

# UTIFY

Understanding the need for deeper diagnostic insight in treating urinary tract infections.

## INTRODUCTION

Urinary tract infections are a common ailment that affects millions of individuals every year. While most UTIs are not serious, a surprising large population of individuals will suffer from a more complicated infection, requiring physicians to identify more precise treatment regimens that may involve choosing different antibiotics, extending the course of treatment, and sometimes requiring additional workup.

Read on and discover how your laboratory can play a vital role in bringing new insight to the treatment of UTIs.

## WHAT IS A UTI?

A urinary tract infection (UTI) occurs when bacteria enters the urinary tract (kidneys, ureters, bladder and urethra) and causes an infection. Since a woman's urethra is much shorter than a man's urethra, and bacteria enter the body through the urethra, women are often more prone to UTIs than men.

Simple enough. Only for some people, UTIs are not simple or uncommon, leading to the need to categorize the status of a UTI by key characteristics.

**400M**  
PEOPLE SUFFER  
FROM UTIs  
PER YEAR

**240K**  
DEATHS RESULT  
FROM UTIs  
PER YEAR



## PRIMARY OR RECURRENT?

**Primary UTI:** An infection occurring for the first time.

**Recurrent UTI:** An infection that is a repeat event. 30% of UTIs are caused by multiple pathogens working together, complicating the pursuit of the right treatment.

## SIMPLE OR COMPLICATED?

**Simple UTI:** An infection managed with outpatient antibiotics that carries a reassuring clinical course with almost universal good progress.

**Complicated UTI:** An infection that carries a higher risk of treatment failure. These typically require longer courses of treatment, different antibiotics, and sometimes further medical attention.

## COMMON CAUSES OF UTIs

- Sexual activity
- Hormonal changes
- Catheterization
- Not drinking enough fluids
- Kidney stones or an enlarged prostate
- Diabetes
- Conditions that make emptying the bladder difficult (eg. Spinal injury)



## THE PATHOGENS THAT CREATE THE PROBLEM

UTIs are caused by bacteria and in some cases fungi that enter the urinary tract. The cause of as many as 90% of UTIs is *Escherichia coli* (*E. coli*). However, the more complicated a UTIs is, the greater the chance that another bacteria is causing the infection.



- *Aerococcusurinae*
- *Acinetobacterbaumannii*
- *Enterobacter cloacae*
- *Citrobacter species*
- *Klebsiella pneumoniae* (multiple types)
- *Staphylococcus* (multiple types)
- *Candida species* (Fungi)
- Plus many more

## KNOWING MORE MATTERS.



### PREVENTION

Drinking liquids to promote urination has a cleansing effect on the urinary tract. Personal hygiene is another key factor in prevention.



### ANTIBIOTICS

Successful treatment of UTIs depends on physicians having the insight to prescribe an effective antibiotic regimen.



### ANTIBIOTIC RESISTANCE

As antibiotics become less effective over time, testing for antibiotic resistance along with identifying pathogens is vital.



#### *Pyelonephritis*

Upper tract infection impacting kidneys, may lead to sepsis.

#### *Cystitis*

Lower tract infection irritating urethra and bladder, marked by urinary urgency.

## UTI TESTING OPTIONS

### URINE CULTURE

3 to 5 days to results, only detects 1 or 2 pathogens

### PCR TESTING

24-72 hours to results, no antibiotic resistance markers

### **PATHOGEND<sub>x</sub> D<sup>3</sup> ARRAY™-UTI**

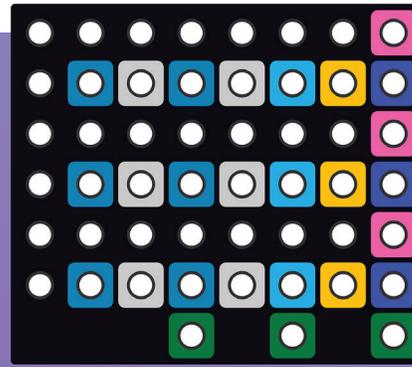
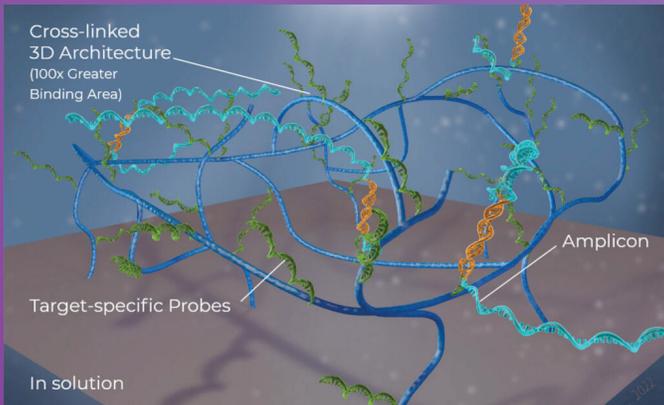
Same-day Results on up to 26 pathogens plus 12 antibiotic resistance markers in one test.

# D<sup>3</sup> Array™ -UTI

Pathogen Detection + Antibiotic Resistance

## ADVANCED UTI TESTING

Today, the detection and identification of urinary tract pathogens and antibiotic resistance gene markers is made possible by technologies that deliver targeted, accurate and rapid results, providing the clinician with the required information to treat patients with the optimum therapy faster than previously available with traditional culture-based approaches.



Microarray technology tests for up to 26 pathogens along with 12 antibiotic resistance markers, in a rapid affordable test.



SPECIFIC PATHOGEN



IDEAL ANTIBIOTIC

## UTI Detection and Antibiotic Resistance incorporating a new innovative approach to Multiplexed Molecular Testing.

The PathogenDx D<sup>3</sup> Array offers dynamic dimensional detection of bacteria and fungi, with to creating with multiple highly accessible probe binding sites. The amplicon target can move easily through the structure, locate probes, and bind thanks to greatly reduced steric hindrance.

## WHY D<sup>3</sup> ARRAY-UTI IS THE RIGHT PLATFORM FOR LABORATORY TESTING

### Proven Technology

- Well established in the Food and Agriculture Testing Segment

### Efficient Workflow

- Instrument and Platform Agnostic
- Simple to Automate with existing Robotics and MDx equipment

### Cost Effective

- 48 Samples per Plate
- No waste plate configuration

### Accurate Results

- Concordance with established comparator methodology
- Promotes learning more

### D<sup>3</sup> ARRAY-UTI SUPERIORITY:

- Highly multiplexed syndromic approach eliminates shotgun approach to causative testing for UTIs
- Identifies 26 causative pathogens and 12 associated antimicrobial resistance genes in a single test
- Rapid and Accurate
- Sample to Results in less than 6 hours
- Novel and Patented MDx Technology
- Dimensional Spatial Array
- Detect and Discriminate with a novel innovative approach

FOR RESEARCH USE ONLY

### DISCOVER NEW INNOVATION IN THE TREATMENT OF UTIs.

Founded in 2014 by nationally recognized scientists and serial entrepreneurs, PathogenDx delivers testing kits, automation & software to help laboratories rapidly and accurately detect pathogens in plants, in our food supply, and in our bodies—for better health and safety.

To learn more about the D<sup>3</sup> Array™-UTI assay and other PathogenDx innovations, call 800-641-5751 or email to [info@pathogendx.com](mailto:info@pathogendx.com)