflammation in the urethra – urethritis (your-ith-right-is)



#### When should you get help?

Contact your GP practice or NHS 111. The following symptoms are possible signs of serious infection and should be assessed urgently. Phone for advice if you are not sure how urgent the symptoms are.

- You have shivering, chills and muscle pain.
- You feel confused, or are very drowsy.
- You have not been for a pee all day.
- You are vomiting.
- You see blood in your urine.
- Your temperature is above 38°C or less than 36°C.
- You have kidney pain in your back just under the ribs.
- Your symptoms get worse.
- Your symptoms are not starting to improve within 48 hours of taking antibiotics.

## UTI Leaflet – All Adults

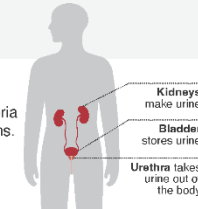


### Urinary tract infections (UTIs)

A leaflet for adults

#### What is a UTI?

A urinary tract infection (UTI) occurs when bacteria in any part of the urinary system cause symptoms. A diagnosis is made mainly on your symptoms. Urine dipstick tests are only used for women under 65 who don't have a catheter.



#### What can I do to help prevent a UTI?

##### Are you drinking enough?

Drink enough fluids. Regular drinks, like water or squash will boost hydration and help your body stay healthy. The NHS England Eatwell Guide recommends that people should aim to drink 6 to 8 glasses of fluid a day. Your bladder can be irritated by too much alcohol, fizzy drink or caffeine.

##### Stop bacteria spreading from your bowel into your bladder

- Keep your genital area clean and dry. Avoid scented soaps. Change incontinence pads often, and clean your genital area if soiled.
- Pee after having sex.

- Wash the external vaginal area with water before and after sex.
- Wipe your genitals from front to back after using the toilet.

##### Repeated UTIs

- If you are female and past the menopause, vaginal hormone treatments may help.
- If you are male, ask for support from your healthcare professional.
- You could try taking cranberry dietary supplements, D-mannose (for younger women) or probiotics. Some women find these effective. The evidence to support their use is inconclusive.



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# Review

**Review treatment within the next 12 months, or earlier if agreed with the patient<sup>1</sup>**

During the review...

- assess if patient has experienced any UTIs and if there have been any side effects to treatment
- if relevant, discuss other symptoms of the menopause that may have improved, such as vaginal dryness, referring to NICE guidelines<sup>2</sup>
- if no further (or few mild) UTIs experienced, discuss continued vaginal oestrogen use weighing up benefits and risk. Continue with prevention behaviours (hydration, post coital voiding, personal hygiene etc...)
- if UTIs experienced, consider change in treatment or addition of another agent



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# Scenario – Robert Smith

## Consider the following details:

- 45-year-old male, labourer by profession

## On examination/review:

- Now experiencing 2<sup>nd</sup> UTI episode within 6-month period





# Patient centred review



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	Item to consider	Patient response
<b>Condition and consultation history</b>	Establish history of patient's condition	<ul style="list-style-type: none"> <li>Experiencing 2<sup>nd</sup> UTI within 6-month period</li> <li>Experiencing more frequent urination at night</li> </ul>
	Patient baseline habits	<ul style="list-style-type: none"> <li>Smoker: 10/day for the past 5 years</li> <li>Alcohol: 15-20 units over the weekends</li> <li>Reports drinking very little water throughout the day (difficult due to job role)</li> <li>Not sleeping well due to job stress and UTI symptoms</li> </ul>
	Are they under a specialist consultant?	<ul style="list-style-type: none"> <li>Not currently under a specialist</li> </ul>
<b>Treatment History</b>	Treatment/Prescription history	<ul style="list-style-type: none"> <li>Nil OTC/other relevant medications</li> <li>Acute: Nitrofurantoin course 3 months ago</li> </ul>
	Side effects to treatment	<ul style="list-style-type: none"> <li>None reported</li> </ul>
	Adherence to treatment	<ul style="list-style-type: none"> <li>Completed full course of antibiotics 3 months ago</li> </ul>
	Patient's perception of their condition	<ul style="list-style-type: none"> <li>Concerned about new UTI episode causing time off work</li> </ul>
<b>Patient Impact and preference</b>	Explore impact UTIs have had on self-esteem or mental health	<ul style="list-style-type: none"> <li>Patient is suffering with sleeping issues and anxiety since experiencing 2<sup>nd</sup> UTI</li> </ul>
	What are the patient's preferences and expectations from treatment?	<ul style="list-style-type: none"> <li>Would like another course of antibiotics</li> <li>Patient cannot afford to have time off work for sickness</li> </ul>

