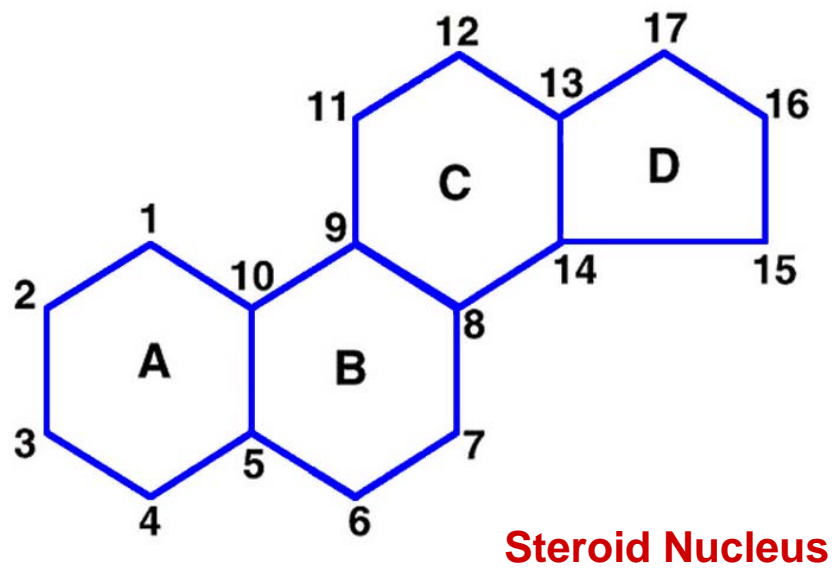
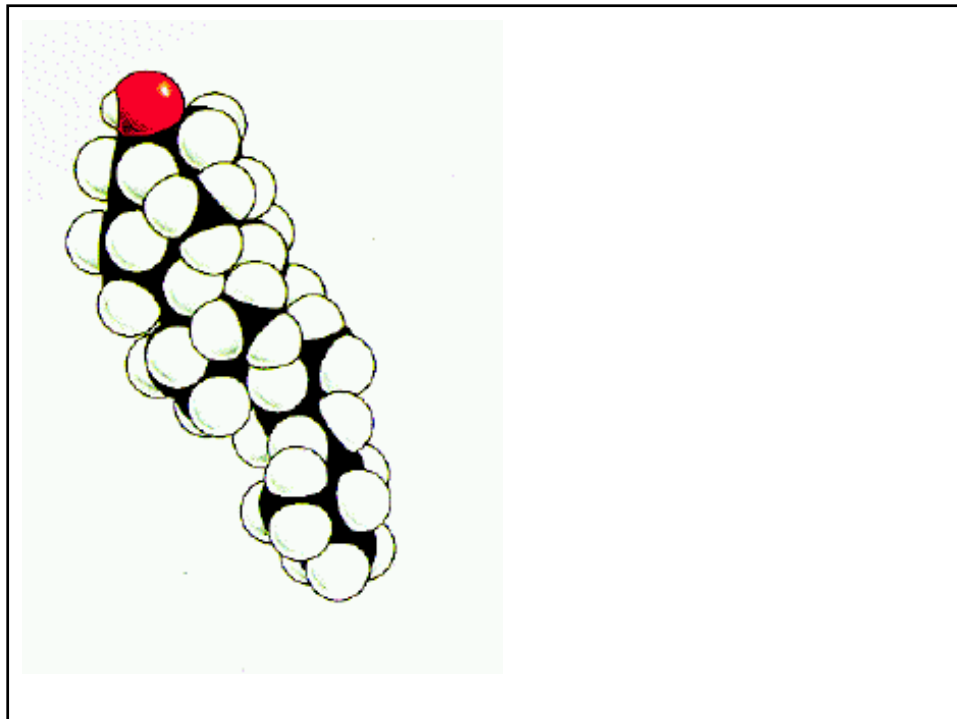
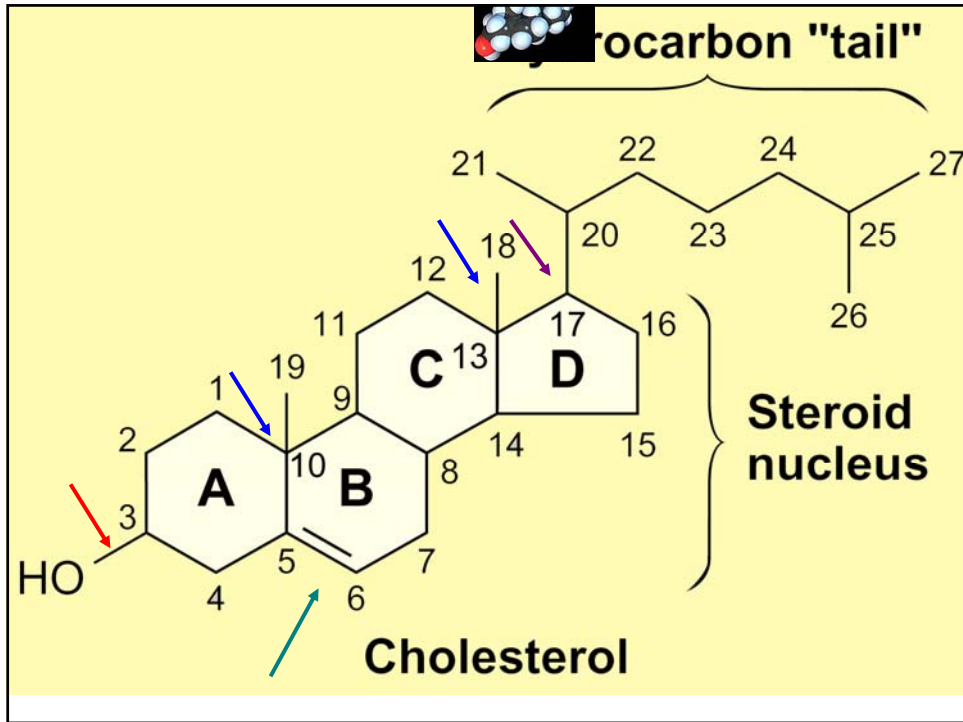
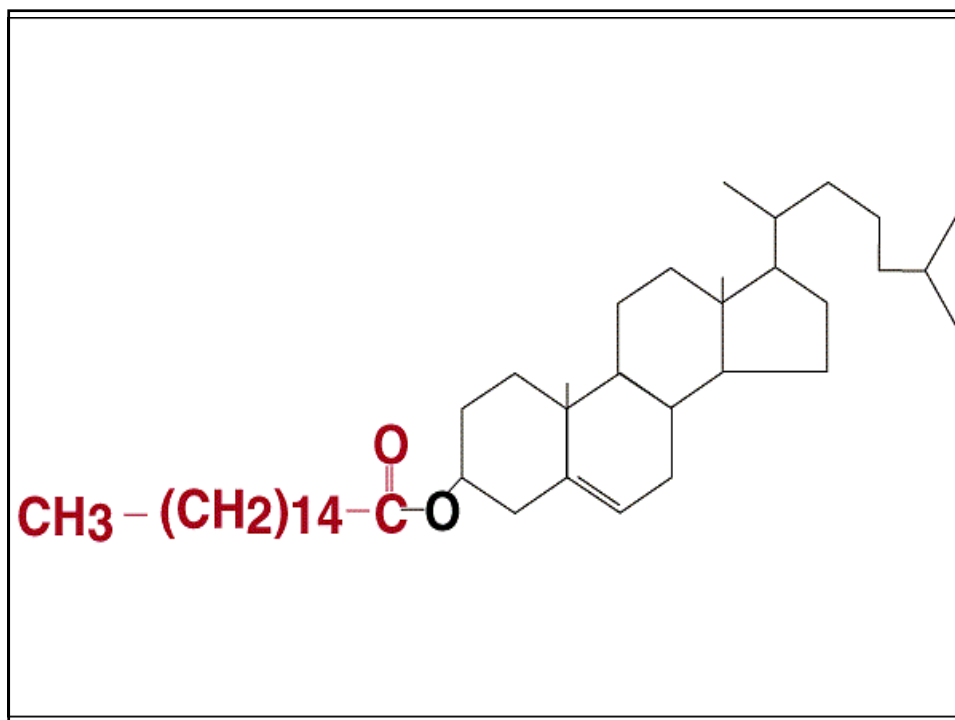


