A stylized, abstract illustration of a woman's profile. The woman has dark brown hair and is wearing a large, light pink hoop earring. She is wearing a light pink top. The background is a solid teal color. The illustration is composed of bold, flat colors and simple shapes. The text 'A GUIDE TO CHRONIC & RECURRENT UTIS' is centered on the woman's chest in a light yellow, sans-serif font.

# A GUIDE TO CHRONIC & RECURRENT UTIS

# Table of Contents

<b>About MyUTI</b> Our mission to help women find relief	01
<b>UTIs Explained</b> Causes of a UTI A look inside your urinary tract Possible causes and prevention	02
<b>A Guide to Your UTI Symptoms</b> Common symptoms 5 things to do before your doctor's appointment	03
<b>Chronic and Recurrent UTIs</b> When UTIs happen way too often Facts about chronic and frequent infections	04
<b>Roadmap to Better Testing</b> Current testing standards Newer, more precise tests Introduction to biofilms How the MyUTI test can benefit you	05



# Chapter 1

## About MyUTI



## Chapter 1

# About MyUTI

MyUTI was created to address the lack of resources and hurdles for women accessing care for chronic and recurrent urinary tract infections.

As health care industry veterans in Urology and Women's Health driven by a personal history of experiencing UTIs, co-founders Megan Henken and Lindsey Williams, decided it was time for a new way.

They saw a path to improve the current system, supporting many more women. And with that, MyUTI was born.

Our mission is to **expand access to modern and convenient solutions** that provide REAL answers for chronic UTI sufferers.

Always focusing on positively impacting clinical outcomes.

The goal of this guide is to **empower you to advocate for your own health**, and to give you so much knowledge on this topic that your doctor will be surprised by how much you know!

Armed with the latest information, you'll **feel confident seeking the answers you deserve!**





# Chapter 2

## UTIs Explained



## Chapter 2

# UTIs Explained

Before we dive headfirst into what might be causing your chronic or recurring urinary tract infections, let's start with the basics.

### What exactly is a UTI?

Well, there are three kinds of UTIs. **Urethritis** is an infection of the urethra, the passageway that carries urine out of your body.

**Cystitis** is an infection of the bladder, the organ that collects and stores urine.

**Nephritis** is a more serious condition that happens when an infection reaches the kidneys, where urine is produced. (Page 8 gives you a look at the various parts of your urinary tract and how they work together). **Generally, UTIs happen when harmful bacteria or fungi (known as uropathogens) enter through the urethra and move into the urinary tract, causing the pain, burning, and urgency that signal an infection is present.**

Now, you've probably heard of all sorts of advice for preventing UTIs -everything from wiping from front to back to drinking lots of cranberry juice. The truth is, it's not always that simple. To set the stage for prevention, let's take a closer look at what causes UTIs.

So, moving onto the greater question, **what could be causing your urinary tract infection?**

**More than 90% of UTIs happen when the bacterium Escherichia Coli (E.coli) finds its way to the urinary tract.** A quick lesson in female anatomy explains why this happens. The vaginal and anal areas are very close to the urethra, giving uropathogens easy access to our urinary systems. And, since a woman's urethra is much shorter than a man's, pathogens get inside fairly easily.



## Chapter 2

# UTIs Explained

This is why we often hear the advice to wipe from front to back after a bowel movement, since large numbers of E.coli can be found in the anal area. Sexual intercourse can move bacteria or fungi from your partner's fingers, genitals, anus or even sex toys closer to the urethral opening.

### **Age is also a risk factor for developing a UTI.**

The average age of menopause in the US is 51, but the symptoms can start 3-5 years before that as estrogen levels begin to drop. When no menstrual period occurs for more than 12 months, menopause is complete. This typically happens in your early 50s, but menopausal symptoms can start 3-10 years before then.

Loss of female hormones estrogen and progesterone can cause vaginal tissues to lose tone, a process called atrophy. This makes it easier for bacteria and fungi to move from the vaginal opening to the urethra.

