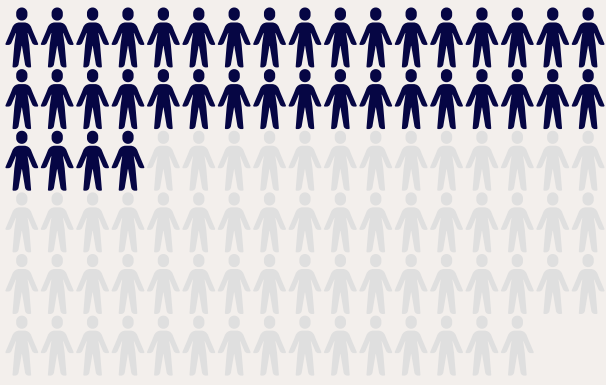


High Cholesterol

Everything You Need to Know



Around 38%

of American adults have high cholesterol (total blood cholesterol ≥ 200 mg/dL).¹ Too much cholesterol puts you at risk for heart disease and stroke, two leading causes of death in the United States



What is dyslipidemia?

Cholesterol is a type of lipid belonging to the category of steroids that exists in all cell membranes. It is needed for the following physiological functions: transmission of nerve impulses, formation of vitamin D, synthesis of testosterone and estrogen and the formation of bile.

The majority of cholesterol is made in the liver the remaining 20% is taken in through diet. The more dietary cholesterol consumed the less the liver makes it and conversely when dietary cholesterol intake drops, the more the liver makes. When dietary intake is chronically high, the liver's ability to compensate with decreased production gets compromised.



Did You Know?

Reducing LDL changes, decreasing inflammation, oxidative stress and autoimmune responses will reduce vascular damage beyond treating the LDL cholesterol level. Also reducing C-Reactive protein a marker for inflammation reduces vascular events independent of reducing LDL cholesterol, (Rakel, 2018).

Your body needs thyroid hormones to make cholesterol and to get rid of the cholesterol it doesn't need. When thyroid hormone levels are low (hypothyroidism), your body doesn't break down and remove LDL cholesterol as efficiently as usual. LDL cholesterol can then build up in your blood. (Watson, 2019)

Thyroid hormone levels don't have to be very low to increase cholesterol. Even people with mildly low thyroid levels, called subclinical hypothyroidism, can have higher than normal LDL cholesterol. A 2012 study found that high TSH levels alone can directly raise cholesterol levels, even if thyroid hormone levels aren't low. (Watson, 2019)

Both human and animal studies have shown that vitamin B12 deficiency is associated with altered lipid profile and play an important role in the prediction of metabolic risk, however, as of yet, no direct mechanism has been investigated to confirm this. Clinical data suggests that vitamin B12 deficiency is an important metabolic risk factor (Adaikalakoteswari, 2015)



Pathophysiology

There are many causes of dyslipidemia: genetics, epigenetics, chronic inflammatory micro and macronutrient intake, obesity, chronic infections, toxins, tobacco products, Diabetes mellitus, lack of exercise, some pharmacological agents (the older beta blockers, thiazide or thiazide-like diuretics), (Rakel, 2018).

Learn how Utopia WellCare can you help you manage high cholesterol or other conditions at utopiawellcare.com

High Cholesterol

Causes

Risk factors associated with high cholesterol:

- Low fiber intake
- High sugar intake
- Intake of caffeine
- Stress
- Lack of exercise
- Smoking
- High fat intake when accompanied by nutrient deficiency
- Environmental Toxins
- Infections
- Low thyroid function

Signs & Symptoms

High cholesterol typically doesn't cause any symptoms.

A blood test is the only way to know if your cholesterol is too high. This means having a total blood cholesterol level above 240 milligrams per deciliter (mg/dL).

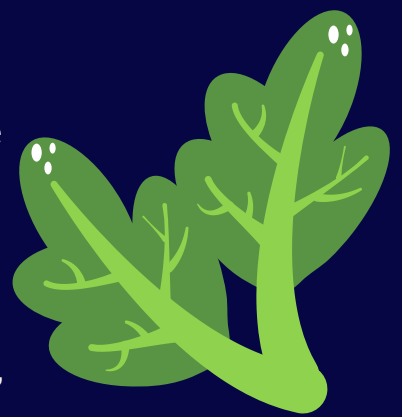
Ask your doctor to give you a cholesterol test after you turn 20 years old. Then get your cholesterol rechecked every 4 to 6 years (Cafasso, 2021).

How Our Dietitians Treat This

Nutrition is key to treating dyslipidemia and reducing CHD risk and the prevention and treatment of CVD. Numerous studies and clinical trials have established that diets like: Pritikin, Ornish, Omni Heart, Portfolio, Mediterranean, Lyon Diet Heart, Indian Heart, PREDIMED and Paleolithic relationship between diet, serum lipids, inflammation, and CVD, including CHD and stroke.

Working with Utopia WellCare we will create a personalized plan that will to the following to improve you cholesterol and dyslipidemia:

1. Our RD's will identify the main drivers (see above for causes) of your high cholesterol and will craft a plan that addresses each.
2. We will work on improving endothelial function
3. Modify cholesterol chrystals
4. Increase eNOS and nitric oxide levels
5. Support patients to ensure key nutrients needed modify toll-like receptors, cholesterol chrystals, decrease LDL burden, reduce cholesterol absorption, increase cholesterol bile excetion and upregulate LDL receptors, Decreased LDL particle number, Decrease APO-B, Decrease LDL modification/oxidation, inhihibit LDL glycation, Increase LDL size (type B to Type A), reduce inflammation, decrease LDL signaling, decrease modifiable LDL macrophage uptake by scavenger receptors, decrease CAMs macrophage recruitment and migration, increase total HDL and its functions, reduce inflammation, oxidative stress and immune dysfunction, lower Lp(a), reduce foam cell and fatty strak formation, (Rakel, 2018).



KEY SUPPLEMENTS

Clinical trials showed excellent reductions in serum lipids and CHD with niacin, omega-3 fatty acids, Red Yeast Rice, Berberine, Fiber and Alpha Lipoic Acid, (Rakel, 2018).

What You Can Do At Home

- Eat high fiber foods. Beans, whole grains, vegetables, nuts, seeds, and fruit all contain beneficial fiber
- Avoid processed foods including sodas, juices, and diet drinks, which impact sugar and lipid metabolism. Cook with healthy oils - extra virigin olive oil instead of canola oil
- Eliminate all hydrogenated fat, which is found in margarine, shortening, and processed oils, as well as many baked goods and processed foods.
- Reduce saturated fat and use more grass-fed or organic animal products, which contain less saturated fat.
- Increase omega-3 fatty acids by eating cold-water wild salmon, sardines, herring, flaxseeds, and even seaweed
- Don't allow yourself to get hungry. Graze – don't gorge – by eating every three to four hours to keep your insulin and blood sugar normal.

Learn how Utopia WellCare can you help you manage high cholesterol or other conditions at utopiawellcare.com