# Management



## Prescribing

- Prescribe for acute UTI as per NICE guidance and **refer the patient to specialist**
  - Ask patient for MSU sample for culture and susceptibility testing
  - Prescribe an empirical course of antibiotics for acute UTI whilst patient awaits review by specialist, review with susceptibility result
  - Further preventative management options can be guided by a specialist



## Prevention/Advice

- Avoid too much alcohol – advise on cutting down
- Drink enough fluids to stop the patient feeling thirsty (6-8 glasses per day)
- Take paracetamol or ibuprofen at regular intervals for pain relief
- Discuss and explore anxiety and impacts of UTIs on mental health

# Recurrent UTI – urine sample

- Patients with rUTIs should have a mid-stream urine (MSU) sample sent for culture when symptomatic.<sup>1,2</sup>
  - Empirical antibiotic therapy can be started whilst awaiting results.
  - Patients should be counselled on how to provide a specimen to minimise the chance of contamination.
  - Urine culture should be repeated with each symptomatic episode to provide susceptibility results and guide treatment.
  - Do not send a sample after treatment for test of cure. Urine cultures sent in the absence of symptoms are unlikely to be helpful, may detect asymptomatic bacteriuria and lead to inappropriate antibiotic use.

# Referral to specialist care

Referral and seeking specialist advice for recurrent UTI



- 1.1.4 Refer or seek specialist advice on further investigation and management for:
- men, and trans women and non-binary people with a male genitourinary system, aged 16 and over
  - people with recurrent upper UTI
  - people with recurrent lower UTI when the underlying cause is unknown
  - pregnant women, and pregnant trans men and non-binary people
  - children and young people aged under 16 years, in line with [NICE's guideline on urinary tract infection in under 16s](#)
  - people with suspected cancer, in line with [NICE's guideline on suspected cancer: recognition and referral](#)
  - anyone who has had gender reassignment surgery that involved structural alteration of the urethra. **[2018, amended 2024]**



# Scenario – Angela Carter

## Consider the following details:

- 30-year-old female, non pregnant with recurrent UTI
- Completed 6-month course of nitrofurantoin 50mg at night

## On examination/review:

- No breakthrough UTIs within the last 6 months
- No adverse effects to treatment





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# Patient centred review



	Item to consider	Patient response
<b>Condition and consultation history</b>	Establish history of patient's condition	<ul style="list-style-type: none"> <li>Has experienced recurrent UTIs since early 20s</li> </ul>
	Patient baseline habits	<ul style="list-style-type: none"> <li>Generally well</li> </ul>
	Are they under a specialist consultant?	<ul style="list-style-type: none"> <li>Not currently under a specialist consultant</li> </ul>
<b>Treatment History</b>	Treatment/Prescription history	<ul style="list-style-type: none"> <li>Taking nitrofurantoin 50mg at night for the last 6 months</li> <li>Has had repeated courses of antibiotics over the last 2 years prior to prophylaxis</li> <li>Continues to practice personal hygiene measures</li> </ul>
	Side effects to treatment	<ul style="list-style-type: none"> <li>None reported</li> </ul>
	Adherence to treatment	<ul style="list-style-type: none"> <li>Patient is compliant to treatment</li> </ul>
	Patient's perception of their condition	<ul style="list-style-type: none"> <li>Concerned about coming off antibiotics and UTIs returning</li> </ul>
<b>Patient Impact and preference</b>	Explore impact UTIs have had on self-esteem or mental health	<ul style="list-style-type: none"> <li>Does not report any negative impact on mental health or self-esteem</li> </ul>
	What are the patient's preferences and expectations from treatment?	<ul style="list-style-type: none"> <li>Would be willing to trial coming off antibiotics with support</li> <li>Does not want UTIs to return</li> </ul>