**Menopause actually causes the urethral length to decrease even further, increasing the chances that uropathogens will enter the system,**

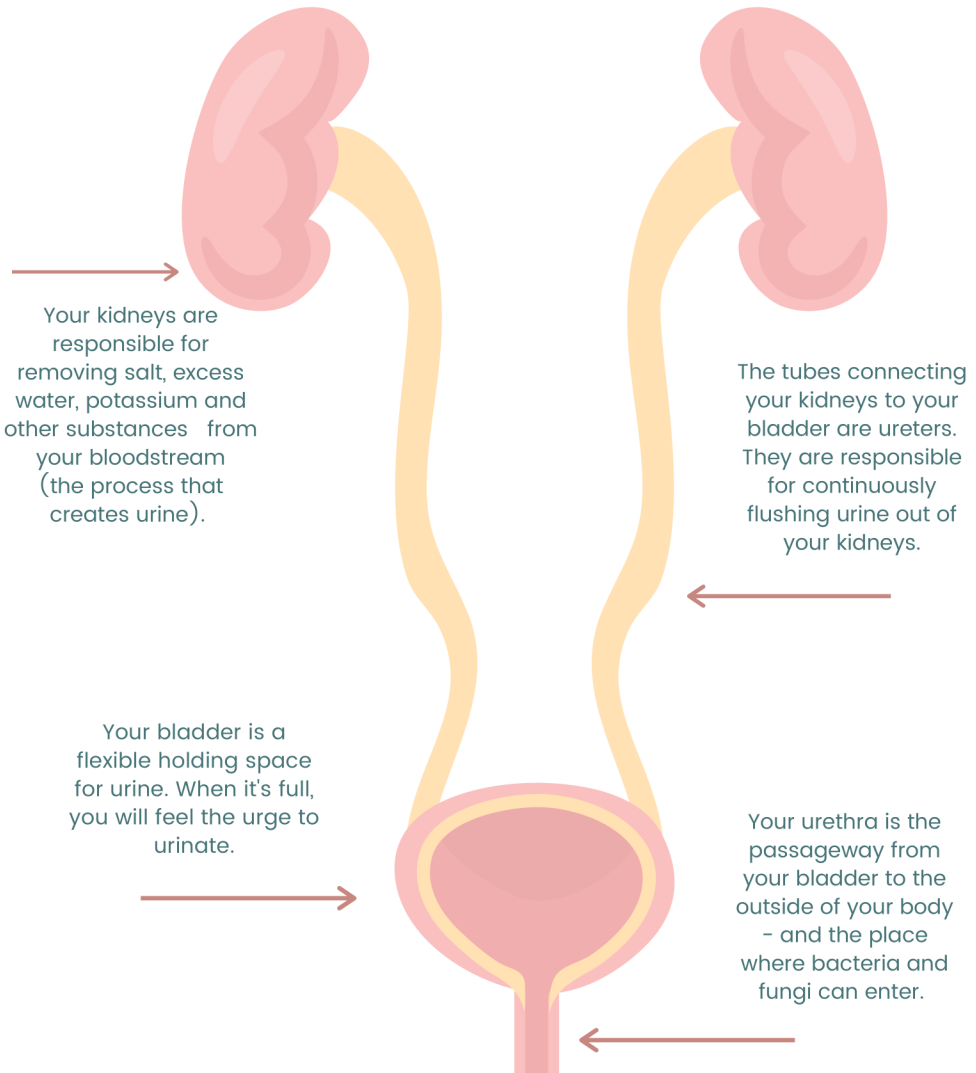
**While UTIs are most common in women, there is also a risk for men as a UTI is more common at an older age,** commonly due to an enlarged prostate which impedes the bladder from emptying completely, providing an opportunity for bacteria to grow.



# UTIS 101

## A STEP-BY-STEP LOOK ON HOW UTIS OCCUR

A UTI is an infection in any part of the urinary tract, which includes the kidneys, ureter, bladder and urethra.



Infection can begin in any part of the urinary tract and spread upward as uropathogens enter.

# ALL ABOUT UTIS



## UTI SYMPTOMS

- Constant urge to urinate
- Burning or pain while urinating
- Cloudy or dark urine
- Pain in your pelvic area
- Urinating small amounts frequently
- Sudden mental confusion
- Pain in lower back
- Chills, fever, fatigue
- Nausea

## UTI CAUSES

- Sexual Activity
- Birth Control
- Menopause
- Chronic Health Conditions
- Dehydration
- Exercise



## PREVENTION

- Drink plenty of water
- Don't delay using the bathroom
- Wipe from front to back
- Always pee after having sex
- Build a healthy microbiome with probiotics and supplements
- Always take full course of antibiotics when treating an infection

# Chapter 3

## A Guide to Your UTI Symptoms



# A GUIDE TO UTI SYMPTOMS

Symptoms of a UTI differ for everyone, but it's important to understand why these symptoms are happening and what exactly is causing them.

