

Mastery Series: Antibiotics

1. 4 modes of action that antibiotics may exploit.
2. Why would a mold or a bacteria make an antibiotic (what is the advantage?)
3. List the antibiotics that I listed that inhibit cell wall formation.
 - a. Do you suspect cell wall inhibitors are most effective against Gram + or Gram – bacteria? WHY?
4. Which antibiotic is typically prescribed for MRSA or C. dif?
5. Which antibiotic is often prescribed if someone is allergic to amoxicillin?
6. Of the discussed antibiotics, which type are well-known for their toxicity to the 8th cranial nerve and to the kidneys?
7. Which lab value is monitored for patients receiving aminoglycoside antibiotics?
8. Which antibiotic can cause Red Man Syndrome?

Mastery Series ANSWERS: Antibiotics

1. 4 modes of action that antibiotics may exploit.
Inhibit DNA replication or mRNA transcription
Inhibit protein synthesis
Block metabolic pathways
Inhibit cell wall formation
2. Why would a mold or a bacteria make an antibiotic (what is the advantage?) **it inhibits other organisms from living in that space and has more room for itself.**
3. List the antibiotics that I listed that inhibit cell wall formation.
 - *penicillin (and other –cillins)
 - *bacitracin
 - *cephalosporin
 - *vancomycin

Do you suspect cell wall inhibitors are most effective against Gram + or Gram – bacteria? WHY? **Gram positive. Gram negative are more reliant on their lipid outer layer. Also, antibiotics don't easily pass through the outer lipid layer of Gram negative cells.**

4. Which antibiotic is typically prescribed for MRSA or C. dif? **Vancomycin**
5. Which antibiotic is often prescribed if someone is allergic to amoxicillin? **Erythromycin**
6. Of the discussed antibiotics, which type are well-known for their toxicity to the 8th cranial nerve and to the kidneys? **Aminoglycosides, such as streptomycin or gentamicin**
7. Which lab value is monitored for patients receiving aminoglycoside antibiotics? **Serum creatinine is monitored to check for kidney toxicity**
8. Which antibiotic can cause Red Man Syndrome? **Vancomycin, infused too rapidly**