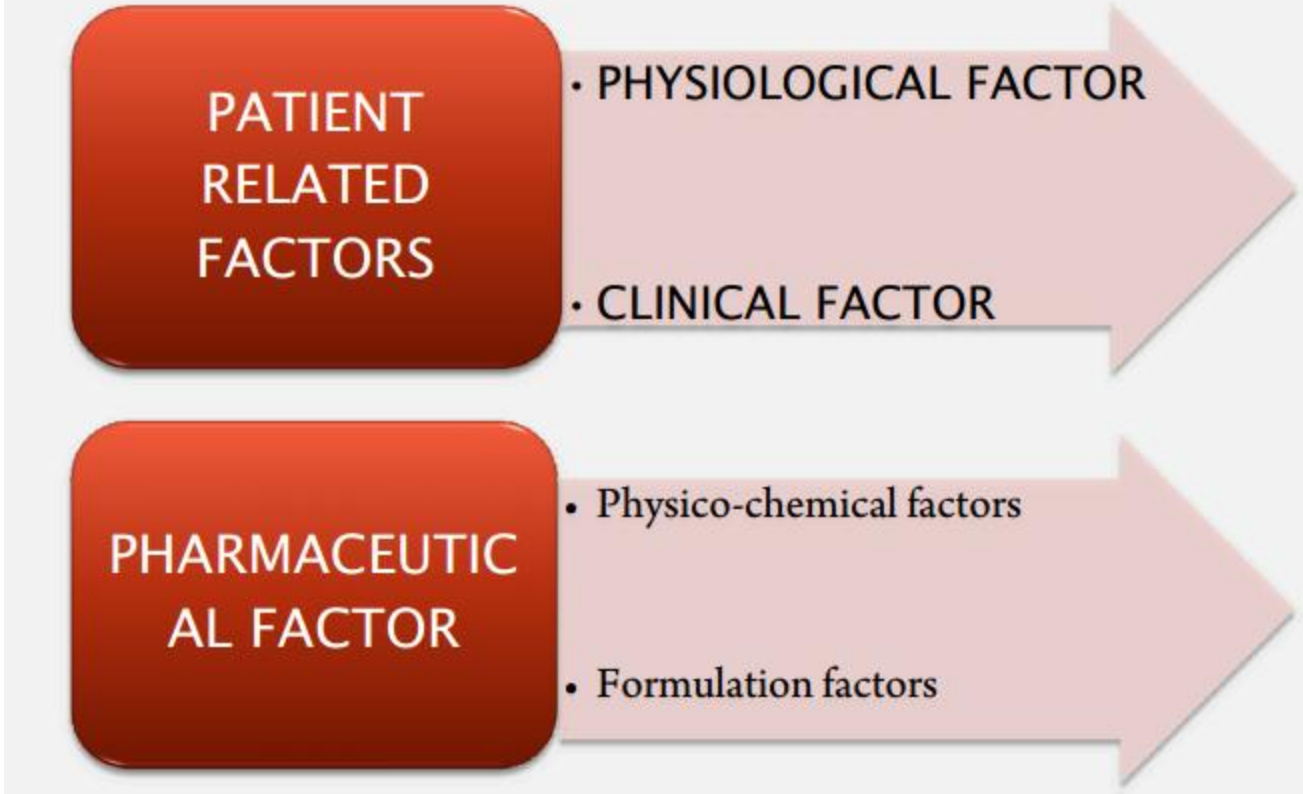
FACTORS AFFECTING DRUG ABSORPTION



PHYSIOLOGICAL FACTORS

A) MEMBRANE PHYSIOLOGY

i) Membrane Structure

ii) Transport Process

B) GASTRO-INTESTINAL PHYSIOLOGY

i) Characteristics of GI Physiology

ii) GI Motility and emptying

iii) Blood flow through GIT

iv) Influence of food

v) Intestinal transit time

vi) Pre-systemic metabolism by various enzymes.