## Pain & Discomfort

You may feel the urge to urinate frequently even when the bladder feels empty. This is because microbes that caused your UTI are irritating the lining of the urinary tract, causing inflammation and a burning sensation when you urinate.

---



## Cloudy or Dark Urine

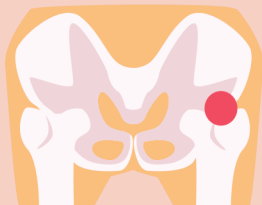
When infection occurs, your body sends white blood cells to fight the infection. As your white blood cells mix with your urine, it appears cloudy. Dark urine may happen if red blood cells enter the urine stream due to a more serious infection.

---



## Pelvic & Lower Back Pain

Cramping, pain, soreness, and pressure within the pelvic area or lower back is common when experiencing a UTI. This is often a sign that your UTI has become more serious, possibly entering the kidneys.

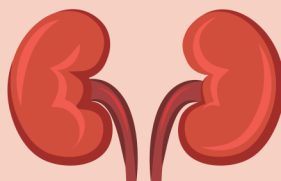


# A GUIDE TO UTI SYMPTOMS

## Fever & Chills

UTIs typically don't cause flu-like symptoms. However, when an infection reaches your kidneys your body's immune system goes into high gear, bringing on fever and chills as antibodies try to fight the infection.

---



## Nausea & Vomiting

Nausea and vomiting are signs that a UTI has reached your kidneys, causing a more serious infection. This can lead to uncomfortable symptoms such as nausea and vomiting.

---



## Mental Confusion

In older women, UTIs can cause delirium (sudden mental confusion) especially in those suffering from Alzheimer's disease or dementia.





# 5 THINGS TO DO BEFORE YOUR DOCTOR'S APPOINTMENT



## Log Past UTIs

Write down the dates of any recent UTIs. If you can't remember that's fine! Your health care facility can give you this information.



## Note Symptoms

Write down all of your symptoms. List your present symptoms as well as past symptoms so your health care provider can accurately assess you.



## List Medications

Make a list of any medications or supplements you already take, including any antibiotics you have taken for past UTIs.



## Consider Behavior & Environment

Are you under stress? Dealing with major life changes? Make a note of what's happening, since these factors can increase UTI risks.



## Do Your Research

Read up on recurrent and chronic UTI information and testing options. The MyUTI Education Center has many sources on prevention, testing and treatment of bladder infections.  
Knowledge is POWER!

**It's important to communicate all the facts about your bladder infection to your healthcare provider, so they can properly assess testing and treatment options.**

# Chapter 4

## Chronic & Recurrent UTIs



## Chapter 4

# Chronic & Recurrent UTIs Explained

There's a difference between a typical urinary tract infection and chronic or recurring UTIs that just won't seem to go away.

A chronic UTI is a prolonged and persistent UTI that may be caused by embedded bacteria in the urinary tract that antibiotic treatments can't seem to knock out. A recurrent UTI happens when infections occur more than twice in 6 months or more than 3 times in a single year.

**What causes these frustrating patterns?**

The urinary tract is home to a microbiome (or healthy community) of helpful bacteria that work together to keep things balanced.

The system works like a self-cleaning oven: as long as there is enough urine to flush out harmful bacteria and there are no other blockages, the system generally stays healthy. **But when the balance is upset, things can go wrong.**

Nothing is more frustrating than to follow all of your doctor's advice, only to have UTI symptoms return. Beyond the common triggers, chronic or recurrent UTIs may result from an imbalance of the "good" and "bad" bacteria in the urinary tract, exposure to too many antibiotics (leading to drug resistance), or the wrong antibiotic being prescribed **often the result of testing that doesn't pinpoint the bacteria actually causing your UTI.**



## Chapter 4

There are also a number of health conditions which can contribute to recurrent or chronic urinary tract infections. **Diabetes, incontinence, or immunosuppression treatment can all impact urinary health.**

Women, in particular, are at risk for chronic UTIs thanks to a host of life events such as aging, sexual activity, previous pelvic surgeries, incontinence, or a condition called interstitial cystitis (also known as painful bladder syndrome).

In men, a persistent UTI may be due to anatomical abnormalities from aging, or an enlarged or infected prostate known as prostatitis.

When women experience frequent or recurrent UTIs, they may be eager to refill the antibiotic that has worked to treat their UTI in the past.