# Management



## Prescribing

- Discuss **discontinuing repeat antibiotic prophylaxis** – shared care decision
  - Advise of potential side effects/AMR
  - 48% of patients who stop continuous antibiotic prophylaxis at 6-months, did not return to suffering rUTIs in the next 6 months<sup>1</sup>
  - Test of cure is not required in asymptomatic patients at the end of a course of prophylaxis

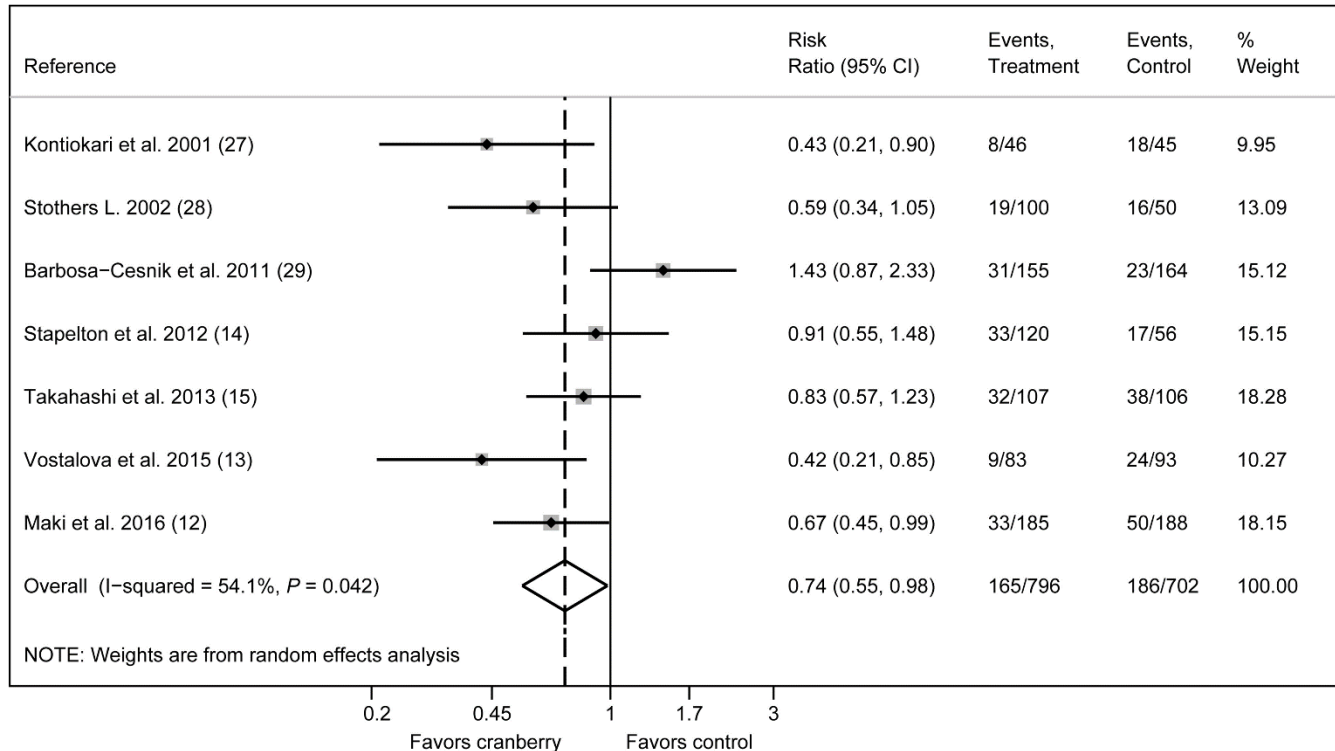


## Prevention/Advice

- Discuss OTC products such as **cranberry products** or **D-mannose**
- Supply urine sample bottle with instructions of when to use
- Provide a ‘self-start’ prescription of stand-by antibiotics based on most recent sensitivities
- Provide information on self-management and stand-by pack advice sheet
- Provide TARGET Treating Your UTI patient information leaflet