Gastro-intestinal physiology

1. pH and surface area of GIT
2. Gastric emptying
3. Intestinal motility
4. Intestinal transit time
5. Local blood flow to GIT
6. Gastrointestinal contents
   (Effect of Food and normal content)
7. Age
8. Pre-systemic metabolism / First-pass effect

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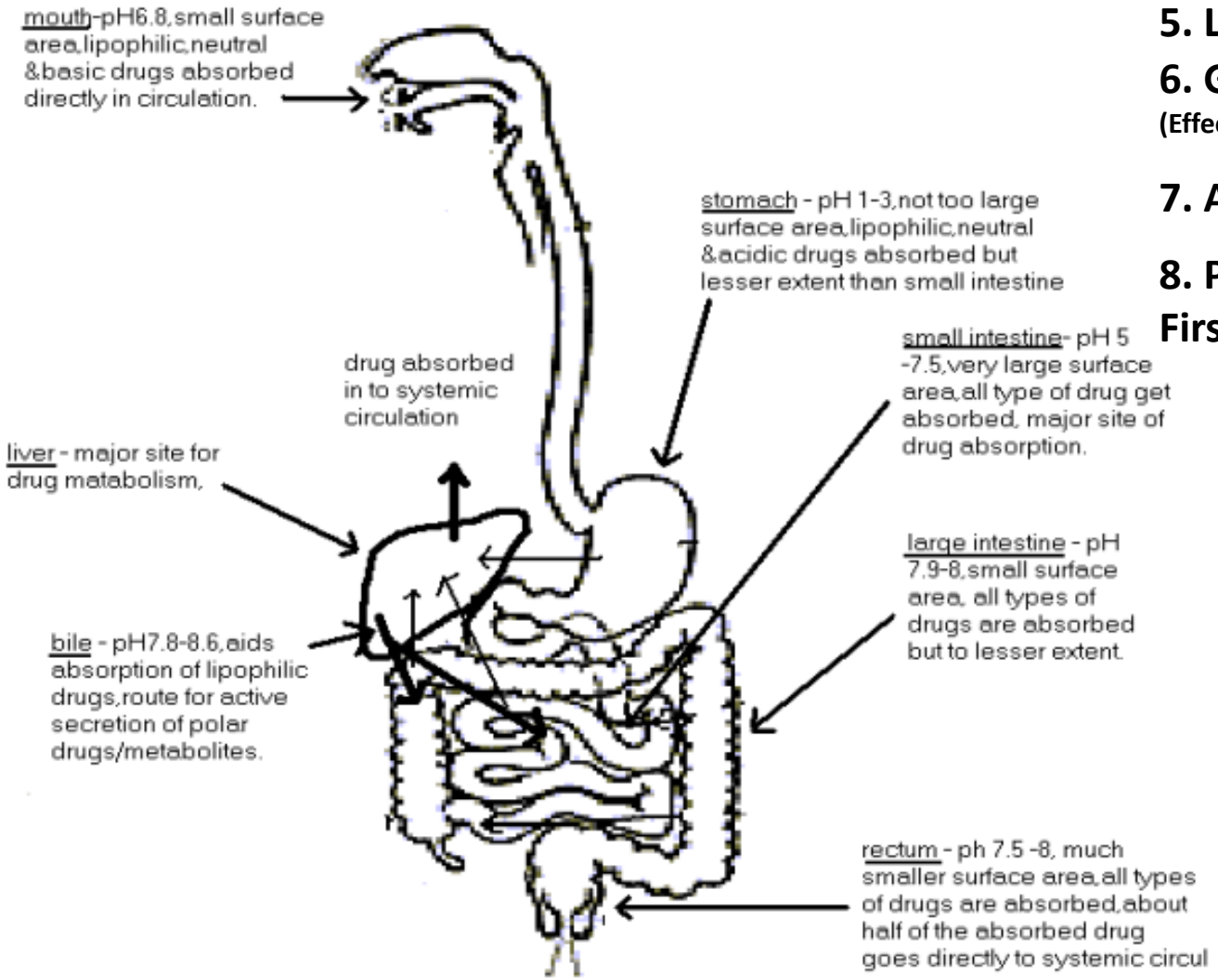