**However, it's important to wait until lab tests confirm your UTI.**

Overuse of antibiotics can allow harmful bacteria to develop resistance over time, which may contribute to frequent UTIs.

Additionally, the drug your doctor prescribed may have limited effectiveness if multiple organisms causing the urinary tract infection **(see chapter 5 for more on testing accuracy).**

**Can a UTI come back after taking an antibiotic?**

**Absolutely.** This is especially true if you discontinue taking medication once symptoms subside instead of finishing the prescription as directed. This allows bacteria to stay in the urinary tract, leaving potential for an ongoing UTI.



# All About Frequent UTIs



One in 5 women will have a recurrent UTI in her lifetime.



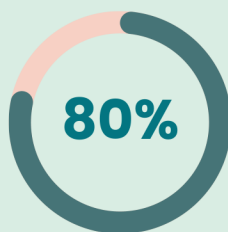
On Average, it takes 6 years for a chronic UTI patient to be correctly diagnosed.

**"For the 1.3 million women entering menopause each year, the emergence of frequent bladder infections is an unwelcome rite of passage."**

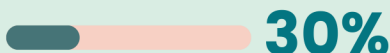
– Urinary health expert Dr. K. Lauren de Winter

Changes in midlife, leading to menopause around age 50, may make women more susceptible to UTIs. Lower levels of estrogen after menopause are a key factor.

80% of recurrent UTIs are caused by the same organisms entering the urinary tract over and over again.



30% UTIs are caused by multiple bacteria, which if undetected, can lead to the wrong antibiotic treatment.



# Chapter 5

## Roadmap to Better Testing



## Chapter 5

# Current Testing Standards

Most UTIs are diagnosed using a urine dip or a urine culture.

With the urine dip method, a thin, plastic stick with chemicals on it is placed in the urine to detect abnormalities. **Results come back in minutes, but they do not specify what type of bacteria are involved, leaving your doctor to guess what antibiotic should be used.**

With the "urine culture", a urine sample is sent off to a lab for processing, with a report coming back in 3-5 days with some information on the bacteria involved, which helps in choosing the right bacteria. However, cultures are typically only looking for fast-growing bacteria like E.coli.

Many urgent care facilities or general practitioners use the urine dip and make an educated guess (also known as empirical treatment) about the best treatment, often without getting a culture to verify infection.

This, unfortunately, may lead to over-reliance on broad-spectrum antibiotic treatment, which studies have shown can cause drug resistance – a possible cause of recurrent infections.

The urine dipstick test is inaccurate up to 80% of the time!



## Chapter 5

### A closer look at urine cultures

Even though the standard urine culture we use today was invented in the 1950s, it is still considered by many to be the gold-standard testing option for people with UTI symptoms.

**A UTI culture test is designed to identify a specific number of one or two bacteria in the urine.**

The process involves placing a small amount of urine on one or more test plates (petri dish), heating it to body temperature to allow any bacteria or yeast present in the urine to grow over the next 1–3 days. If the result shows rapid growth of bacteria known to cause infection, the sample may be sent for drug sensitivity testing to determine which antibiotic will work best.

The main problem is that standard cultures look ONLY for fast growing uropathogens, such as *E.coli*. Effective for simple UTIs, but the test overlooks slow-growing or multiple pathogens that may be driving a reoccurring infections.

During culture, if there is little to no growth after 24–48 hours, it is considered negative. If there is more than 2 things that grow, its reported as contaminated.

This leaves a huge gap in UTI diagnosis, data shows that up to 30% of recurrent UTIs are caused by multiple bacteria coexisting in the urinary tract.





# Culture Testing FAQs



## CULTURE LIMITATIONS

- Only identifies 1-2 types of fast-growing bacteria
- Limited effectiveness for those complicated & chronic UTI symptoms.
- If multiple bacteria are identified the sample is assumed to be contaminated.

## TEST PROCESS

- Places small amount of urine on a test plate (petri dishes)
- Bacteria will grow over the next 1-3 days.
- Bacterial growth forms in colonies, these are identified and counted to determine results.



## RESULTS

- Culture is designed to identify E. coli in relatively large amounts.
- If it grows, the result is considered positive and further processed for drug sensitivity testing. This provide antibiotic selection options.



## Chapter 5

### An introduction to biofilms

Newer studies show that recurrent or chronic UTIs are often caused by several bacteria and fungi coexisting in the urinary system, **also known as biofilms**.

