

## 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 cause the medicine to move through its absorption site too quickly not allowing all its contents to get absorbed or the medicine could be flushed out of the body's system too fast.**
2. How could the presence of food in the stomach affect the rate of absorption?  
**It could slow down the 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? **The medicine will not go out to the circulatory system as effectively.**

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? **It may affect metabolism in that it can affect the absorption of the medicines, it may slow down or speed up the absorption, bad foods can interact with medicines and or cause side effects.**
5. What factors influence the rate of medication metabolism? **Things like age, diet, interactions with other medication, and sedentary lifestyle may affect this.**
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? **Old and young clients do not have good liver**

**and kidney functions, which can affect how fast or slow medicines distribute to their bodies. Another factor is that both can be sensitive to drugs, they may have stronger effects than the average person.**

- 8. How can the nurse assess kidney function? The nurse can assess kidney function by monitoring their urine output, making sure it is clear, with no substance and a good amount each hour. The nurse can also do a physical examination, checking the skin, eyes, edema, and more.**