# Evidence for Cranberry Products

Cranberry reduced the risk of UTIs by 26% vs. placebo, in [younger] women with recurrent UTIs<sup>1</sup>



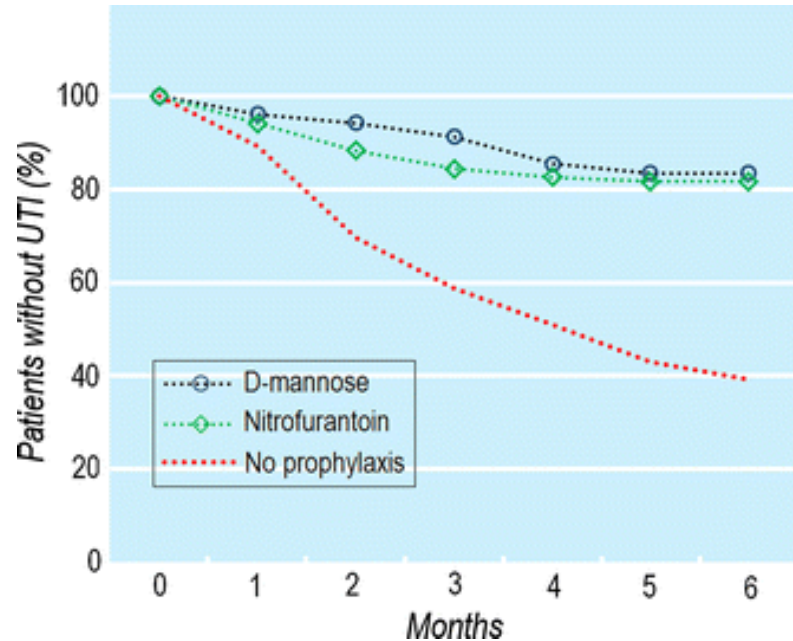
- Cranberry is **contraindicated in patients taking warfarin** – patients should be advised to consider the sugar content of cranberry products<sup>2</sup>
- Cranberry **reduced the number of UTIs** in some groups (women with rUTI, children), but not others (elderly people in care homes, pregnant women)<sup>3</sup>



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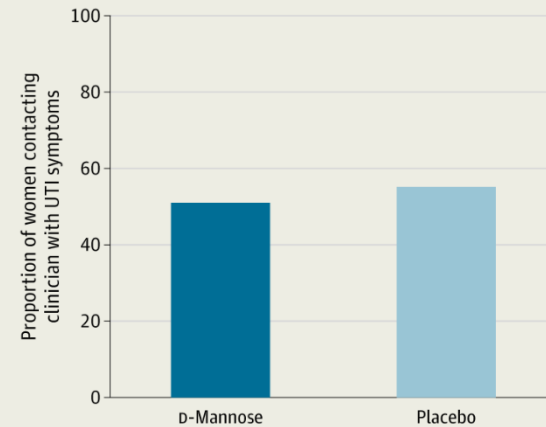
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# Evidence for D-mannose



(Kranjčec et al. World J Urol., 2014)

The proportion of women contacting ambulatory care with a clinically suspected UTI was not statistically different between the 2 groups



