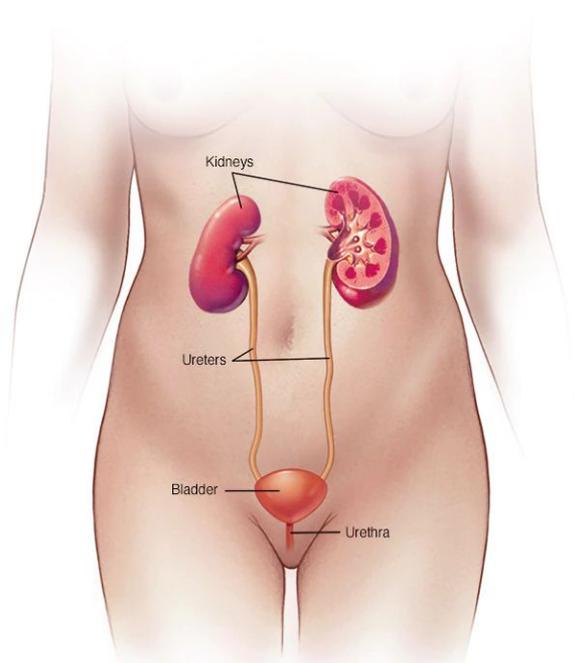


# Urinary Tract Infection (UTI)



## Background Information

Women have a higher risk in developing an urinary tract infection because women have shorter urethra so it shortens the distance the bacteria has to travel to the bladder.

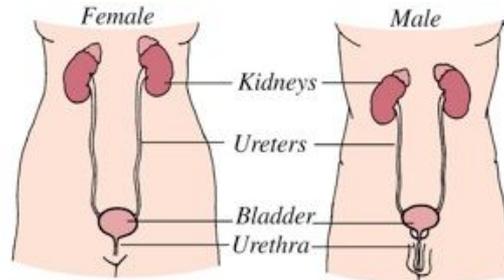
50-60% of women experience at least one UTI in their lifetime.

10% of women after menopause experience an UTI in the previous year.

The likely chances in men to get an UTI is 1 in 10 men.

If the spreading of infection occurs, it can cause other serious health conditions.

Untreated UTIs can spread to the kidney and bloodstreams which can be life threatening.



## What is an UTI?

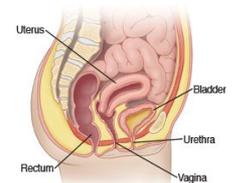
An urinary tract infection (UTI) is an infection of any part of the urinary tract.

Parts include: kidneys, bladder, ureters, and urethra

Common infection area: the bladder and urethra

## Types of UTIs

- **Cystitis (bladder):**
  - ★ From *Escherichia coli* (*E. coli*) which is bacteria found in the gastrointestinal tract.
- **Pyelonephritis (kidney):**
  - ★ Caused by the inflammation of the kidney from an urinary tract infection. The bacteria travels to the kidney.
- **Urethritis (urethra):**
  - ★ Occurs when the gastrointestinal bacteria spread from the anus and to the urethra



# Symptoms

## Cystitis (bladder):

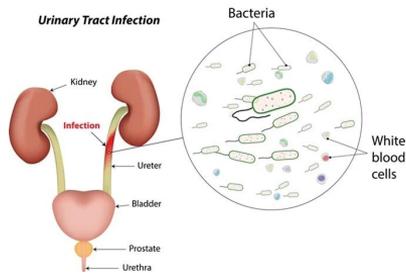
- Frequent and painful discharge
- Discomfort at lower abdomen
- Cloudy, blood, and strong smell in urine
- Pelvic pressure

## Pyelonephritis (kidneys):

- Fever
- Nausea
- Chills
- Back pain

## Urethritis (urethra):

- Burning during urination
- Discharge



# Diagnostics

*E. coli* is a gram-negative bacillus and its cell wall is composed of thin peptidoglycan layer.

Bacteria will be gram negative or positive based on the results of the gram staining. If the media changes color to pink, it means that it is a lactose fermentation.

Morphology: Lactose-fermenting colonies are pink and rod-shaped. The pink color would indicate fermentation and the infection of *E.coli*.

Arrangement: Single arrangement

*E. coli* is found in the human microflora (large intestines).

# Risk Factors of UTI

- Female anatomy
  - Having a shorter urethra
- Women of age: 16-64 years old
- Sexually active
- The use of certain types of birth control
  - The use of unlubricated or spermicide treated condoms
- Completing menopause
  - Decline in estrogen may makes the urinary tract to be more likely to be infected

# Prevention of UTI

- Stay hydrated
- Drink cranberry juice
- Wipe from front to back after discharge
- Urinate after intercourse or when needed
- Change the use of feminine products and birth control methods

# Treatment

- Antibiotics
  - Trimethoprim-sulfamethoxazole
  - Nitrofurantoin
  - Fosfomycin
- Stay hydrated and urinate frequently
- ★ If you develop UTIs frequently, a doctor may recommend antibiotics for >6 months
- ★ Severe infections may need additional treatment



## References:

Urinary tract infection (UTI). (2020, October 14). Retrieved December 04, 2020, from <https://www.mayoclinic.org/diseases-conditions/urinary-tract-infection/diagnosis-treatment/drc-20353453>

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