

# High Cholesterol

## Wellness Guide



People with high cholesterol have **2x** the risk of heart disease



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# What is high cholesterol?

High Cholesterol occurs when too much cholesterol is in your blood. This increases your risk for heart disease. Your doctor will check your cholesterol levels to evaluate your risks. Keeping the “bad” cholesterol, or low-density lipoprotein (LDL), and triglycerides below the recommended numbers will help decrease your risk of developing heart disease.

Screening	Goal
<b>HDL</b>	60 or above – Low Risk of Heart Disease 50-59 (women) – Near Optimal 40-59 (men) – Near Optimal Under 50 (women)- High Risk of Heart Disease Under 40 (men)– High Risk of Heart Disease
<b>LDL</b>	Less than 100 = Healthy 100-129 = Low Risk of Heart Disease 130-189 = Moderate Risk of Heart Disease Greater than or equal to 190 = High Risk of Heart Disease
<b>Triglycerides</b>	Under 150 – Low Risk of Heart Disease 150-499 – Borderline High 500 or above – High Risk of Heart Disease

## How are HDL, LDL & triglycerides different?

**LDL – BAD** – the main source of cholesterol buildup and blockage in the arteries

**HDL – GOOD** – helps remove cholesterol from your arteries

**Triglycerides** – a type of fat found in your blood



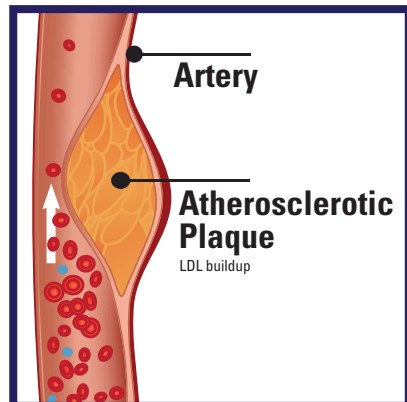
### Bad (LDL)

stores cholesterol in the blood stream



### Good (HDL)

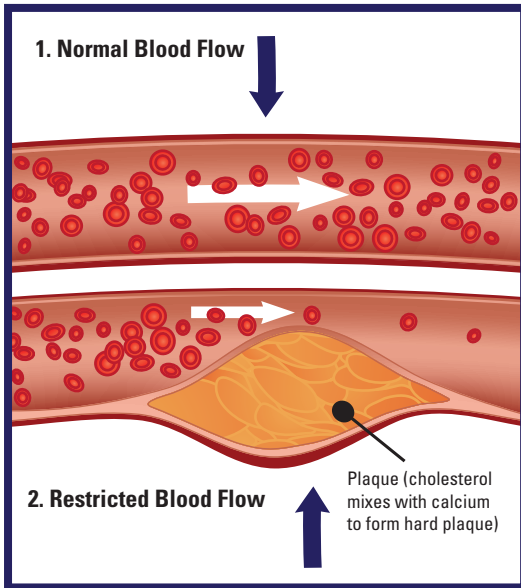
manages LDL storage and promotes removal



# How can high cholesterol affect me?

Too much cholesterol in your blood can build up in the walls of your arteries and, over time, this can cause narrowing. Narrow arteries can slow blood flow or block it completely. A heart attack can result when the blood supply to part of the heart is completely cut off by a blockage.

Typically, there are no signs or symptoms of high cholesterol, and most people are not aware that their cholesterol level is high. Elevated levels of total cholesterol and LDL can increase your chances for developing heart disease and heart attack.



## Complications of High Cholesterol

Blood Vessel Damage

Stroke

Heart Attack

# How is high cholesterol treated?

High cholesterol can be treated with diet, exercise and medicine. Your doctor will work with you to develop the right treatment just for you. Your doctor will check your cholesterol levels during routine appointments to monitor how your body is responding to your treatment plan.

## What affects cholesterol levels?

Diet

Weight

Physical Activity

# How should I change my diet?

To improve cholesterol, focus on eating more healthy fats compared to unhealthy fats and also increase fiber.

**Healthy fats** are monounsaturated fat, polyunsaturated fat, and omega-3 fatty acids. These fats are commonly found in fatty fish, plant-based oils, nuts and seeds.

Healthy Fats		
	Fish	Oils
Almonds	Tuna	Canola Oil
Avocados	Salmon	Corn Oil
Flaxseed	Mackerel	Olive Oil
Peanuts	Trout	Peanut Oil
Peanut Butter		Soybean Oil
Walnuts		Sunflower Oil

**Unhealthy fats** are trans fat and saturated fat. Too much of these in your diet can cause high cholesterol and increase your risk of heart disease. Saturated fat is found mostly in high fat animal products and is solid at room temperature. Trans fat is found mostly in shelf-stable pastries, pies and fried foods.