**D-Mannose prophylaxis:** 150 of 294 women (51.0%)  
**Placebo prophylaxis:** 161 of 289 women (55.7%)  
**Unadjusted risk difference,** -5%; 95% CI, -13% to 3%;  $P = .26$

(Hayward et al. JAMA, 2024)

Evidence on D-mannose in combination with other treatments can be found in a 2022 Cochrane Review<sup>1</sup>

# Preventative Actions

## Recommended activities with **good** evidence

- Maintain **adequate hydration**<sup>1</sup>
  - The amount will depend per person, but NHS recommends about 6-8 glasses per day

## Recommended activities with **limited** evidence

- Continue to practice **personal hygiene measures**
  - Wash the perineum with water and not scented cleaning products
  - Encourage wiping from front to back
  - For those who are sexually active, encourage post-coital voiding



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# Review

## Review within 3-6 months to assess progress

- If UTI recurs on cessation of antimicrobial therapy, review sooner
- Consider underlying causes (e.g. prolapse, retention)
- Management options on review include **single-dose prophylaxis** (based on MSU culture and sensitivities) if trigger can be identified, or **methenamine hippurate (Hiprex)**
- Consider referring patients to urology who relapse after stopping continuous prophylaxis, if not already recently investigated

# When to Consider Antibiotic Prophylaxis

**Consider** a trial of daily antibiotics if there has been no improvement after:

- Vaginal oestrogen, or
- Single-dose antibiotics, or
- Methenamine hippurate

**Review** daily antibiotics at least every 6 months:

- Assess the success of prophylaxis
- Remind about behavioural and personal hygiene measures and self-care treatments

First-choice antibiotics	
Trimethoprim	200 mg single dose when exposed to a trigger, <b>or</b> 100 mg nightly
Nitrofurantoin (if eGFR 45 ml/min or more)	100 mg single dose when exposed to a trigger, <b>or</b> 50 to 100 mg nightly
Second-choice antibiotics	
Amoxicillin	500 mg single dose when exposed to a trigger, <b>or</b> 250 mg nightly
Cefalexin	500 mg single dose when exposed to a trigger, <b>or</b> 125 mg nightly



