



SNS COLLEGE OF ALLIED HEALTH SCIENCES

SNS Kalvi Nagar, Coimbatore - 35

Affiliated to Dr MGR Medical University, Chennai



**DEPARTMENT : CARDIO PULMONARY PERFUSION CARE
TECHNOLOGY**

COURSE NAME : PHARMACOLOGY

UNIT : UTI DRUGS

**TOPICS : DEFINITION, CLASSIFICATION, MECHANISM OF
ACTION, PHARMACODYNAMICS, PHARMACOKINETICS,
INDICATIONS, CONTRAINDICATIONS, SIDE EFFECTS**



UTI DRUGS



UTI drugs are medications used to treat urinary tract infections, which are caused by bacterial overgrowth in the urinary system.



CLASSIFICATION



- Antibiotics (e.g., Trimethoprim/sulfamethoxazole, Nitrofurantoin, Fluoroquinolones, Beta-lactams, Fosfomycin)
- Urinary analgesics (e.g., Phenazopyridine)
- Adjunctive therapies (e.g., Probiotics, Cranberry products)



MECHANISM OF ACTION



- Antibiotics inhibit bacterial growth by targeting various stages of bacterial replication or cell wall synthesis.
- Urinary analgesics alleviate pain and discomfort during urination without directly treating the infection.
- Adjunctive therapies like probiotics promote a healthy balance of bacteria, while cranberry products may prevent bacterial adherence to the urinary tract lining.



PHARMACODYNAMICS



- Antibiotics disrupt essential bacterial processes, such as DNA synthesis, cell wall formation, or protein synthesis.
- Urinary analgesics act locally in the urinary tract to reduce pain perception during urination.
- Adjunctive therapies modify the bacterial environment or inhibit bacterial adherence.



PHARMACOKINETICS



- Absorption: Most UTI antibiotics are well-absorbed orally.
- Distribution: They reach therapeutic concentrations in the bloodstream and urine.
- Metabolism and Excretion: Metabolic pathways and elimination routes differ among antibiotics.



INDICATIONS



- Antibiotics: Treatment of UTIs caused by susceptible bacteria.
- Urinary analgesics: Symptomatic relief from pain, burning, or discomfort during urination.
- Adjunctive therapies: Prophylaxis against recurrent UTIs.



CONTRAINDICATIONS



- Allergies or hypersensitivity to specific drug classes.
- Certain medical conditions or medications that may interact negatively.



SIDE EFFECTS



- Antibiotics: Side effects vary but commonly include gastrointestinal upset, allergic reactions, and in specific cases, serious adverse effects like tendon rupture or blood disorders.
- Urinary analgesics: Side effects may include headache, dizziness, stomach upset, and in rare cases, severe allergic reactions.



- Adjunctive therapies: Generally considered safe but may cause mild gastrointestinal disturbances in some individuals.



TECHNICIAN ROLE



Monitoring for Specific Adverse Effects: Depending on the medication prescribed, certain adverse effects may require closer monitoring, such as tendon issues with fluoroquinolones or blood disorders with sulfonamides.



ASSESSMENT



- What is the Pharmacodynamics of UTI Drugs ?
- What all are the Side Effects of UTI Drugs ?