

BY

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Cholesterol



Objective



- ✓ Define Cholesterol.
- ✓ Describe Structure of Cholesterol.
- ✓ Describe Functions of Cholesterol.
- ✓ Discuss the types of lipoprotein carry the cholesterol.
- ✓ Causes of high cholesterol.
- ✓ What are normal levels of cholesterol.

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Define Cholesterol

- Cholesterol is a waxy type of fat, or lipid, which moves throughout your body in your blood.
- Lipids are substances that do not dissolve in water, so they do not come apart in blood.
- Your body makes cholesterol, but you can also get it from foods.
- Cholesterol is only found in foods that come from animals.

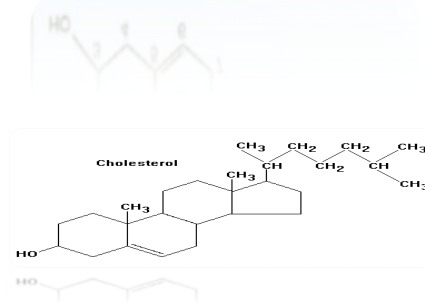
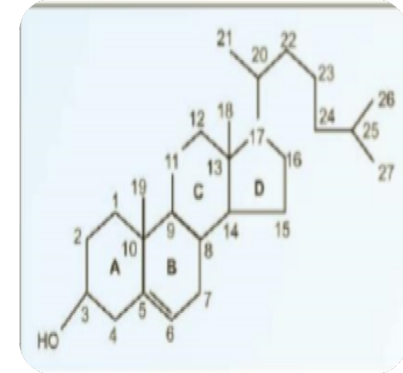




Describe Structure of Cholesterol



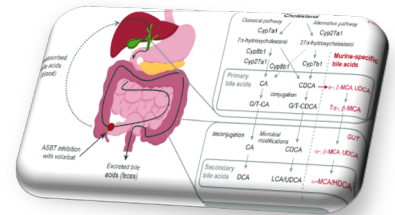
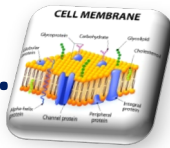
- 1- It is a fused ring system made up of 3 Cyclohexane rings designated as A, B and C and a cyclopentane ring D.
- 2- Total 27 carbon atoms.
- 3- One hydroxyl group at third position which is characteristic of all sterols.
- 4- Double bond between carbon atoms 5 and 6.
- 5- All carbon atoms of cholesterol are derived from acetyl CoA .





Describe Functions of Cholesterol

- ❑ build the structure of cell membranes.
- ❑ make hormones like Steroid hormones.
- ❑ help your metabolism work efficiently, for example, cholesterol is essential for your body to produce vitamin D.
- ❑ produce bile acids, which help the body digest fat and absorb important nutrients.



Discuss the types of lipoprotein that carry the cholesterol



Low-density lipoprotein (LDL)



called "the bad cholesterol."
Transport cholesterol from its site of synthesis in the liver to villous tissue and body cells .



High-density lipoprotein (HDL)



called "the good cholesterol."
transport excess or unused cholesterol from tissue back to liver . where its broken down to bile acid and then excreted.



Very-low-density lipoproteins (VLDL)

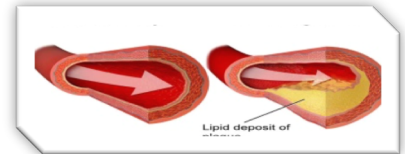


are particles in the blood that carry triglycerides.



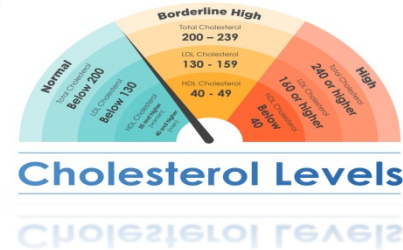
✦ Causes of high cholesterol

- ❑ Eating too many foods that are high in cholesterol .
- ❑ Saturated fat and life style factors like smoking and un activity .
- ❑ your genetic is also affect certain genes in struct your body.
- ❑ Change of the vessels wall to scar tissue .





What are normal levels of cholesterol ?



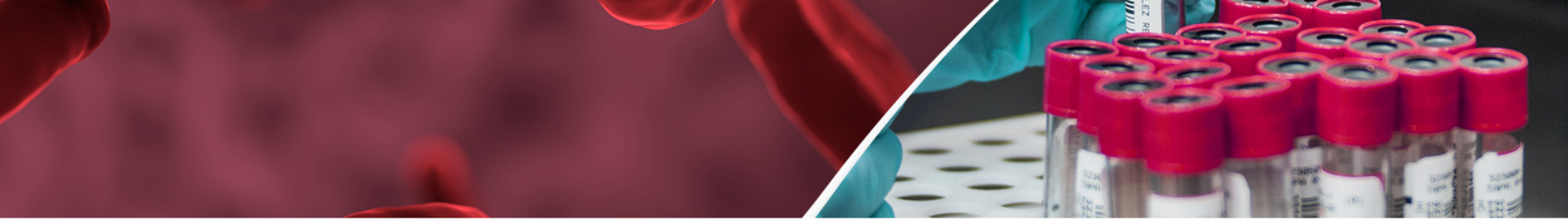
Demographic	Total Cholesterol	Non-HDL	LDL	HDL
Age 19 or younger	Less than 170 mg/dL	Less than 120 mg/dL	Less than 100 mg/dL	More than 45 mg/dL
Men age 20 or older	125 to 200 mg/dL	Less than 130 mg/dL	Less than 100 mg/dL	40 mg/dL or higher
Women age 20 or older	125 to 200 mg/dL	Less than 130 mg/dL	Less than 100 mg/dL	50 mg/dL or higher



Reference



- ❑ <https://my.clevelandclinic.org/health/articles/11920-cholesterol-numbers-what-do-they-mean>
- ❑ <https://www.britannica.com/science/cholesterol#:~:text=Cholesterol%2C%20a%20waxy%20substance%20that,that%20is%20odourless%20and%20tasteless>
- ❑ <https://www.heart.org/en/health>
- ❑ <https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.healthline.com%2Fhealth%2Fhigh-cholesterol->



Thank you

