

Chemotherapy

Urinary Tract Infections (UTIs)

- A urinary tract infection (UTI) is an infection that affects any part of the urinary system, including the:
 - **Kidneys**
 - **Bladder**
 - **Ureters**
 - **Urethra**
- UTIs are usually caused by bacteria but may also be caused by fungi or viruses.



Common Causative Organisms

- E. coli (most common)
- Klebsiella, Proteus, Enterococcus
- Staphylococcus saprophyticus

Symptoms of UTIs

- Pain or burning sensation when urinating
- Strong, frequent urge to urinate
- Cloudy or strong-smelling urine
- Blood in the urine
- Pain or pressure in the lower abdomen or back
- Fever or chills

Prevention of UTIs

- Drink plenty of fluids

- Urinate frequently
- Wipe from front to back after using the bathroom
- Urinate before and after sexual activity
- Avoid contraceptives that increase UTI risk (e.g., diaphragms, spermicides)

UTIs are classified as

- **Uncomplicated:** Healthy individuals (mostly women)
- **Complicated:** Associated with structural/functional abnormalities, catheterization, diabetes, etc.

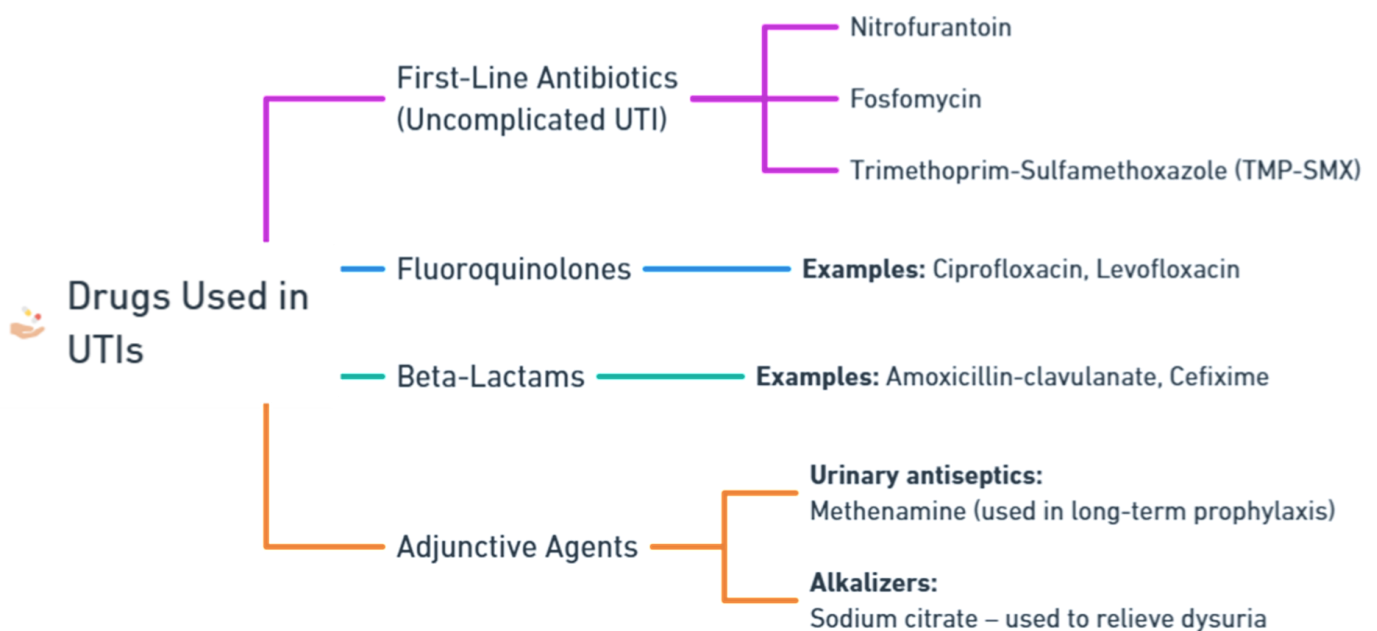
Types

- Cystitis (bladder)
- Pyelonephritis (kidneys)
- Urethritis

Common Causative Organisms

- *E. coli* (most common)
- *Klebsiella*, *Proteus*, *Enterococcus*
- *Staphylococcus saprophyticus*

Pharmacology of Drugs for Urinary Tract Infections (UTIs)



1. First-Line Antibiotics (Uncomplicated UTI)

A. Nitrofurantoin

- **Mechanism:** Damages bacterial DNA





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