Pharmacokinetics **Chapter 1**

I. Pharmacokinetics
   1.absorption
   2.distribution
   3.metabolism
   4.elimination

II. Routes of administration
   A. Administration by mouth
      1.oral
         1) enteric-coated
         2) extended-release (ER or XR)
      2.sublingual/buccal
   B. Parenteral
      1.intravenous (IV)
      2.intramuscular (IM)
      3.Subcutaneous (SC, subQ, SQ, subcu)
      4.Intradermal
   C. Other
      1.inhalation, topical, transdermal, rectal

III. Entry of Drugs Into Circulation
   A. Source
   B. Across plasma membrane
      1.passive diffusion
      2.facilitated diffusion
      3.active transport
      4.endocytosis
   C. Bioavailability
      1.determination
      2.influencing factors
         a. first-pass metabolism
         b. solubility
         c. chemical instability
         d. nature of drug formulation

IV. From Circulation to Extracellular Fluid
   A. Drug distribution
   B. Factors affecting drug distribution

V. Drug clearance through metabolism
   1.clearance (CL)
   A. Kinetics of metabolism
   B. Reactions of drug metabolism
      1.Phase I rxns
         a. p450 bkg
         b. family 1, 2
            1) xenobiotics
      2.Phase II

VI. Clearance by Kidney
   1.“ion trapping”

VII. Clearance by other routes
   A. dosage changes