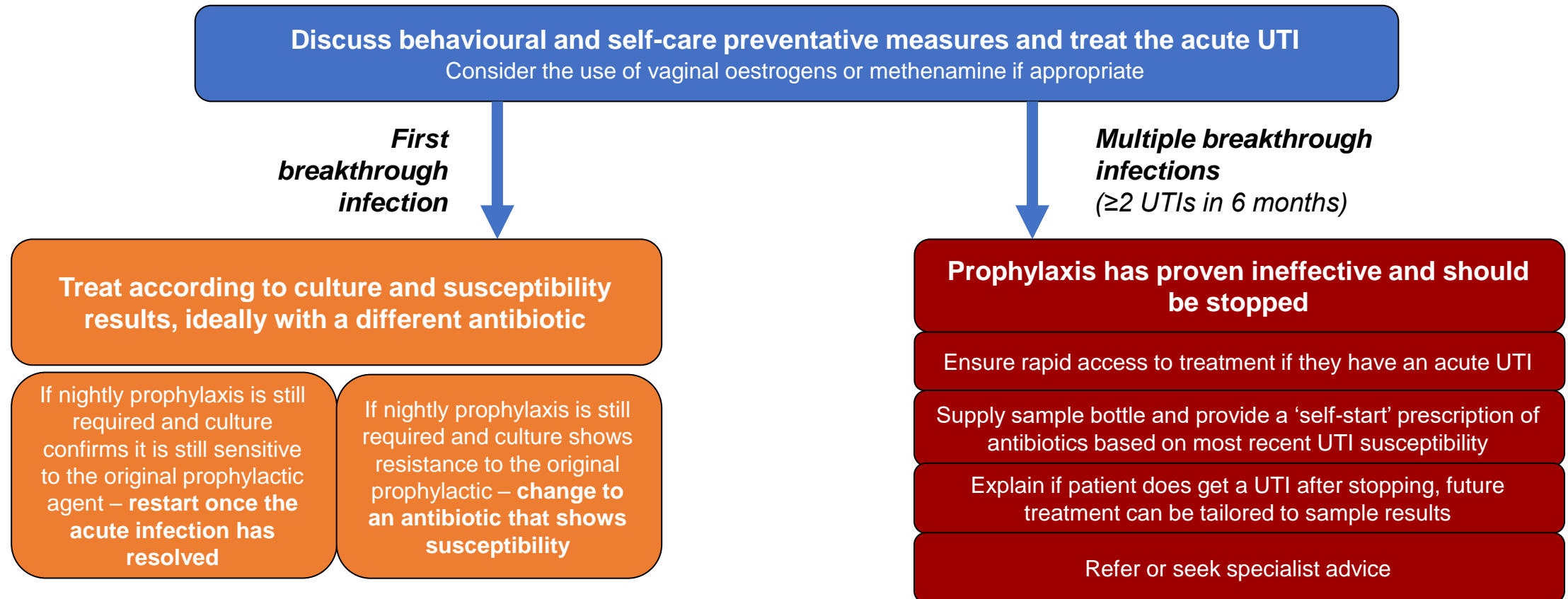


# Breakthrough UTIs

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An acute UTI which occurs whilst the patient is being treated with prophylactic antibiotics is known as a breakthrough infection



# Scenario – Busola Akinwale

## Consider the following details:

- 40-year-old female pre-menopausal woman with recurrent UTI

## On examination/review:

- MSU has shown resistance to trimethoprim
- Chronic kidney disease (eGFR = 30ml/min), nitrofurantoin not suitable



# Patient centred review



	Item to consider	Patient response
<b>Condition and consultation history</b>	Establish history of patient's condition	<ul style="list-style-type: none"> <li>Experiencing 2<sup>nd</sup> UTI within 6-month period</li> </ul>
	Patient baseline habits	<ul style="list-style-type: none"> <li>Practising personal hygiene measures</li> <li>Eats well and sleeps well</li> </ul>
	Are they under a specialist consultant?	<ul style="list-style-type: none"> <li>Not currently under a specialist consultant</li> </ul>
<b>Treatment History</b>	Treatment/Prescription history	<ul style="list-style-type: none"> <li>Previous UTIs treated with trimethoprim</li> <li>Nil OTC/other relevant medications</li> </ul>
	Side effects to treatment	<ul style="list-style-type: none"> <li>None reported</li> </ul>
	Adherence to treatment	<ul style="list-style-type: none"> <li>Compliant with GP advice and acute antibiotic courses</li> </ul>
	Patient's perception of their condition	<ul style="list-style-type: none"> <li>Concerned about new UTI episode and resistance to trimethoprim causing treatment failure</li> </ul>
<b>Patient Impact and preference</b>	Explore impact UTIs have had on self-esteem or mental health	<ul style="list-style-type: none"> <li>Patient is concerned with limited treatment options due to her chronic kidney disease</li> </ul>
	What are the patient's preferences and expectations from treatment?	<ul style="list-style-type: none"> <li>Would like treatment for recurrent UTIs</li> <li>Patient cannot afford to have time off work for sickness</li> </ul>

# Management



## Prescribing

- Ensure current acute UTI is treated based on sensitivities
- Offer **methenamine hippurate (Hiprex)** in preference to daily antibiotic prophylaxis for rUTI that has not been adequately improved by hygiene measures, vaginal oestrogen or single-dose antibiotic prophylaxis (if appropriate)