Cholesterol Metabolism

Lippincott's Illustrated Review
Chapter 18







Sources and Elimination of Cholesterol

Synthesis: ≈ 1000 mg

Liver, Small Intestine, Adrenal Cortex ...

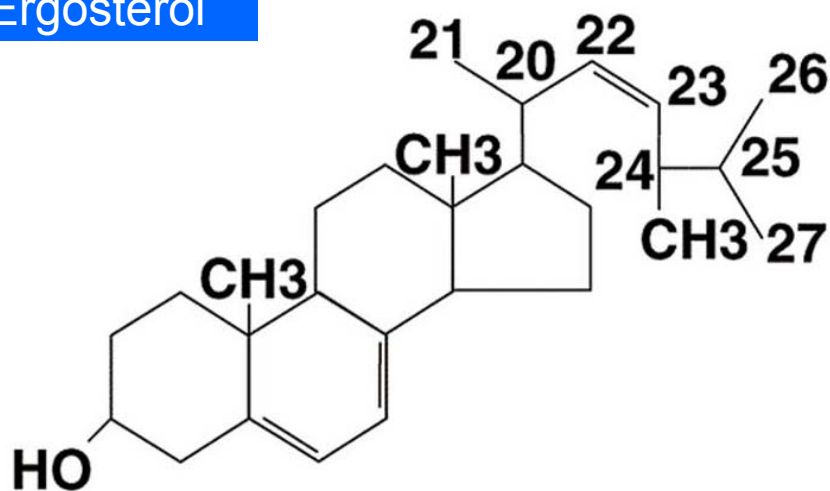
Dietary: ≈ 300 mg

(Low Cholesterol Diet)

