

Penicillins

I. Medications

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

II. Mechanism

- _____
 - Inhibits _____
- Inactivation of _____ (____)
 - Binding causes morphologic changes, weakening cell wall
- _____
 - Produced by bacteria, _____ in absence of new construction

III. Resistance

- _____
 - _____
- ↓ _____
- _____
- _____

IV. Adverse Effects

- _____
- Neurotoxicity
- Hypersensitivity

Cephalosporins

I. 1st Generation

- _____
- _____
- _____

II. 2nd Generation

- _____
- _____
- _____
- _____
- _____

III. 3rd Generation

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

IV. 4th Generation

- _____

V. 5th Generation

- _____

VI. Mechanism

- _____
- _____
- _____

VII. Resistance

- _____
- ↓ _____
- _____
- _____

VIII. Adverse Effects

- Neurotoxicity
- Hypersensitivity

Carbapenems

I. Medications

- _____
- _____
- _____
- _____

II. Mechanism

- _____
- _____
- _____

III. Resistance

- Rare _____
- ↓ _____
- _____
- Modified _____

IV. Adverse Effects

- Hypersensitivity

Monobactams

I. Medication

- _____

II. Mechanism

- _____
- Inactivation of _____
- _____

III. Resistance

- Resistant to most _____
 - Not effective against _____

Vancomycin

I. Mechanism

- _____
- Alters _____
- Inhibits _____ synthesis

II. Resistance

- Certain bacteria including Enterobacteriaceae

III. Adverse Effects

- _____

Daptomycin

I. Mechanism (proposed)

- Cell wall disruption
- Inhibits DNA/RNA/protein synthesis

II. Adverse Effects

- _____/_____

Telavancin

I. Mechanism

- a. _____
- b. _____

II. Adverse Effects

- a. _____
- b. _____
- c. Taste disturbance
- d. Renal impairment

Fosfomycin

I. Mechanism

- a. _____
 - i. Blocks _____

II. Treatment

- a. Single dose for UTI, concentrates in urine over several days

Polymyxins

I. Medications

- a. _____
- b. _____

II. Mechanism

- a. Disrupts _____

III. Treatment

- a. _____

IV. Adverse Effects

- a. Nephrotoxicity
- b. Neurotoxicity

Tetracyclines

I. Medications

- a. _____
 - b. _____
 - c. _____
 - d. _____
- a. Binds _____ of _____

II. Mechanism

III. Resistance

- a. _____
- b. _____

IV. Adverse Effects

- a. _____
- b. _____
- c. Tinnitus
- d. _____
- e. Hepatotoxicity
- f. _____

Glycylcyclines

I. Medications

- a. _____

II. Mechanism

- a. Binds _____ of _____

III. Treatment

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

IV. Resistance

- a. _____

V. Adverse Effects

- a. _____
- b. Esophagitis/gastritis
- c. _____
- d. Hepatotoxicity
- e. _____
- f. _____

Aminoglycosides

I. Medications

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

II. Mechanism

- a. Binds _____ of _____, inhibits _____

III. Resistance

- a. _____
- b. _____
- c. Decreased uptake

IV. Adverse Effects

- a. _____
- b. Vertigo
- c. _____
 - i. Care in _____

Macrolides

I. Medications

- a. _____
- b. _____
- c. _____
- d. _____

II. Mechanism

- a. Binds _____ of _____

III. Resistance

- a. Efflux pumps
- b. Changes to _____
- c. Decreased uptake
- d. Enzymatic inactivation

IV. Adverse Effects

- a. ↑ GI motility
- b. _____
- c. Hepatotoxicity
- d. _____
- e. _____

Fidaxomicin

I. Mechanism

- a. Inhibits _____

II. Treatment

- a. _____

III. Adverse Effects

- a. Nausea, vomiting, abdominal pain

Chloramphenicol

I. Mechanism

- a. Binds _____ of _____

II. Treatment

- a. Only used in life-threatening infections with no alternative

III. Resistance

- a. Enzymatic inactivation
- b. Changes in binding site
- c. Decreased penetration