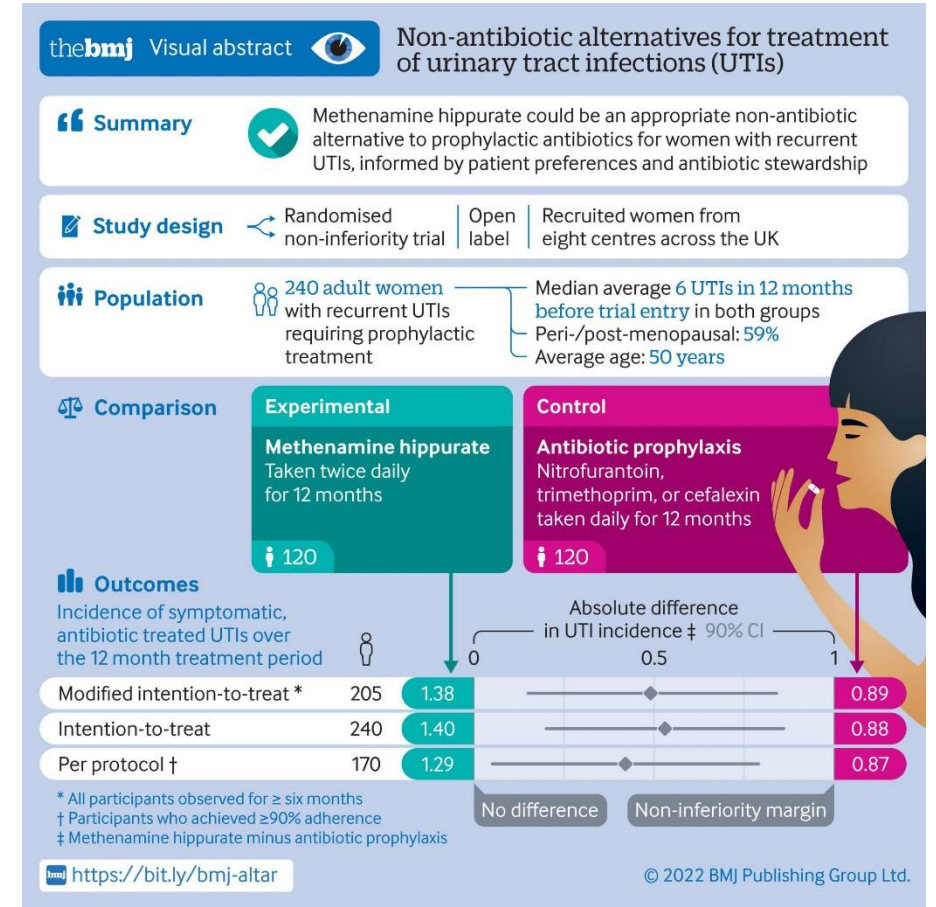


## Prevention/Advice

- Continue to practice personal hygiene measures and maintain adequate hydration
- Report any side effects to the GP

# Methenamine Hippurate (Hiprex) Information

<b>Dosing<sup>1</sup></b>	1g every 12 hours  <i>For patients with catheters: 1g every 8-12 hours</i>
<b>Contraindications</b>	Gout; metabolic acidosis; severe dehydration
<b>Side effects (uncommon<sup>2</sup>)</b>	Epigastric discomfort; skin reactions





