



Quiz

1. What is the primary mechanism of action of quinolones?
 - a. Inhibition of cell wall synthesis
 - b. Inhibition of protein synthesis
 - c. Inhibition of bacterial DNA gyrase and topoisomerase IV
 - d. Activation of bacterial enzymes
2. In gram-negative bacteria, which enzyme is predominantly inhibited by quinolones?
 - a. DNA gyrase
 - b. Topoisomerase IV
 - c. RNA polymerase
 - d. Helicase
3. Which generation of fluoroquinolones exhibits enhanced gram-positive effects, including coverage of staph and strep?
 - a. First-generation
 - b. Second-generation
 - c. Third-generation
 - d. Fourth-generation
4. What is the clinical indication for ciprofloxacin?
 - a. First-line therapy for community-acquired pneumonia
 - b. Treatment of anthrax
 - c. Second-line for tuberculosis
 - d. Gastroenteritis





Quiz

5. Which fluoroquinolone is known for its effectiveness against MRSA?
 - a. Ciprofloxacin
 - b. Levofloxacin
 - c. Moxifloxacin
 - d. Delafloxacin

6. What adverse effect is associated with quinolones and is characterized by articular cartilage erosion, tendinitis, and tendon rupture?
 - a. Nausea
 - b. Peripheral neuropathy
 - c. Phototoxicity
 - d. Musculoskeletal issues

7. How do quinolones achieve their antibacterial effect in gram-negative bacteria?
 - a. Inhibition of protein synthesis
 - b. Inhibition of cell wall synthesis
 - c. Inhibition of DNA gyrase
 - d. Activation of RNA polymerase

8. In the mechanism of resistance to fluoroquinolones, mutations in which enzymes can lead to altered targets?
 - a. DNA gyrase
 - b. RNA polymerase
 - c. Dihydropteroate synthetase
 - d. Dihydrofolate reductase





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9. Which bacterial enzyme is inhibited by sulfonamides?
- DNA gyrase
 - Dihydropteroate synthetase
 - Dihydrofolate reductase
 - RNA polymerase
10. What is the major adverse effect associated with sulfonamides that requires adequate hydration and urine alkalinization?
- Peripheral neuropathy
 - Crystalluria
 - QT prolongation
 - Phototoxicity
11. Trimethoprim inhibits which bacterial enzyme involved in the synthesis of tetrahydrofolic acid?
- DNA gyrase
 - Dihydropteroate synthetase
 - Dihydrofolate reductase
 - RNA polymerase
12. Which combination has a synergistic effect in inhibiting two sequential steps in the synthesis of tetrahydrofolic acid?
- Trimethoprim and sulfamethoxazole
 - Ciprofloxacin and levofloxacin
 - Moxifloxacin and delafloxacin
 - Nalidixic acid and norfloxacin





Quiz

13. What is the primary antibacterial spectrum of cotrimoxazole (trimethoprim/sulfamethoxazole)?
 - a. Gram-positive bacteria
 - b. Gram-negative bacteria
 - c. Both gram-positive and gram-negative bacteria
 - d. Fungi

14. Methenamine is used for chronic suppressive therapy to reduce urinary tract infections by producing:
 - a. Formaldehyde
 - b. Acetic acid
 - c. Ethanol
 - d. Hydrogen peroxide

15. What is the major inhibitor of DNA and RNA synthesis in nitrofurantoin?
 - a. DNA gyrase
 - b. Topoisomerase IV
 - c. Dihydrofolate reductase
 - d. RNA polymerase





Quiz

Answers

1. c. Inhibition of bacterial DNA gyrase and topoisomerase IV
2. a. DNA gyrase
3. d. Fourth-generation
4. b. Treatment of anthrax
5. d. Delafloxacin
6. c. Phototoxicity
7. c. Inhibition of DNA gyrase
8. a. DNA gyrase
9. b. Dihydropteroate synthetase
10. b. Crystalluria
11. c. Dihydrofolate reductase
12. a. Trimethoprim and sulfamethoxazole
13. c. Both gram-positive and gram-negative bacteria
14. a. Formaldehyde
15. c. Dihydrofolate reductase

