

**BMD 420, Pharmacology  
Fall 2002**

**EXAMINATION 1 – Sample questions**

SELECT THE **ONE** BEST ANSWER

1. The simple receptor occupancy theory states that when a graded dose-response relationship exists, the response to the drug is \_\_\_\_\_ related to the number of receptors occupied by the drug.  
  
A. proportionally  
B. indirectly  
C. inversely  
D. conversely  
E. None of the above      Ch. 6
  
2. A given drug is reported to have an ED<sub>50</sub> = 12 and an LD = 120. What is this drug's therapeutic index?  
  
A. Cannot be calculated from information provided.  
B. 0.1  
C. 0.01  
D. 10  
E. 100      Ch. 6
  
3. Which of the below factors can affect the rate of GI absorption.  
  
A. Presence of solids (such as bran), acids, fats (high calorie) or narcotic drugs.  
B. Presence of enteric coating on the tablet  
C. Aerosol particle size  
D. A, B & C are correct  
E. A & B are correct      Ch. 5 & 7
  
4. In class discussions some important features of urinary excretion of drugs which were pointed out included the following:  
A. Organic anionic drugs such as penicillin, which undergo renal tubular secretion, initially were recycled by collecting and extracting urine from early patients treated with the drug.  
B. Passive diffusion is not an important determinant in this process.  
C. Organic anionic drugs such as penicillin, which undergo renal tubular secretion, can be blocked from this pathway by simultaneous treatment with another anionic drug such as probenecid.  
D. A and C are correct  
E. A and B are correct      Ch. 6

5. In class discussions regarding drug side effects, the following points were made:
- A. The nonsedating antihistamines such as Hismanal (azetemizole) and Seldane (terfenadine) can cause life threatening reactions when taken with macrolide antibiotics such as erythromycin.
  - B. The mechanism by which such antibiotics produce these reactions is because they decrease the liver metabolism of the antihistamines.
  - C. Higher blood levels than needed for therapeutic effects of these antihistamines, can cause heart problems such as abnormal ECGs, irregular heartbeats and cardiac arrest.
  - D. An example of a drug/food interaction included taking grapefruit juice with either of these same antihistamines, because this fruit contains natural ingredients known to inhibit liver drug metabolizing enzymes.
  - E. All of the above. Ch. 7
6. In drug absorption studies:
- A. Time to peak concentration, AUC and peak concentration are important pharmacokinetic parameters used to calculate bioavailability if oral and IV administrations are compared.
  - B. Before a drug can be absorbed it must first dissolve.
  - C. To “pass” FDA requirements a generic drug must be within  $\pm 10\%$  the bioavailability of the innovators product.
  - D. Only A & B are correct
  - E. A, B & C are correct Ch. 6
7. In studies of reproductive toxicity:
- A. Effects are more expected for drug molecules with a MW 100,000 than those of MW = 100.
  - B. It has been estimated that the incidence of birth defects is about 50% in humans and are the result of drug treatment.
  - C. The most sensitive period is the time of organogenesis; this translates to the 1<sup>st</sup> trimester for humans.
  - D. All of the above
  - E. None of the above. Ch. 10
8. This is the proper order of listing (most rapid to slowest) for drug absorption from the stomach into the bloodstream.
- A. Enteric coated tablets > regular tablets > suspension > solution
  - B. Solution > suspension > regular tablets > enteric coated tablets
  - C. Subcutaneous (SQ) > IM > oral > IV
  - D. IM > oral > IV > SQ
  - E. oral > IV > SQ > IM Ch. 5

Indicate whether the following are True (A) or False (B).

9. Only a few drugs appear in breast milk. Ch. 10
10. Oral contraceptives are known to have increased drug metabolism and therefore decreased efficacy, when the person is also on phenobarbital to control epileptic seizures. Ch. 7
11. The incidence of ADRs goes up linearly if a patient takes 4 or more drugs different drugs per day. Ch. 7
12. In class an example was provided of the value of pretesting in a few animals, even for substances intended merely to dissolve a drug. In this case the vehicle caused DIC in the pair of dogs tested. Ch. 5

Select either A or B as correct.

13. Pharmacokinetic parameters usually provide straight lines if plotted on, A, a linear scale or, B, on a log scale. Ch. 6
14. Drug potency is A, usually, or B, rarely an important characteristic of a drug. Ch. 6
15. Phase I clinical trials are usually done using A, young, adult males, or, B, elderly females. Ch. 14.