

LIPID DIGESTION AND ABSORPTION



DIGESTION

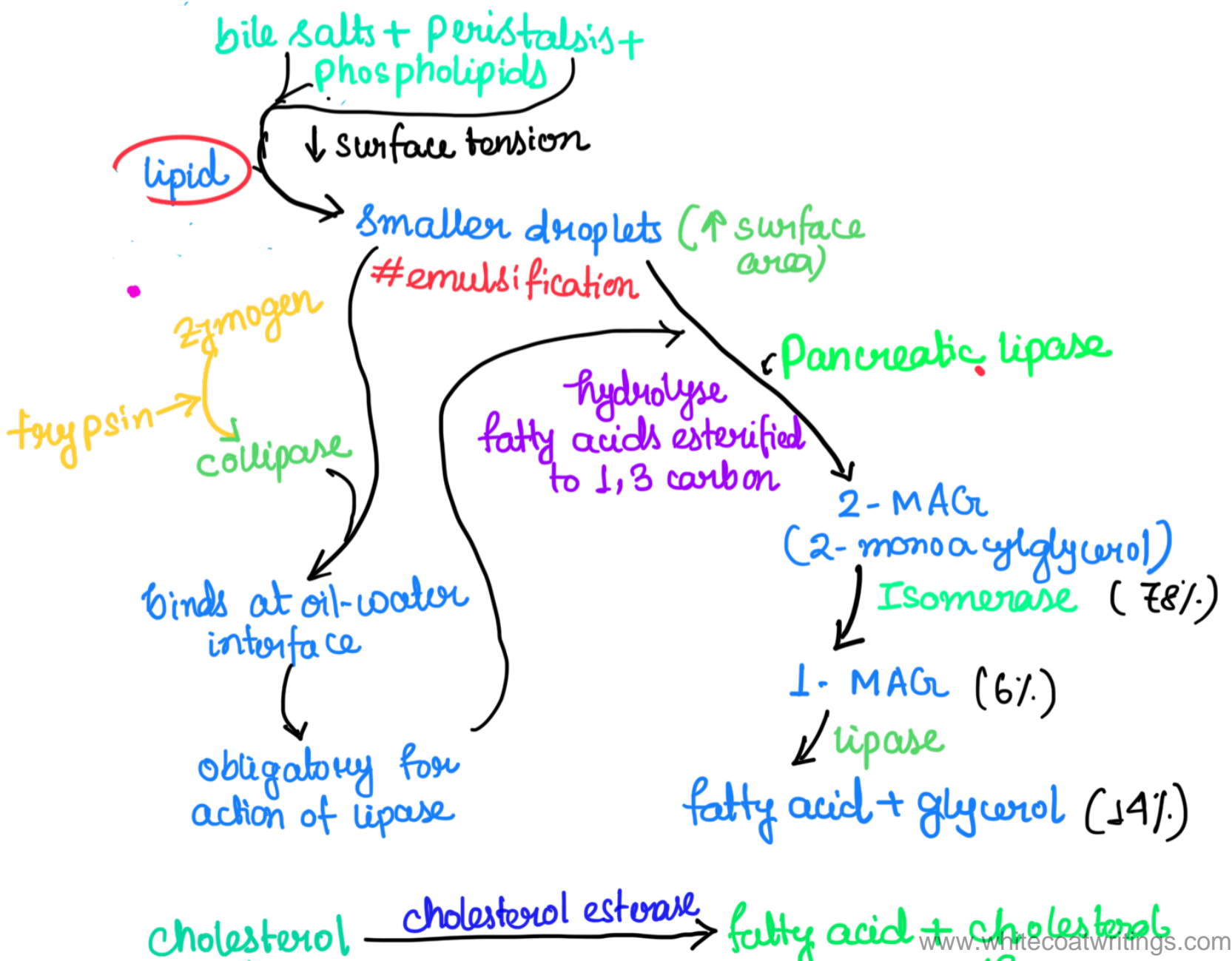
Mouth & Stomach (30% digestion)

- **lingual lipase**: from mouth.
optimum pH: 2.5-5. stays activated in stomach. comes to stomach with bolus
 ✓ acts on (short-chain triglycerides) (SCTs) in milk, ghee, butter.

gastric chief cell ← **gastrin**

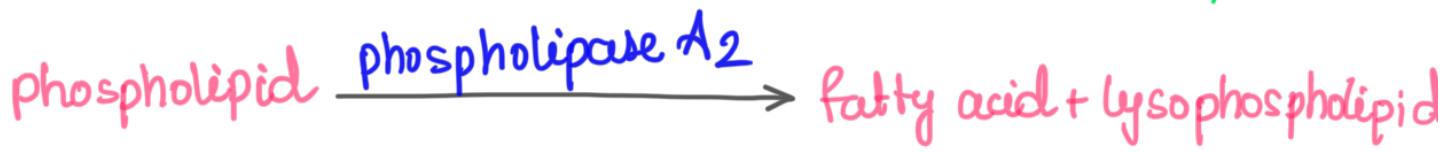
- **gastric lipase**: acid stable
 optimum pH 5.4

Intestine



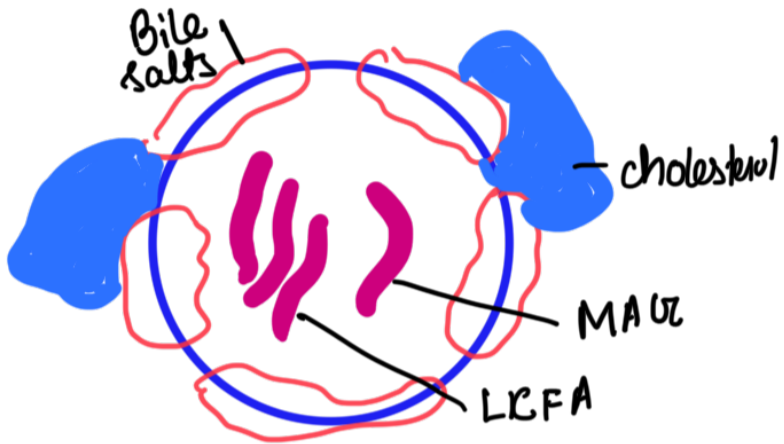
ester

(Kroeg)



ABSORPTION

2MGA, phospholipids, LCFA, bile salts



spherical molecular aggregates with hydrophobic core and hydrophilic exterior
micelle

Vit A, D, E, K absorption

aligned at jejunal mucosa

Passively diffuse into mucosal cell

bile salts are left behind which are reabsorbed by ileum and transported back to liver
#enterohepatic circulation of bile salts.

Re-esterification of
— LCFA —



monoacylglycerol

triglyceride

+ apoproteins B-48
apolipoprotein-A
phospholipid

intestinal mucosa

chylomicrons

lacteals thoracic duct

emptied into

• chyle is milky.

short chain FA & glycerol doesn't need re-esterification. directly absorbed by blood.

lymph circulation

Blood

arterial fat mass

serum may be milky

post-prandial lipemia

cleared within few hours.

ANOMALIES

• chronic pancreatic disease → defective digestion → unsplit fat ↑ in feces
steatorrhea

• a) celiac disease, sprue, crohn's disease
b) surgical removal of intestine
c) bile duct obstruction.

↓ ↓ bile salts

defective absorption

↑ split fat in feces

• issue to LCFA as SCT & MCT doesn't require micellisation.

• abnormal connection b/w lymphatic of intestine & urinary tract

→ milky urine due to ↑ lipid droplets

→ chyluria