Saturated Fat		Trans Fat		
Fatty beef	Cream	Pastries	Doughnuts	Breaded chicken nuggets
Lamb	Butter	Biscuits	Cookies	Fried fish
Pork	Cheese	Muffins	French fries	Shortening
Poultry with skin	Baked goods	Cakes	Fried chicken	Fast food
Lard	Fried foods			

**Dietary fiber** helps bind to cholesterol to help get rid of it before it can be stored and contribute to heart disease. Plants are a good source of fiber.

Foods that are Great Sources of Fiber			
Beans	Broccoli	Artichokes	Nuts and seeds
Peas	Turnip greens	Whole grains	Popcorn
Raspberries	Carrots	Oats	

# How do I monitor my fat intake?

Use the food label example shown below to help you monitor your fat intake.

<b>Nutrition Facts</b>	
4 servings per container	
<b>Serving size 1 1/2 cup (208g)</b>	
Amount per serving	
<b>Calories</b>	<b>240</b>
% Daily Value*	
<b>Total Fat</b> 4g	<b>5%</b>
Saturated Fat 1.5g	<b>8%</b>
<i>Trans Fat</i> 0g	
Polyunsaturated Fat 1.5g	
Monounsaturated Fat 2g	
<b>Cholesterol</b> 5mg	<b>2%</b>
<b>Sodium</b> 430mg	<b>19%</b>
<b>Total Carbohydrate</b> 46g	<b>17%</b>
Dietary Fiber 7g	<b>25%</b>
Total Sugars 4g	
Includes 2g Added Sugars	<b>4%</b>
<b>Protein</b> 11g	

These are the "healthy" fats and are good for you in moderation.

Lower your sodium intake to less than 2,300 mg if you DO NOT have high blood pressure and less than 1,500 mg if you DO have high blood pressure.

Compare how much you are eating with the Serving Size.

These are the "unhealthy" fats. Rule of 3: If saturated and trans fat are greater than 3, stay away.

Aim for 25-30 g per day.

Meal	Menu
Breakfast	1 cup cooked oatmeal ¾ cup blueberries 2 Tbsp almonds
Snack (Optional)	1 cup raw carrots 2 Tbsp hummus
Lunch	Grilled chicken wrap with 6 inch wheat tortilla, 3 oz chicken breast, lettuce, tomato, peppers, 1 tsp light mayonnaise and 1 tsp mustard 6 oz Greek yogurt
Snack (Optional)	1 small apple 1 Tbsp peanut butter
Dinner	4 oz baked fish ½ baked sweet potato ½ cup roasted broccoli Small side salad with 2 Tbsp oil and vinegar salad dressing

# Should I exercise?

Yes! Regular physical activity helps reduce the risk of heart disease and other comorbidities.

## How does exercise improve cholesterol?

- Stimulates enzymes that help remove LDL from the body
- Increases the size of lipoproteins preventing LDL from embedding itself in the lining of the heart and blood vessels.
- Uses triglycerides for energy therefore lowering the amount of triglycerides in the body

The following physical activity guidelines are recommended for improving cholesterol:

Type	Time	Intensity Level	Examples
Aerobic Activity	At least 150 minutes (spread throughout the week)	Moderate-intensity	Walking briskly Bicycling Power yoga Water aerobics Tennis General yard work Line dancing
Muscle Strengthening	2 or more days a week (involving all major muscle groups)	Moderate-intensity	Strength machines Free weights Bodyweight Resistance bands TRX

Incorporate stretching (flexibility exercises) on a routine basis in order to regain or maintain mobility and to safely perform exercises that require greater flexibility. Other components of physical activity include balance and speed which are typically worked through various aerobic, strength and flexibility exercises.

## How do I start exercising?

Be sure to consult with your physician prior to starting a workout program. Always start slow and gradually build up your physical activity. Walking is highly recommended as it can be done anywhere and does not require any equipment or a gym membership.

**Health benefits begin with as little as 90 minutes a week of exercise.**

**Health benefits increase as physical activity duration, frequency and intensity increases.**

**Light-intensity** = effortless breathing and can easily hold a conversation

**Moderate-intensity** = heavier breathing but still able to talk

**Vigorous-intensity** = unable to hold a conversation

## What other changes can I make?

**All of these lifestyle choices are important to improve your cholesterol levels:**

- Achieve and maintain a healthy weight
- Don't smoke
- Limit alcohol intake

# Sample goals

- Replace 2% or whole milk with 1% or skim milk
- Replace fried food with grilled, baked or broiled food whenever possible
- Exercise 30 minutes, 5 days a week (Ex: cardio exercise/walking)
- Eat more fruits and vegetables
- Try heart healthy fish two times a week
- Try tuna fish or a grilled chicken sandwich instead of a hamburger

## What do I plan to do?

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## Resources

National Heart, Lung, and Blood Institute- [nhlbi.nih.gov](http://nhlbi.nih.gov)

National Lipid Association- [lipid.org](http://lipid.org)

Cleveland Clinic- [my.clevelandclinic.org](http://my.clevelandclinic.org)