Understanding Antibiotic Resistance (AMR) and UTIs

A guide for patients

UTI INFORMATION SERVICE

THE UROLOGY FOUNDATION

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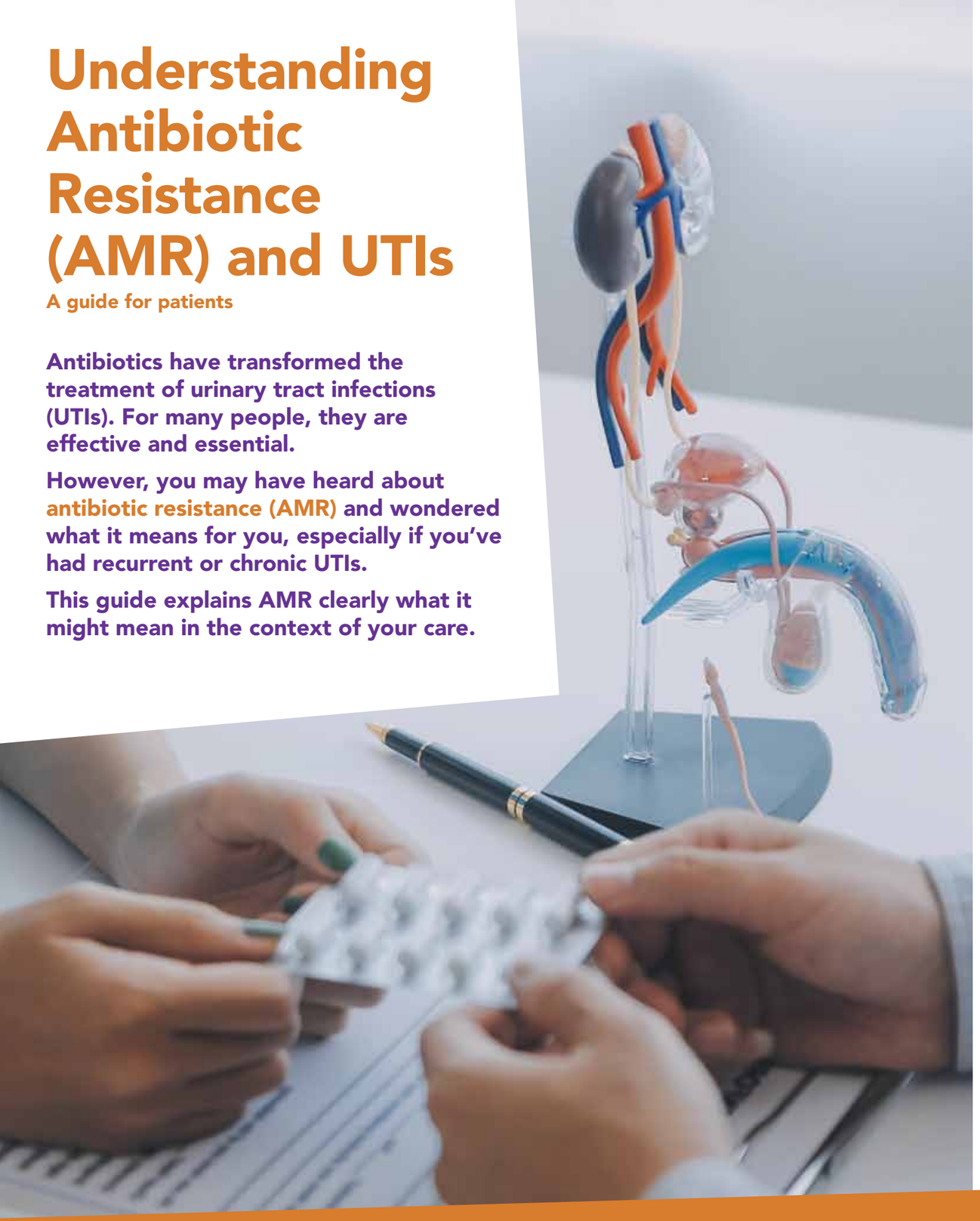
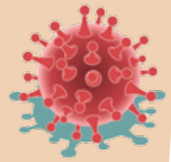
Antibiotics have transformed the treatment of urinary tract infections (UTIs). For many people, they are effective and essential.

However, you may have heard about antibiotic resistance (AMR) and wondered what it means for you, especially if you've had recurrent or chronic UTIs.

This guide explains AMR clearly what it might mean in the context of your care.



What is antibiotic resistance?



Antibiotic resistance happens when **bacteria change in a way that means an antibiotic no longer works effectively against them.**

It's important to understand:

- Bacteria becomes resistant, not your body.
- Resistance develops gradually as bacteria adapt.
- AMR is a global issue, not something caused by one person.

