

## Medical Interventions – Lesson 1.2 Study Guide

1. **Conjugation:** Draw it! Include structures involved with genetic exchange and the mechanisms of how genetic material can move between bacterial cells.
2. **Transformation:** Draw it! Include structures involved with genetic exchange and the mechanisms of how genetic material can move between bacterial cells.
3. **Transduction:** Draw it! Include structures involved with genetic exchange and the mechanisms of how genetic material can move between bacterial cells.
4. What are the structural differences between Gram positive and Gram-negative bacterial cells?
5. What is an endotoxin and which type of bacteria have them?
6. What part of a bacterial cell allows it to attach to specific surfaces and offers protection from human immune responses?
7. List 3 different ways humans have contributed to the rise of antibiotic resistant bacteria.
8. What is a “superbug”?
9. What is an antibiotic?
10. To which antibiotic class does penicillin belong? What type of bacteria do they work on best? Why?

11. How do fluoroquinolones function? What structures are targeted? How?
12. How do Beta – lactams function? What structures are targeted? How?
13. How do tetracyclines function? What structures are targeted? How?
14. How do sulfonamides function? What structures are targeted? How?
15. Antibiotics typically attack which structure of bacteria first, targeting which type?
16. What happens to the infection when you miss taking your antibiotics, or take them incorrectly?
17. How does not taking antibiotics as prescribed impact the health of others?
18. Why would antibiotics NOT help a person with a viral disease?
19. Draw, label, and define bacterial cell structures.
  
20. Draw, label, and define the differences between Gram + and Gram -.