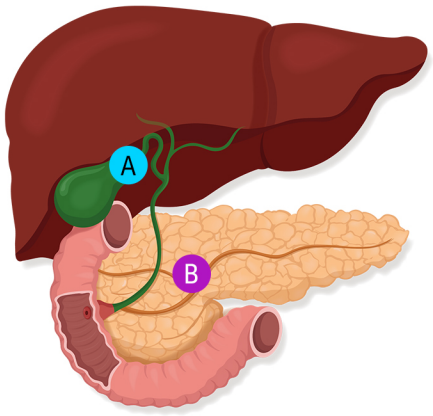
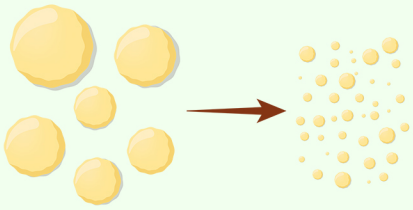
TOPIC: THE GALLBLADDER

Gallbladder and Bile



- **Gallbladder:** small _____ sac; _____ to liver.
  - Function: store _____ produced by liver.
    - **B)** **Bile duct:** connects _____ & gallbladder to small intestine.
    - **A)** **Cystic duct:** connects gallbladder to bile duct.
  - Gallbladder _____ to release bile.
    - Triggered by *Cholecystokinin (CCK)* from _____ intestine.

- **Bile:** made of bile _____, bile pigment, cholesterol, triglycerides, phospholipids, and electrolytes.
  - Bile salts are derived from cholesterol.
  - Breaks up _____ by emulsifying them.
  - Bile salts are _____ in the large intestine, brought to the liver via the portal vein and recycled by the liver.
  - Bilirubin: chief bile pigment. Waste _____ from liver; turns feces brown.



EXAMPLE

Gallbladder removal (cholecystectomy) is one of the most common surgical procedures with over one million surgeries performed in the United States each year. Indicate whether you would expect each of the following to increase, decrease, or show no change after gallbladder removal.

a) _____ Total bile production.

b) _____ Amount of bile that can be released at one time.

c) Do you think that patients who have gallbladder removal are generally advised to avoid eating fats altogether, avoid eating foods with highly concentrated fats, or to not consider fat intake in their diets? Explain your answer.

_____

_____

TOPIC: THE GALLBLADDER

PRACTICE

How would the gallbladder respond to an increase in cholecystokinin in the blood?

a) Produce more bile.

b) Remove bile salts from circulation.

c) Contract to release bile.

d) Relax to accommodate an influx of bile from the liver.

PRACTICE

Which of the following statements about bile is true?

a) Bile breaks down fats by breaking triglycerides down to fatty acids.

b) Bile increases the surface area of fats in chyme, but it does not break them down chemically.

c) The process of bile breaking down fats creates a byproduct that makes feces brown.

d) Bile is synthesized by the gallbladder when stimulated by cholecystokinin (CCK).