If an antibiotic doesn't work as expected, it may be because the bacteria causing the infection are resistant to that particular medicine.

Why does antibiotic resistance matter in UTIs?

UTIs are one of the most common reasons antibiotics are prescribed.

Some UTI-causing bacteria are now resistant to commonly used antibiotics. This can mean:

- The first antibiotic prescribed may not work
- A urine culture may be needed to guide treatment
- A different or more targeted antibiotic may be required
- Treatment may take longer to settle symptoms

This can understandably feel frustrating, especially if you're already feeling unwell.

Does having repeated UTIs mean I've caused resistance?

This is a common worry.

Repeated antibiotic use can increase the chance that resistant bacteria develop. However:

- UTIs are common and often require treatment
- Taking antibiotics when clinically indicated is appropriate
- Needing antibiotics is not your fault

Antibiotic resistance develops because of many factors across healthcare and society, not because of one individual patient.

If you have needed antibiotics for UTIs, that reflects your symptoms and your clinical situation, not a personal failing.

Why might my GP wait for results?

Sometimes your GP will wait for your urine test (culture) before prescribing antibiotics, especially if you've had resistant or recurrent infections.

Broad-spectrum antibiotics treat a wide range of bacteria, but they can also affect helpful bacteria and contribute to AMR.

By waiting for results, your GP can choose a more targeted (narrow-spectrum) antibiotic, giving you the right treatment first time and helping to reduce unnecessary antibiotic use.

This is not always possible, depending on the severity of your symptoms.

How does my GP choose an antibiotic?

When you have a UTI, your GP will often prescribe an antibiotic **straight away**, based on what is most likely to work.

For many people, this is Nitrofurantoin, as it works well for the bacteria that commonly cause UTIs.

For some people, other antibiotics such as Cephalexin may be used; for example, if first-line options aren't suitable, in pregnancy, or based on urine test results.

If your urine sample has been sent to the lab, your treatment may be adjusted to better target the specific bacteria causing your infection.

You may notice that your antibiotics change over time. This is because your GP is choosing what is most likely to work based on current resistance patterns, in other words, what's working locally right now, based on recent laboratory results.

Some antibiotics treat a wide range of bacteria (called broad-spectrum antibiotics, such as Co-amoxiclav). These are usually avoided unless really needed, as they can increase the risk of AMR.

Trimethoprim has been widely used for UTIs, but some bacteria are now more resistant to it and although it is still used, it may not always be the first choice.

Looking after yourself during and after antibiotic treatment

If you're getting frequent UTIs, you may be prescribed repeated short courses of antibiotics to treat each infection.

Some people are also offered preventative (prophylactic) antibiotics, usually as a low daily dose or taken after specific triggers (such as sex), to help reduce the risk of infections.

While this can be effective, long-term antibiotic use is also linked to antimicrobial resistance (AMR).

Because of this, your clinician may discuss ways to reduce antibiotic use where possible.

These can include:

Using antibiotics differently

- Self-start antibiotics (a "rescue pack"): for people who recognise their symptoms and can start treatment when needed, following guidance from their healthcare professional
- Post-coital antibiotics: a one-off dose taken after sex, if this is a known trigger for your UTIs, following guidance from your healthcare professional

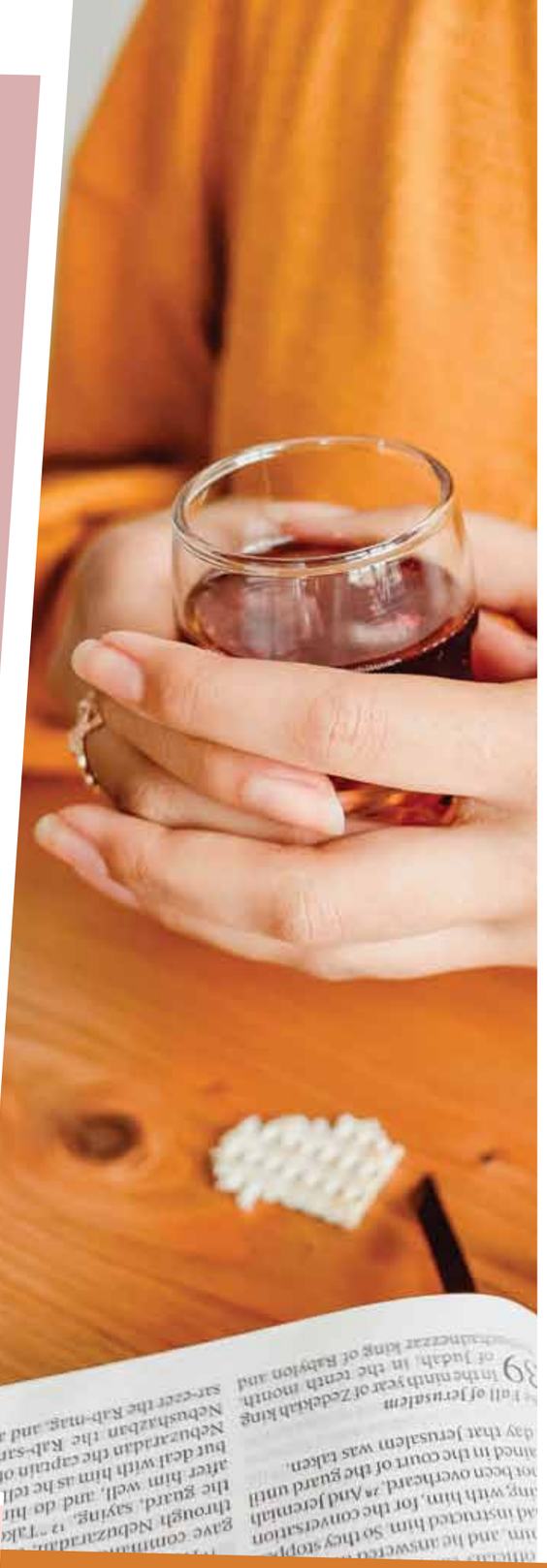
Non-antibiotic options:

- Methenamine hippurate: works differently to antibiotics, does not drive resistance in the same way, and has been shown to be as effective as preventative antibiotics.
- Vaginal oestrogen: for those affected by hormone-related changes to the vagina and bladder

Lifestyle and bladder support strategies

Aim to eat a varied, fibre-rich diet, stay well hydrated and include fermented foods such as live natural yoghurt or kefir. Some people also choose to take probiotics during or after antibiotics to support their gut and vaginal microbiome.Research suggests that Lactobacillus probiotics may also help reduce recurrent UTIs in some people, but the evidence is mixed and it remains unclear which strains, doses and routes of administration (oral or vaginal) are most effective.

Your healthcare professional can help you find the approach that's right for you.



What can I do as a patient?

You can support safe antibiotic use by:

- Taking antibiotics exactly as prescribed
- Completing the course unless advised otherwise
- Not saving antibiotics for future use
- Discussing prevention options with your GP
- Asking questions if you're unsure

You are entitled to understand your treatment plan.

A balanced perspective

Antibiotics remain an important and sometimes essential treatment for UTIs.

The goal is not to avoid antibiotics at all costs, but to use them thoughtfully and effectively.

If you live with recurrent or chronic UTIs, your care may involve a balance between symptom relief, prevention strategies, and minimising resistance risk.

This is a shared decision between you and your healthcare professional.

Looking ahead

Research into antibiotic resistance, vaccines, microbiome health and new therapies is ongoing.

Improving how UTIs are diagnosed and managed, particularly for people with recurrent or chronic UTI symptoms, remains an important priority in healthcare.

If you are unsure about your treatment or worried about resistance, speak to your GP or nurse. Open conversations are part of good care.

What is a UTI?

A Urinary Tract Infection (UTI) is a common infection that can affect anyone, regardless of age, and involves the urinary system but most commonly the bladder. UTIs are the second most common kind of infection after chest infections.

UTIs can be uncomfortable and debilitating. They can be particularly serious in the elderly and those with weakened immune systems. Early detection and proper management are essential to prevent complications.

What are the symptoms?

UTIs can cause a variety of symptoms, which may include:

- Burning sensation during urination
- Cloudy or strong-smelling urine
- Frequent urge to urinate with little or nothing being passed
- Fever or high temperature
- Feeling generally unwell
- Confusion in the elderly

These symptoms can vary in severity, and early detection is important to prevent complications, especially in vulnerable individuals. UTIs can progress to sepsis, a life-threatening condition. Watch for high fever, rapid breathing, and confusion.

Urgent help - If symptoms worsen quickly or you experience any severe symptoms mentioned above, immediate action is necessary: Call NHS 111 for guidance or to find out if you have severe symptoms and need urgent medical care.

Useful resources

- **NHS: www.nhs.uk/conditions/urinary-tract-infections-utis**
- **The Urology Foundation: www.theurologyfoundation.org**
- **NICE UTI Guidance (2024): www.nice.org.uk/guidance/ng112**

For more detailed information on managing and treating UTIs, please refer to our specific treatment-focused information on our website:
https://www.theurologyfoundation.org/urology-health/bladder-conditions/urinary-tract-infections-uti/

For information on the references we have used and information on further reading please contact nurse@theurologyfoundation.org

Our confidential UTI Information Service is here to help you:

0808 801 1108 **Helpline open Tuesdays and Thursdays 10am - 12 noon**

nurse@theurologyfoundation.org

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www.theurologyfoundation.org

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