



9195 Grant St. Suite 410
Thornton, CO 80229
Phone: 303-280-2229(BABY)
Fax: 303-280-0765

300 Exempla Circle, Suite 470
Lafayette, CO 80026
303-665-6016
303-665-0121

6363 W. 120th Ave. Suite 202
Broomfield, CO 80020
303-460-7116
303-460-8204

www.whg-pc.com

Cholesterol & Your Health

Cholesterol is essential to a healthy body. It is one of the building blocks for cells and hormones, but too much can be bad for you. Too much cholesterol puts you at risk for heart disease, stroke, and other circulation problems. Most of your cholesterol is found in the liver but it is also found in smaller amounts in the brain, kidneys and adrenal glands. Cholesterol also helps to cover your nerve fibers throughout your body.

Cholesterol is transported through the blood by fatty proteins called lipoproteins. These include HDL, LDL & Triglycerides. Each type of lipoprotein has a specific job in the body.

High Density Lipoprotein (HDL) The "Good" Cholesterol

HDL is called the "good" cholesterol because it is associated with a lower risk of heart disease. It carries excess cholesterol away from coronary arteries, which are the arteries that supply the heart with blood. Exercise has been shown to increase your HDL levels.

Low Density Lipoprotein (LDL) The "Bad" Cholesterol

LDL is called the "Bad" cholesterol because too much can block the arteries of the heart and the arteries that carry blood to the brain. Too much saturated fat, a sedentary lifestyle, and genetics all contribute to LDL levels. Some medical conditions, like certain thyroid problems, can also cause elevated LDL levels.

Triglycerides

Triglycerides help store fat in the body. Increased levels can cause inflammation of the pancreas and plays a role in heart disease. Too much alcohol, a diet high in fat, and genetics can all cause triglyceride levels to rise. Some medications, like steroids, can also cause elevated triglycerides.

What happens with too much cholesterol?

Excess cholesterol sticks to the walls of blood vessels, making it hard for blood to move through them and deliver the necessary oxygen to the body. As the excess cholesterol builds up, it attracts more cholesterol particles and can partially or even totally block both major and minor arteries. This can lead to a lack of oxygen, or *ischemia*, to the organs that are being supplied with blood by the arteries, such as the heart and the brain. If the organs continue to have no oxygen or even low oxygen levels, permanent damage or even a heart attack or stroke can occur, which can result in death.

Risk Factors for Heart Disease

There are some things that you can change in order to reduce your risk of heart disease. These are called

modifiable risk factors, and include smoking, nutrition, exercise, alcohol consumption and staying on top of any health conditions you may have, such as diabetes.

There are some risk factors you can't change; these are your *non-modifiable risk factors* and include your gender, race, and family history or genetics. It's therefore extremely important to take control of what you can change, especially if there are non-modifiable factors that predispose you to a higher risk of heart disease.

Women and Cholesterol Levels

The leading cause of death in women is heart disease. Before menopause, estrogen protects the heart because it helps raise the level of HDL (good) and helps to lower the LDL (bad).

Birth control pills contain estrogen and progesterone. Progesterone can increase LDL. It is best to have a pill that contains low levels of progesterone. Hormone replacement therapy can help a menopausal woman to protect her heart because this therapy contains estrogens.

Know Your Numbers

New studies have identified target ranges for the average, healthy female. Your provider will help you interpret your cholesterol numbers, as some goals can be individualized.

If you are an otherwise healthy, nonsmoking female with no cardiac risk factors, cholesterol goals will be in this range:

Total Cholesterol <200 (*less than 200*)

HDL >45 (*greater than 45*)

LDL <130 (*less than 130*)

Triglycerides <150 (*less than 150*)

If you are a diabetic or have other identified risk factors, your target goals for cholesterol may differ than those shown above. Talk to your provider about your personal cholesterol goals to decrease your risk for heart disease and stroke.

Lowering Your Cholesterol

There are several ways to help lower your cholesterol:

Quit Smoking

By quitting smoking, you reduce your risk for heart disease and stroke dramatically. Smoking affects your entire body, not just your lungs. It damages the inner lining of the blood vessels and makes cholesterol more likely to stick to the vessel walls. Smoking also lowers HDL ("good" cholesterol) levels, making it harder for your body to remove excess cholesterol away from your heart.

Exercise for at least 30 minutes most days per week

Moderate exercise is proven to increase HDL and help control weight which can improve cholesterol. Aim for at least 30 minutes of moderate intensity exercise on most days per week.

Eat a balanced, nutritionally sound and varied diet

Nutrition can be confusing, especially with so many fad diets, supplements and prepared foods available. Portion control is vital – serving sizes are often much larger than your body needs. In general, the following table gives a good guideline for foods to choose to live a heart healthy life.

Food Group	Servings (2000 calorie diet)	Example of one serving
Grains At least half of your servings should be whole-grain.	6-8 servings per day	<ul style="list-style-type: none"> • 1 slice bread • 1 oz dry cereal (check nutrition label for cup measurements of different products) • 1/2 cup cooked rice, pasta, or cereal (about the size of a baseball)

Vegetables Eat a variety of colors and types	4-5 servings per day	<ul style="list-style-type: none"> • 1 cup raw leafy vegetables (about the size of a small fist) • 1/2 cup cut-up raw or cooked vegetables • 1/2 cup vegetable juice
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Food Type	Servings (2000 calorie diet)	Examples of One Serving
Fruits Eat a variety of colors and types	4-5 servings per day	<ul style="list-style-type: none"> • 1 medium fruit (about the size of a baseball) • 1/4 cup dried fruit • 1/2 cup fresh, frozen, or canned fruit • 1/2 cup fruit juice

Lean meats, poultry, and seafood	Less than 6 oz per day	<ul style="list-style-type: none"> • 3 oz cooked meat (about the size of a computer mouse) • 3 oz grilled fish (about the size of a checkbook)
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Fats and oils Use olive oils or liquid vegetable oils most often	2-3 servings per day	<ul style="list-style-type: none"> • 1 tsp butter or trans-fat free soft margarine • 1 Tbsp mayonnaise • 1 tsp olive or vegetable oil • 1 Tbsp regular or 2 Tbsp low-fat salad dressing (fat-free dressing does not count as a serving)
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Nuts, seeds, and legumes	4-5 servings per week	<ul style="list-style-type: none"> • 1/3 cup or 1 and 1/2 oz nuts • 2 Tbsp peanut butter • 2 Tbsp or 1/2 oz seeds • 1/2 cup dry beans or peas
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Sweets and added sugars

5 or fewer servings per week

- 1 Tbsp sugar
- 1 Tbsp jelly or jam
- 1/2 cup sorbet and ices
- 1 cup lemonade

Alcohol

No more than 1 - 2 drinks per day for women.

- 5 fluid ounces of wine
 - 1.5 fluid ounces of liquor
 - 12 ounces of beer
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