Biofilms are caused when multiple organisms are present in the urinary tract. Together they cause UTI like symptoms that laboratory cultures may report as "natural flora" or "contaminated". Frustratingly, this does not mean you do not have a urinary tract infection.

Utilizing culture for repeat UTIs may continue to identify the E.coli, but not the other organisms present. Due to this, under treatment occurs, and prescriptions provided miss what may work best to address the grouping of organisms (biofilm).

This explains how cultures often overlook complex UTIs, which can lead to ineffective treatment – or even no treatment at all.



NOTE: It's important to try and wait for test results before beginning a prescription, to avoid antibiotic over exposure which can reduce effectiveness and impact your microbiome.



## Chapter 5

# Testing For Targeted Treatment

If you are experiencing chronic or frequent bladder infections, even after various courses of antibiotics and other preventative measures, it might be time to consider advanced diagnostic testing.

**There are two main types of advanced testing:**

1. PCR (Polymerase Chain Reaction)
2. NGS (Next Generation DNA Sequencing)

Both of these rely on newer DNA detection methods that can quickly determine quantities of multiple organisms. PCR testing can identify over 16 specific organisms, while NGS identifies a host of both good and bad organisms.

**How do you get advanced testing for your UTI?**

Advanced UTI testing, including PCR, is a trusted option that many urologists utilize today with their patients. Some urology offices offer testing in-house or they may use a laboratory service provider. In either case, your urine sample is collected and processed to identify the organisms causing your UTI symptoms. Depending on the test used, antibiotic treatment guidance is provided.

**The problem is access!**

Urology office appointments can take weeks or months.

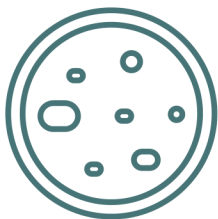


# QUICK REVIEW OF YOUR TESTING OPTIONS



## URINE DIPSTICK

- Takes 20 minutes to receive results
- Tests only for the presence of white blood cells, which can indicate infection
- Can be purchased at pharmacy also done in medical offices



## URINE CULTURE

- Takes 3 – 5 days to receive results
- Can only detect 1-2 kinds of uropathogens, usually E.Coli
- Requires office or clinic visit; NO home testing option available



## NEXT GENERATION SEQUENCING (NGS) TEST

- Takes 3-7 days to receive results
- Full picture of good & bad organisms in your urinary tract
- Usually requires visit to specialist or urologist.



## POLYMERASE CHAIN REACTION (PCR)

- Takes 24-72 hours to receive results
- Identifies multiple pathogens
- Usually requires office or clinic visit
- MyUTI offers home collection.

## Chapter 5

# The MyUTI Test

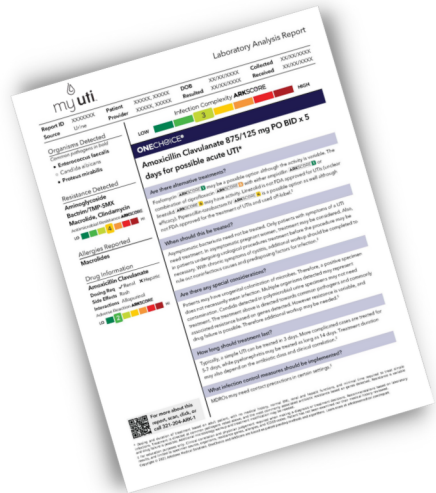
How does modern UTI testing benefit you?

**Fast.** The MyUTI test can return results in as few as 24 hours, no Urgent Care visit required!

**Detailed.** The MyUTI lab results report is an easy to understand report your doctor can trust. With precise identification of the TOP 12 organisms known to cause UTI symptoms. Plus screens for resistance to 3 frequently used antibiotics. You and your clinician will have clear treatment recommendations.

**Convenient.** Order online, take the symptom survey and collect your urine sample at-home. Simply drop off your MyUTI test at UPS or FedEx for overnight delivery and lab testing.

Get to the root cause of your repeat UTI. Accurate and reliable answers delivered right to your doorstep.



Sample MyUTI Report





UTIs are disruptive, painful, and frustrating.  
**We're here to help.**

MyUTI is dedicated to providing a seamless approach to testing, management, and treatment for chronic and recurrent UTIs. We believe every individual should have access to the best, most effective UTI treatment available.

We hope that this e-book has helped to explain on a deeper level what might be causing your frequent urinary tract infections, and what options are available to support your journey for relief and resolution.

For additional information, visit the MyUTI website.

[www.myuti.com](http://www.myuti.com)

