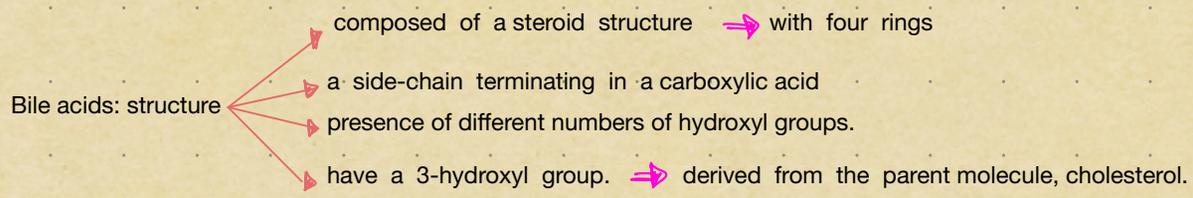


bile = bile acid + cholesterol + phospholipid



Prior to secreting

liver cells conjugate bile acids with one of two amino acids

- $\text{G} \rightarrow \text{glycine}$
 $\text{T} \rightarrow \text{taurine}$
1. glycine = $\text{NH}_2\text{-CH}_2\text{-COO-}$
 2. taurine = $\text{NH}_2\text{-CH}_2\text{-CH}_2\text{-SO}_3\text{-}$

Conjugated bile acids are almost always in their deprotonated form in the duodenum

يعني مش مرتبطة مع البروتون

makes them much more water soluble

able to emulsify fats.

Bile acid synthesis occurs in liver cells

synthesize primary bile acids in humans from cholesterol = 1. Cholic acid
2. chenodeoxycholic acid

Bile acids are stored in the gallbladder

cycled between the intestines and liver via the enterohepatic circulation.

bile acids are secreted into the lumen of the intestine.

طبقة جدارية

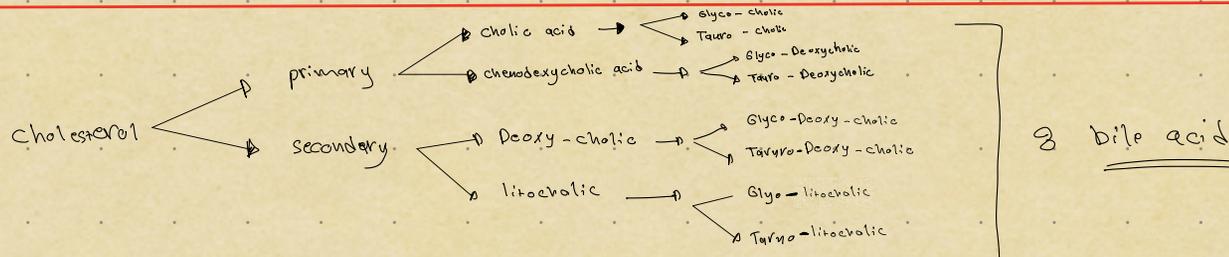
bacterial partial dehydroxylation forms the secondary bile acids.

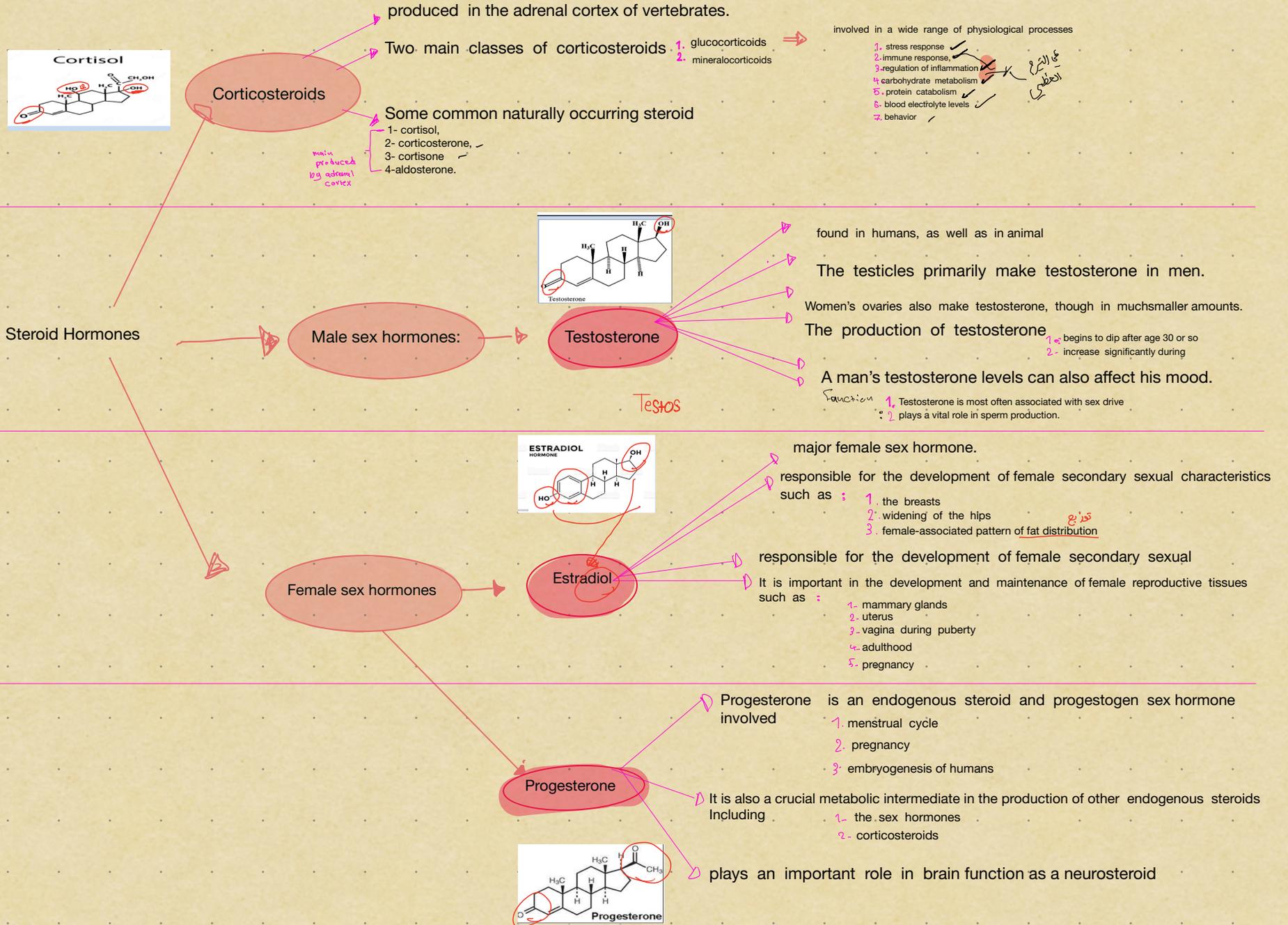
All these bile acids can be taken back up into the blood stream

Cholic acid → chenodeoxycholic acid → lithocholic acid.

• (~95%), return to the liver → re-secreted in a process known as **enterohepatic circulation**.

• (~5%) are excreted in faeces





Functions of bile acids/salts

فوائد

الامعاء

+

الوظيفة



