

## Pharmacokinetics Class Preparation

### Nursing 101

GI SYSTEM: The oral medication reaches the systemic circulation through the GI system. As a result, numerous factors can affect the absorption of the pill.

Questions:

1. A client is experiencing diarrhea. How could this affect absorption of an oral drug?

This could affect the absorption of the drug because when you have diarrhea there is no time for the drug to be absorbed into your bloodstream due to your GI tract being affected by diarrhea.

2. How could the presence of food in the stomach affect the rate of absorption?

The presence of food in the stomach slows down gastric emptying, therefore interrupting the drug absorption.

CARDIOVASCULAR SYSTEM: Once the pill is absorbed into the bloodstream, it is carried or delivered to the sites of pharmacologic action where the drug produces its effects.

Question:

3. How do you think the distribution of the oral medication affected if a client has less than normal cardiac output?

Their blood flow may decrease and their cardiac output would decrease.

LIVER: Most biotransformation takes place in the liver. Any decrease in the ability of the liver to metabolize medication could lead to an accumulation of the active drug in the bloodstream. This could put the client at risk for toxic effects and adverse reactions.

Questions:

4. How might nutritional status affect metabolism?

If you have an increase in nutritional status then you could become over nutritioned but if you have a decrease in nutritional status then you could become under nutritioned and it would be harder for your body to break down foods.

5. What factors influence the rate of medication metabolism?

Age, your liver, diet.

6. KIDNEYS: Drug excretion/elimination occurs mainly through the kidneys into the urine. If there is any impairment in kidney function, medications may not be excreted at the anticipated speed. Subsequent medication administration may lead to accumulation and potential toxicity.

Questions:

7. Why would very young and very old clients need to be closely monitored by nurse for signs and symptoms of drug toxicity?

They can be more susceptible to drug toxicity.

8. How can the nurse assess kidney function?

Urinalysis. Checking for any proteins or waste products in urine.