Elimination: Via the Bile

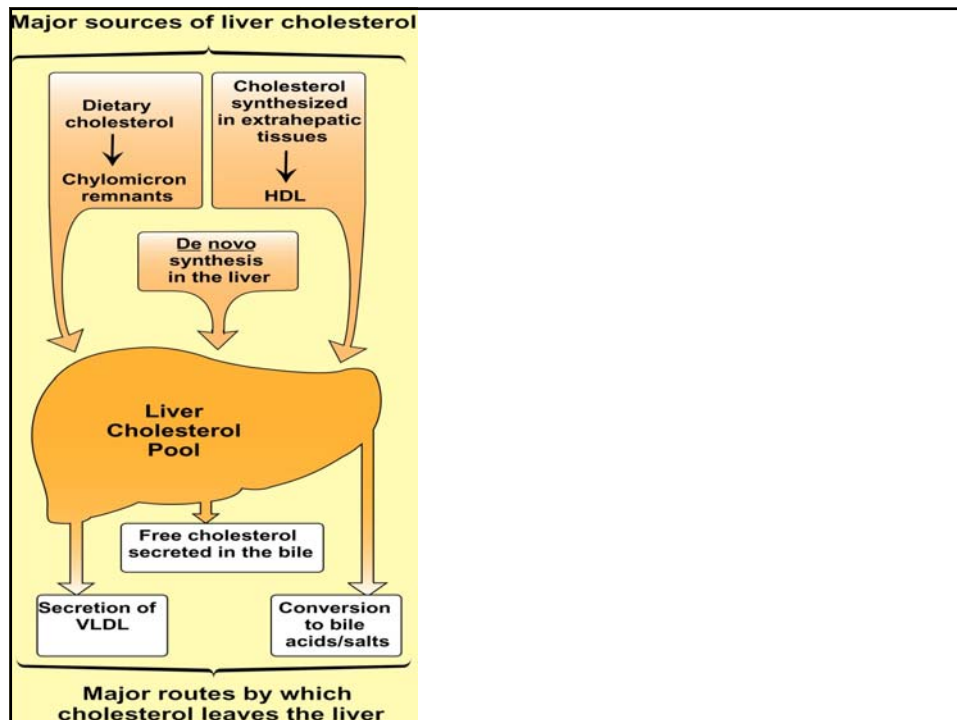
Cholesterol, Bile Salts

Ergosterol



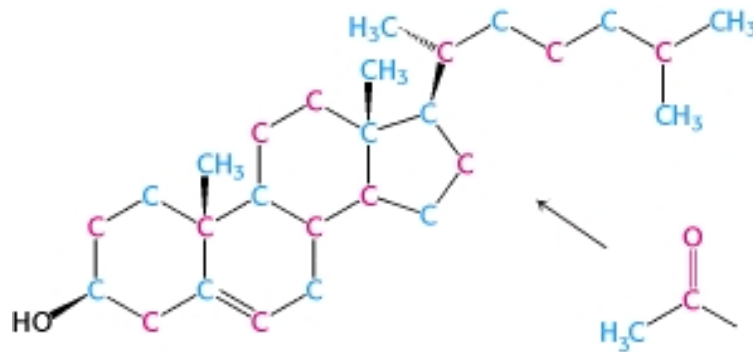
Plant Sterols are Poorly Absorbed by Human

- Plants manufacture phytosterols (substances chemically similar to cholesterol produced within plants), which can compete with cholesterol for reabsorption in the intestinal tract, thus potentially reducing cholesterol reabsorption.[12] When intestinal lining cells absorb phytosterols, in place of cholesterol, they usually excrete the phytosterol molecules back into the GI tract, an important protective mechanism.



Cholesterol Synthesis Requires

- Carbon Source: Acetyl CoA
- Energy: ATP
- Reducing Power: NADPH
- O₂



Stages in Cholesterol Synthesis

Acetyl CoA (C2)



Mevalonate (C6)



Isoprene Units (C5)



Squalene (C30)



Lanosterol (C30)



Cholesterol (C27)