IV. Adverse Effects

- a. _____ & _____
- b. _____
 - i. Poor feeding
 - ii. Respiratory depression
 - iii. Cardiovascular collapse
 - iv. Hypoxia/cyanosis
 - v. Death
- c. _____
- d. Blurry vision

Clindamycin

I. Mechanism

- a. Binds _____ of _____

II. Resistance

- a. Efflux pumps
- b. Enzymatic Activation

III. Adverse Effects

- a. _____

Quinupristin/Dalfopristin

I. Mechanism

- a. Binds _____ of _____ separately
 - i. _____ inhibits _____
 - ii. _____ inhibits addition of _____

II. Treatment

- a. _____
- b. Gram-positive infections including _____

III. Resistance

- a. Efflux pumps
- b. Enzymatic Activation

IV. Adverse Effects

- a. Venous irritation
- b. Arthralgias/myalgias
- c. _____

Linezolid

I. Mechanism

- a. Inhibits _____
 - i. Binds _____ of _____

II. Treatment

- a. Resistant gram-positive infections
 - i. VRE
 - ii. _____
 - iii. Penicillin resistant strep

III. Resistance

- a. Reduced affinity at binding site

IV. Adverse Effects

- a. Risk of _____ w/ _____
- b. _____

Fluoroquinolones

I. Medications

- a. _____
- b. _____
- c. _____
- d. _____

II. Mechanism

- a. Inhibits _____
- b. Inhibits _____

III. Resistance

- a. Mutated _____/_____
- b. Efflux pumps
- c. Decreased uptake

IV. Adverse Effects

- a. _____
- b. _____
- c. _____ & _____
- d. _____
- e. Avoid in pregnancy/breastfeeding

Sulfonamides/Trimethoprim

I. Medications

- _____ / _____
- _____
- _____

II. Mechanism

- _____
 - ↓ purine/pyrimidine synthesis
 - Competes with _____ in production of _____, which is used in DNA/protein synthesis
- Trimethoprim
 - Inhibits _____
 - _____ is an enzyme used in production of precursors to DNA, proteins, etc.

III. Resistance

- Altered _____ (trimethoprim)
- Efflux pumps
- Decreased uptake

IV. Adverse Effects

- Sulfonamides
 - _____
 - _____
 - _____
 - _____
 - Drug-drug interactions
 - _____
- Trimethoprim
 - _____ / _____ from _____ deficiency

Nitrofurantoin

I. Mechanism

- Metabolites _____ and inhibit _____

II. Treatment

- Urinary tract infections

III. Adverse Effects

- _____ (_____)
- Pneumonitis
- Avoid in 1st trimester of pregnancy

Nitroimidazoles

I. Medications

- _____
- _____

II. Mechanism

- Reduction of nitro group on drug results in cytotoxic intermediate that binds DNA/proteins

III. Treatment

- E. histolytica
- _____
- Trichomonas
- _____
- C. difficile colitis

IV. Adverse Effects

- _____
- _____
- N/V/abdominal cramps

TB Drugs

I. _____

- Mechanism
 - Inhibits _____
 - Effects cell wall
- Adverse Effects
 - _____
 - Loss of _____
 - _____

II. _____

- Mechanism
 - Decreases _____ synthesis → disrupts cell wall
 - Inhibits _____
 - Inhibits _____
- Resistance
 - Mutation of enzymes
 - Over-expression of enzymes
- Adverse Effects
 - Hepatitis
 - _____ (treated with _____)
 - _____ (treated with _____)

III. _____

- Mechanism: Unclear
- Resistance
 - Lack of _____ (activating enzyme)
- Adverse Effects
 - Hepatitis

IV. _____

V. _____

VI. _____

a. Mechanism

- Inhibits _____
- ## b. Resistance
- Mutations of _____
- ## c. Adverse Effects
- Induces _____
 - Turns _____, _____, secretions _____

Dapsone

I. Mechanism

- Inhibits _____
- Reduces _____ synthesis

II. Treatment

- _____
- _____

III. Adverse Effects

- _____ (_____)
- _____
- Peripheral neuropathy

Clofazimine

I. Treatment

- Leprosy
- TB & other mycobacteria

II. Adverse Effects

- _____ (____/____/____)
- Severe GI symptoms
- _____