TARGET

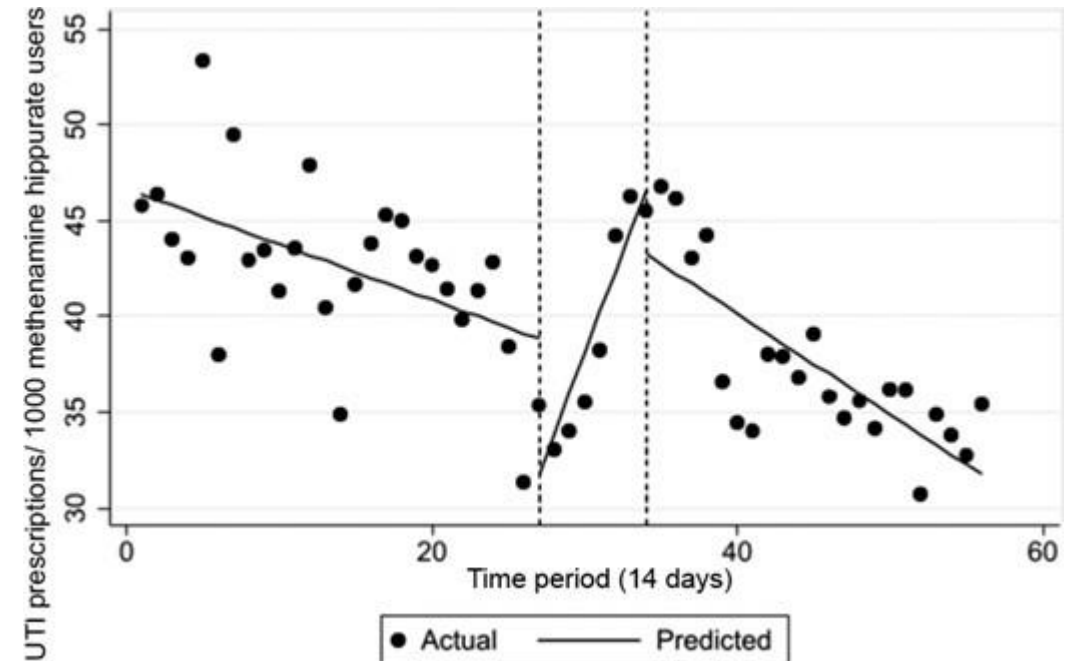
Keep Antibiotics Working

# Evidence for Methenamine Hippurate

**Antibiotic prescribing for UTI significantly increased** following a national shortage of methenamine hippurate in Norway (*Heltveit-Olsen et al., 2024*)



**Fig 1.** Number of prescriptions of methenamine hippurate per month for the study population for the period January 2015 to May 2020.



**Fig 2.** Prescriptions of UTI antibiotics among women  $\geq 50$  years who had received  $\geq 2$  prescriptions of methenamine hippurate in the study period before the drug shortage



TARGET

Keep Antibiotics Working

# More Evidence for Methenamine Hippurate

- Cochrane Review suggested methenamine use contributed to a **significant reduction of symptomatic UTIs**<sup>1</sup>
- In a recent UK RCT, both methenamine and antibiotic prophylaxis were effective at **reducing the incidence of UTIs** during a 12-month period<sup>2</sup>
- In 150 older adults ( $\geq 60$  years) with rUTI, **time to UTI extended** from 3.3 months pre-methenamine to 11.2 months post-methenamine<sup>3</sup>

# Review

## Review treatment within 6 months

- Assess if patient has experienced any UTIs and if there has been any side effects to treatment
- If no further UTIs experienced, discuss option to stop treatment
- Continue personal hygiene measures. If UTIs recur on cessation of methenamine hippurate, review to re-start methenamine
- If UTIs experienced, consider change in treatment and/or specialist referral





TARGET

Keep Antibiotics Working

# Take home messages

1. Recurrent UTIs can have a significant impact on quality of life and wellbeing for individuals who suffer from them
2. Long-term antibiotic use can lead to resistance and side effects, and this may be concerning to patients
3. Use shared care decision-making and a step-wise approach when managing patients with recurrent UTI
4. Self-care advice on hydration and hygiene measures important for all patients, but be sensitive to repetition
5. Recent changes to NICE rUTI guidance suggest that:
  - Peri-menopausal, menopausal and post-menopausal patients may benefit from vaginal oestrogen
  - Methenamine could be tried for some patients before prescribing daily antibiotic prophylaxis
6. Key groups need to be referred for specialist care
7. Side effects are less likely if single-dose antibiotics are used with an identified trigger for UTI compared with daily antibiotic prophylaxis.

# Panel Discussion



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