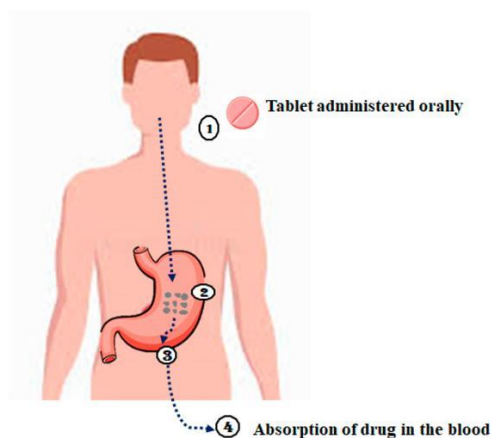
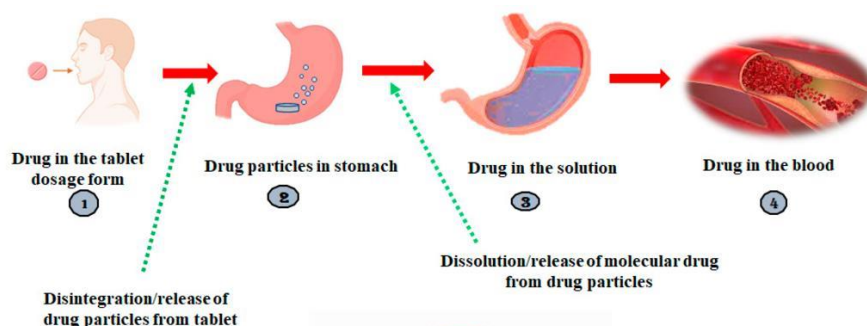


BP 604 T. BIOPHARMACEUTICS AND PHARMACOKINETICS

UNIT 1

CASE STUDY PUZZLES

1. The Delayed Pain Relief



A patient takes a painkiller after a heavy fatty meal and notices delayed pain relief. Explain how food and gastric emptying time influence drug absorption through GIT.

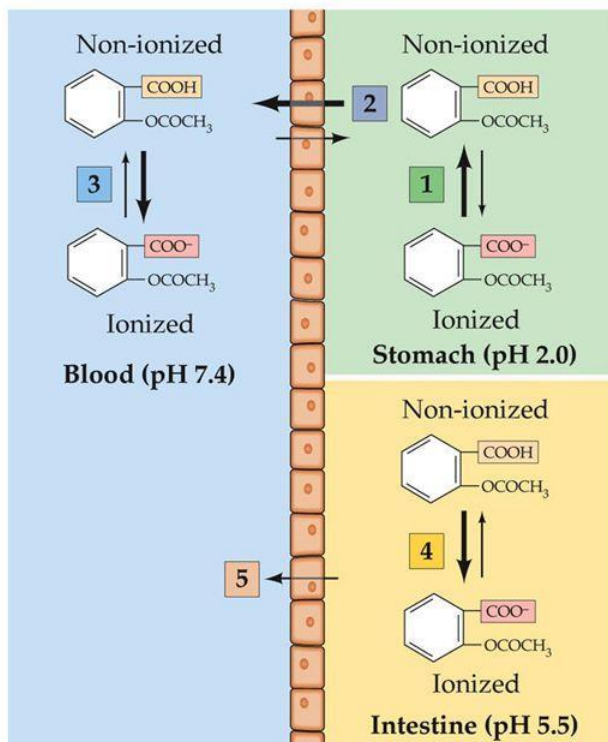
2. The Acidic Drug Puzzle

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Effect of
ionization
on drug
absorption



PSYCHOPHARMACOLOGY, Figure 1.5 © 2005 Sinauer Associates, Inc.

An acidic drug shows better absorption in the stomach than in the intestine. Analyze how pH and drug ionization affect gastrointestinal absorption.

