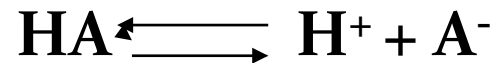


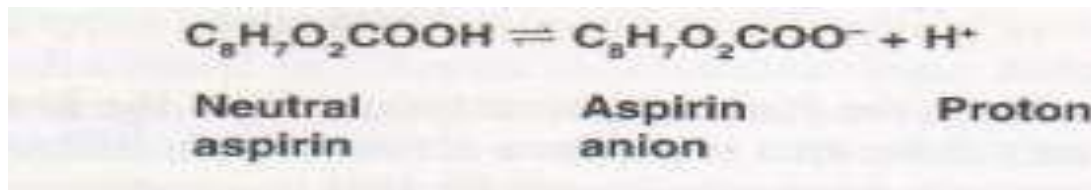
Factores affecting drug absorption

The Effect of pH on drug absorption

- Most drugs are either weak acids or weak bases.
- Acidic drugs (HA) release a H⁺ causing a charged anion (A⁻) to form in basic media:



A weak acid is defined as a neutral molecule that can reversely dissociate into an anion (a negatively charged molecule) and a proton (a hydrogen ion)

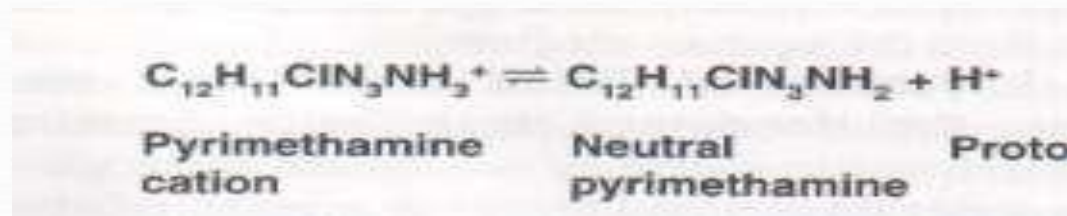


The Effect of pH on drug absorption...Cont

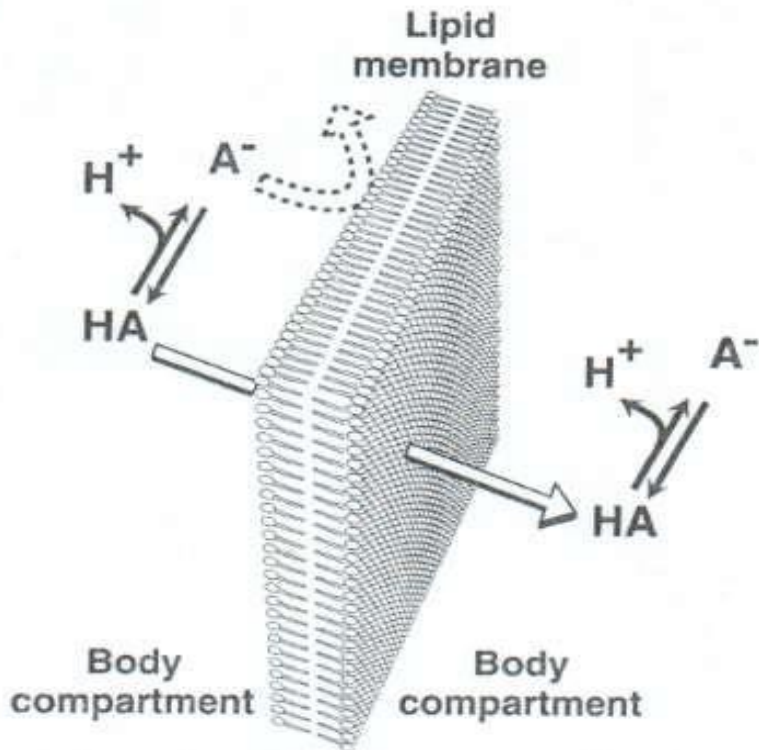
- Weak bases (BH^+) can also release a H^+ ; however, the protonated form of basic drugs is usually charged and loss of a proton produces the uncharged base (B).



A weak base is defined as a neutral molecule that can form a cation (a positively charged molecule) by combining with a proton



A Weak acid



B Weak base

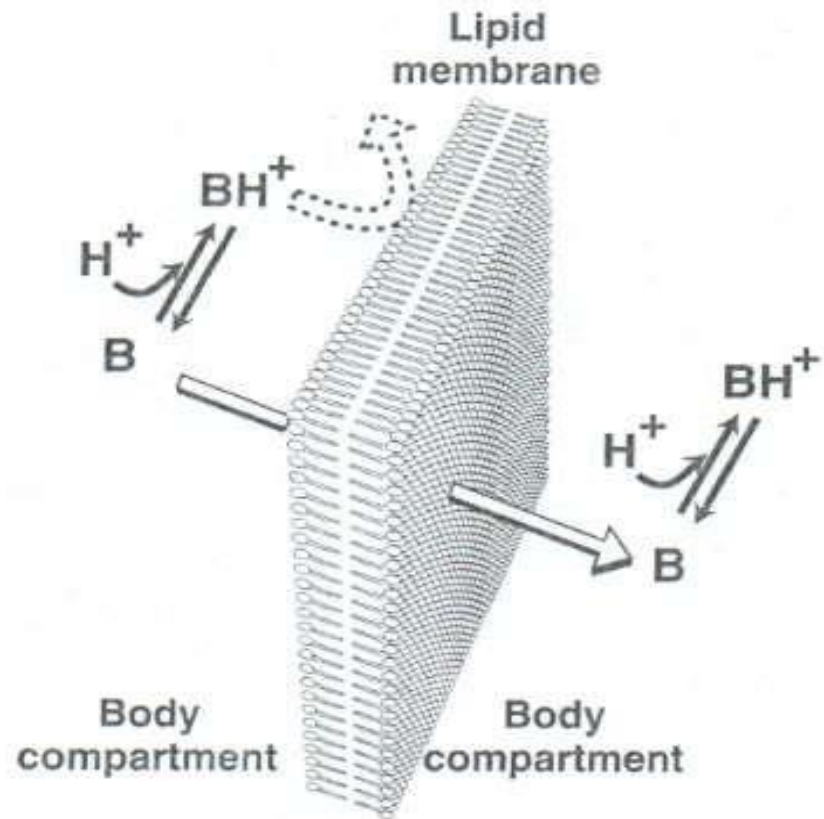


Figure 1.5

A. Diffusion of non-ionized form of a weak acid through lipid membrane;
B. Diffusion of non-ionized form of a weak base through lipid membrane.

Physical factors influencing drug absorption

- **Blood flow to the absorption site.**
 - Blood flow to the intestine is much greater than the flow to the stomach
- **Total surface area available for absorption.**
 - Intestine surface is rich in microvilli, it has a surface area about 1000 times that of the stomach.
- **Contact time at the absorption surface.**
 - Speed of movement through the GIT (diarrhea).



Other factors affecting absorption

- Dosage forms of the drugs
- Drug solubility
- Stress/pain
- Food
- Routes of administration
- The presence of other drugs

