Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

About Hypercholesterolemia (High Cholesterol)

This information explains cholesterol and the different types found in your body. It also explains hypercholesterolemia (HY-per-koh-LES-teh-rol-EE-mee-uh) and how to treat it.

About cholesterol

Cholesterol is a type of lipid (fat) found in your blood and cells. Your body needs some cholesterol to work normally. But too much of certain types of cholesterol can build up in your arteries. Arteries are blood vessels that carry blood from the heart to an area of your body.

Over time, this buildup can raise your risk of:

- Heart attack.
- Stroke.
- Peripheral artery disease (PAD). This happens when fatty deposits build up in the arteries causing less blood to flow to your arms and legs.

What is hypercholesterolemia?

Hypercholesterolemia happens when you have high levels of lipids or cholesterol in your blood. This can narrow or block your arteries. It can also raise your risk for cardiovascular (KAR-dee-oh-VAS-kyoo-ler) disease (CVD). CVD is disease of the heart or blood vessels, such as:

- Heart attack.
- Stroke.
- PAD.

Types of cholesterol

Low-density lipoprotein (LDL) cholesterol

LDL is sometimes called “bad cholesterol.” Too much LDL cholesterol can cause plaque (fatty deposits) to build up inside your arteries. Lowering LDL can lower your risk of heart attack and stroke. Foods that raise your LDL levels include red meat and fried foods.

High-density lipoprotein (HDL) cholesterol

HDL is sometimes called “good cholesterol.” HDL helps carry cholesterol from your blood back to your liver. Your care team will watch your HDL levels, cholesterol results, and health risks. Foods that raise your HDL levels include oats, legumes, nuts, and berries.

Triglycerides

Triglycerides (tri-GLI-ser-idez) are a type of fat found in your blood. Your body uses them to store energy. Very high triglyceride levels can raise your risk of pancreatitis (PAN-kree-uh-TY-tis). Pancreatitis happens when your pancreas is inflamed. Foods that raise your triglycerides include egg yolks and butter.

Triglycerides can increase because of:

- Added sugars and refined carbohydrates in your diet.
- Drinking alcohol.
- Excess body weight.
- Diabetes that is not controlled.
- Certain health conditions.
- Some medicines.

Cholesterol levels

Cholesterol and lipid levels are measured in milligrams per deciliter (mg/dL) of blood.

You may have hypercholesterolemia if these levels are higher than their recommended ranges:

- LDL cholesterol: The recommended LDL levels are different for every person. Your doctor may recommend different LDL levels. This will depend on your risk for CVD.
- HDL cholesterol: 40 mg/dL or higher.
- Triglycerides: 150 mg/dL or lower is considered normal. Your care team may recommend lower levels if you have diabetes. If you have heart disease, your care team may recommend different levels.

How to get tested for hypercholesterolemia

Your care team can order a blood test called a lipid panel. It often measures:

- Total cholesterol
- LDL cholesterol
- HDL cholesterol
- Triglycerides

You may need to fast (stop eating or drinking) before a cholesterol test. Follow your care team's instructions for fasting.

How to treat hypercholesterolemia

Lifestyle changes

Maintain a healthy body weight

Maintaining a healthy body weight can help support your overall cardiovascular health.

- If you're overweight, losing weight may improve your cholesterol and triglyceride levels.
- If you're underweight, talk with your care team or clinical dietitian nutritionist. They can help make a plan to reach and maintain a healthy weight while following a heart-healthy diet.

Here are some examples of foods to eat to follow a heart-heatlhy diet:

- Plenty of fruits and vegetables,
- Beans, lentils, nuts, fish, and lean poultry.
- Whole grains.
- Healthy fats found in nuts, seeds, fish, avocados, and plant oils.

Avoid:

- Fatty and processed meats.
- Butter and foods with a lot of saturated fat.
- Highly processed foods.
- Excess salt.
- Food and drinks with added sugar.
- Drinking alcohol.

To learn more about eating healthy, read *Eat Your Way to Better Health* (www.mskcc.org/pe/eat-better-health). You can also talk to a clinical dietitian nutritionist about your diet.

Avoid tobacco and quit smoking

Smoking and other tobacco products raise your risk of heart attack and stroke. If you use tobacco or smoke, ask your care team about programs and medicines to help you quit.

MSK has specialists who can help you quit smoking. To learn more about our Tobacco Treatment Program, call 212-610-0507 or talk with your care team.

Be active

Regular physical activity is good for your heart and blood vessels. This includes walking, biking, swimming, or gardening. Talk with your care team about which type of activity is safe for you. This is very true if you're getting cancer treatment.

Medicine

Some people may need medicine along with lifestyle changes. These medicines work in different ways.

The following medicines are some examples, but there are others. Your care team will talk with you about which medicines are right for you. This depends on your age, cholesterol levels, CVD risk, other health conditions you have, and medicine you already take.

For cholesterol

- Statins lower LDL cholesterol. They lower your risk of heart attack and stroke. Examples include atorvastatin (Lipitor®) and rosuvastatin (Crestor®).
- Ezetimibe (Zetia®) reduces the amount of cholesterol your intestines absorb. You can take it by itself or with a statin.
- PCSK9-targeted medicines lower your LDL cholesterol by a lot. You can use these if you need to lower your LDL more. Examples include evolocumab (Repatha®) and alirocumab (Praluent®).
- Bile acid sequestrants lower the amount of LDL cholesterol that your intestines (gut) absorb from food. One example is cholestyramine (Locholest®, Prevalite®).
- Fibrates lower your triglyceride levels and raise your HDL levels. One example is gemfibrozil (Lopid®).
- Nutritional supplements, such as fish oil and soy protein, may also help lower your cholesterol. Talk with your care team before taking any dietary supplements.
- Bempedoic acid (Nexletol®) is a pill that lowers LDL cholesterol. Your care team may recommend this if you need more treatment or cannot take statins.

For high triglycerides

If you have high triglycerides, you may need other medicines, such as fibrates or prescription omega-3 fatty acids. Over-the-counter fish oil is not the same as prescription omega-3 medicine.

Vitamins and supplements

Some supplements may cause side effects of interact with cancer treatments or other medicine. Talk with your care team before taking supplements to lower your cholesterol, such as:

- Vitamins.
- Herbal products.
- Fish oil.
- Other dietary supplements.

Questions to ask your care team

Your care team can help you make a plan that is right for your overall health, cardiovascular risk, and cancer treatment. You may want to ask:

- What are my LDL, HDL, and triglyceride levels?
- What should my LDL level be?
- What is my risk for heart attack or stroke?
- Do I need medicine?
- Could my cancer treatment affect my cholesterol?
- Do I need more tests, such as Lp(a) or apoB?
- When should I have my cholesterol checked again?

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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