



URINARY TRACT INFECTION (UTI) FACT SHEET

Overview

A urinary tract infection (UTI) is an infection that involves any part of the urinary tract, including the kidneys, bladder and urethra. It is usually caused by exposure of the urinary tract to a fecal organism such as *Escherichia coli* (*E. coli*) but also may be caused by other organisms.

An indwelling urinary catheter is a drainage tube that is inserted into the urinary bladder through the urethra, is left in place and is connected to a closed urine collection system. Urinary tract infections in patients with an indwelling urinary catheter are called catheter-associated UTIs, or CAUTIs.

Signs and Symptoms

Common symptoms of UTI include:

- fever;
- pain or burning in the lower abdomen;
- burning during urination;
- an increase in the frequency of urination; and
- cloudy appearing urine.

Causes and Transmission

A UTI occurs when germs (usually bacteria) enter the urinary tract through the meatus (the opening of the urinary tract). These germs then cause infection. The urinary tract is normally sterile, meaning it contains no germs.

A CAUTI occurs when germs (usually bacteria) enter the urinary tract through the urinary catheter and cause infection. This can occur when health care worker hands are not properly cleaned before the insertion of a catheter or during the process of cleaning or emptying of the urine collection system.

Risk Factors

Sexually active women, people with blockages in the urinary tract, such as prostate enlargement, and women using certain types of birth control, such as diaphragms, or those who are undergoing menopause are at higher risk of UTI.

Patients with urinary catheters are at risk for CAUTIs because the catheter serves as an entry point for organisms outside the body to enter the urinary tract. These

organisms can cause local or widespread infections with potential for serious complications. The longer a urinary catheter remains in place, the higher the risk of infection.

Complications

A urinary tract infection can lead to severe illness associated with back pain, fever, sepsis and decreased kidney function when the infection involves the kidney, a condition known as pyelonephritis. For CAUTIs, the indwelling urinary catheter may need to be removed and replaced. CAUTIs have been associated with increased health care costs and increased risk of death.

Tests and Diagnosis

Urine samples are collected to look for pathogens (bacteria or other organisms).

Treatments

UTIs and CAUTIs can be treated with antibiotics and/or by removing a urinary catheter. The specific type(s) and duration of antibiotic therapy depends on the pathogen that is causing the infection. However, antibiotic resistance among *E. coli* and other organisms that cause UTIs has been increasing, making treatment more difficult.

Prevention

For persons who do not have a urinary catheter, these steps may help to prevent UTIs:

- drink plenty of liquids;
- wipe from front to back after using the bathroom; and
- empty the bladder soon after intercourse.

Doctors and nurses should always clean their hands with soap and water or an alcohol-based hand rub, wear sterile, protective gear and clean a patient's skin with an antiseptic cleanser before putting in a urinary catheter. Health care workers should also clean their hands and wear gloves before handling a catheter or emptying a urine collection bag.

As a patient with a urinary catheter, these steps might help you to prevent CAUTIs:

- Ask your doctors and nurses to explain why you need the catheter and how long you will have it.
- Make sure that you and anyone who cares for your catheter or empties the collection bag perform handwashing before and after touching it.
- Inform your nurse or doctor if the area around your catheter is sore or red.

- Check the position of the urine collection bag; it should always be below the level of the bladder.
- Do not allow your urine collection bag to touch the floor.
- Do not tug or pull the catheter.
- Do not twist or kink the tubing.

Disease Patterns

UTIs are the most common type of healthcare-associated infection. The rate of CAUTI in Pennsylvania has been decreasing. In 2015, there were approximately 1.2 CAUTIs for every 1,000 days that patients had a urinary catheter.

Updated information about CAUTIs and other healthcare-associated infections in Pennsylvania is published each year by the Department of Health:
[http://www.health.pa.gov/facilities/Consumers/Healthcare%20Associated%20Infection%20\(HAI\)/Pages/HAI-Annual-Reports.aspx](http://www.health.pa.gov/facilities/Consumers/Healthcare%20Associated%20Infection%20(HAI)/Pages/HAI-Annual-Reports.aspx). 3

Additional Information

Centers for Disease Control and Prevention:
https://www.cdc.gov/hai/ca_uti/cauti_faqs.html

This fact sheet provides general information. Please contact your physician for specific clinical information.

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