6. Gastrointestinal contents

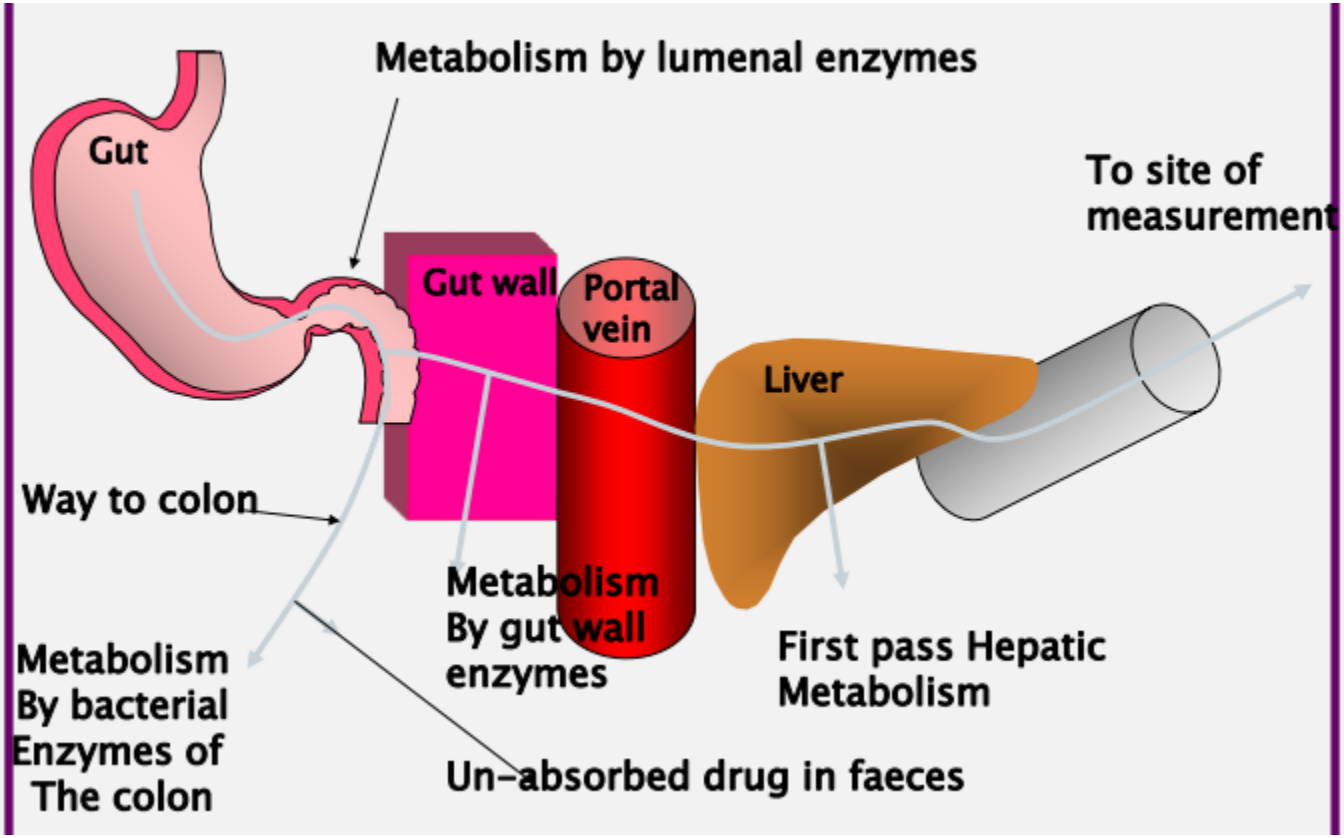
(Effect of Food and normal content)

Penicillin and tetracycline ⇩

Griseofulvin ⇧

Propranolol ⇧

Pre-systemic metabolism / First-pass effect



Clinical factors

1. Disease condition

i. Gastric diseases – Achlorhydria; ketoconazole ⇓

ii. Intestinal diseases – Chrons disease

iii. Cardio-vascular diseases - Congestive cardiac failure; furosemide ⇓

2. Drug Interactions

Metoclopramide (heartburn drug) by promoting gastric emptying

⇑ Tetracycline, acetaminophen and Levodopa absorption

Propantheline (ulcer drug) by decreasing GI transit

⇑ Ranitidine absorption