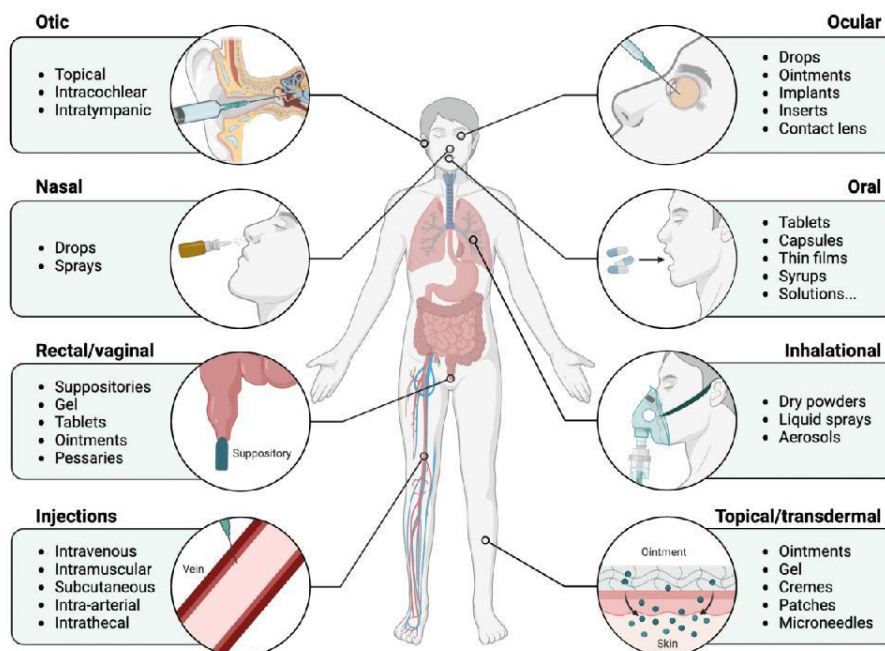
3. The Injection Route Mystery

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Drug Administration Routes



A patient receives the same drug orally and intramuscularly. The injection produces a much faster therapeutic effect. Explain why absorption differs between these administration routes.

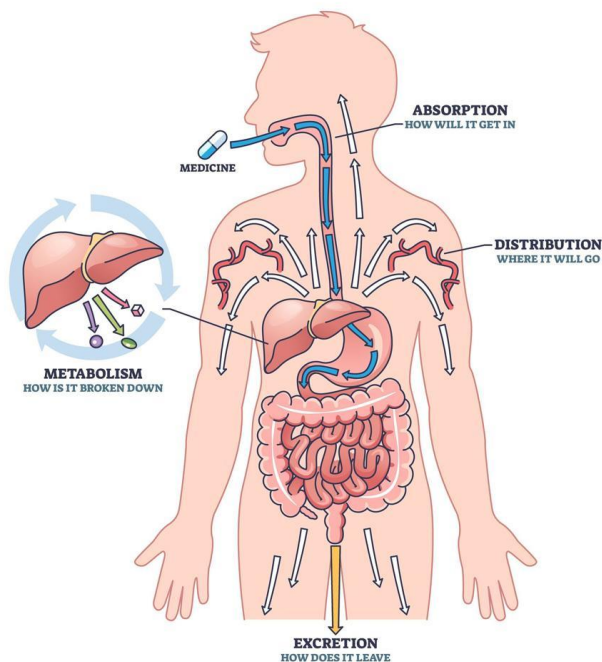
4. The Protein Binding Competition

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PHARMACOKINETICS

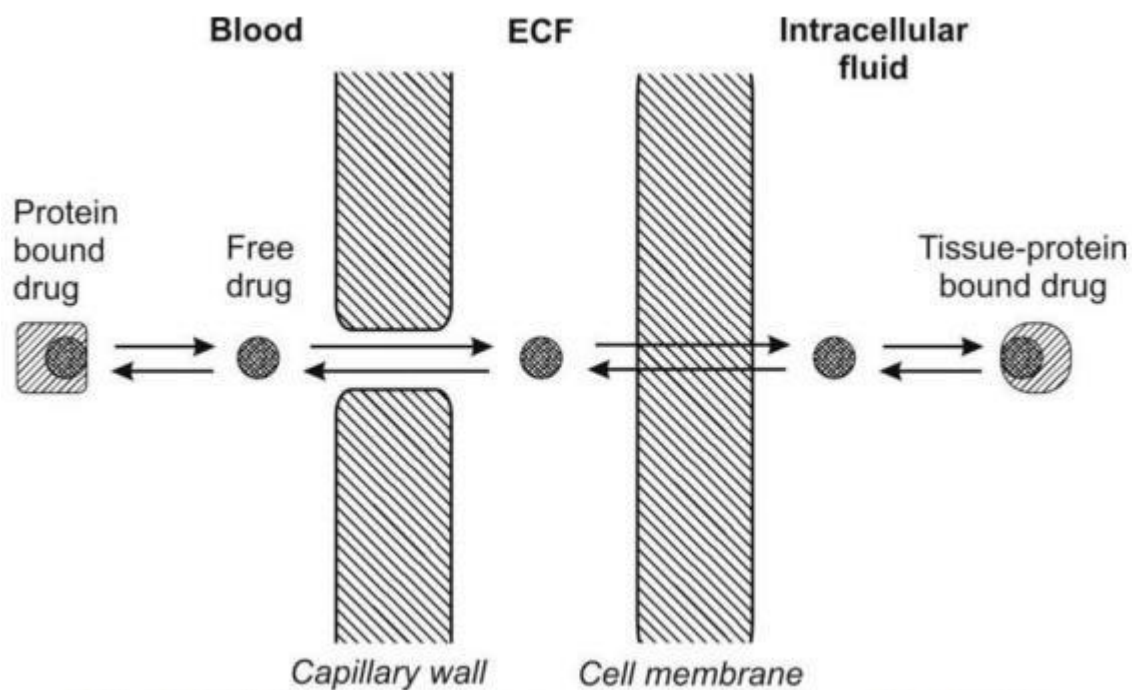


A patient taking two highly protein-bound drugs develops toxicity after starting combination therapy. Explain the mechanism of displacement interaction in plasma protein binding.

5. The Swollen Tissue Problem

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A patient with severe edema requires higher doses of a water-soluble drug to achieve therapeutic effect. Explain how tissue fluid volume affects apparent volume of distribution.