

# MANAGING CHOLESTEROL



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# UNDERSTANDING CHOLESTEROL

## Getting Started

Too much cholesterol (ko-LES-ter-ol) in the blood, or high blood cholesterol, can be serious. People with high blood cholesterol have a greater chance of getting heart disease. Unfortunately, many people are unaware that they have high blood cholesterol because the condition does not cause any symptoms.

## What is Cholesterol?

Here are some key facts about cholesterol:

- » Cholesterol is a waxy, fat-like substance that is found in all cells of the body. Your body needs some cholesterol to properly function.
- » Cholesterol is also found in some of the foods you eat.
- » Your body uses cholesterol to make hormones, Vitamin D, and substances that help you digest foods.

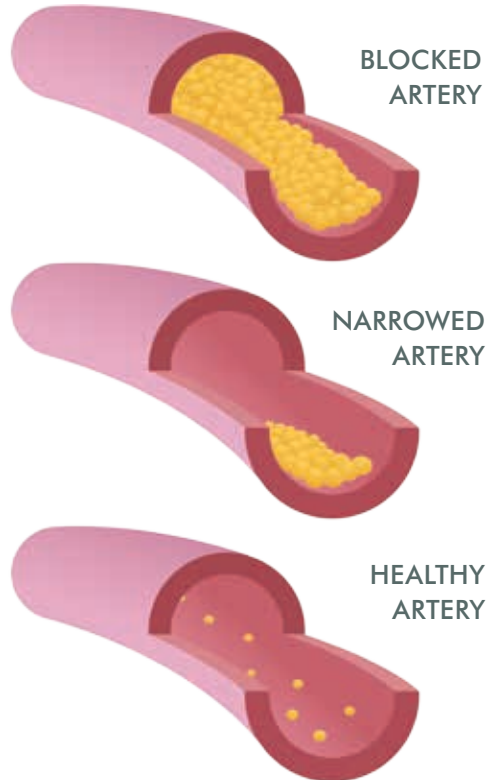
Blood is watery and cholesterol is fatty. Just like oil and water, the two do not mix. So, in order to travel in the bloodstream, cholesterol is carried in small packages called lipoproteins (lip-o-PRO-teens). The small packages are made of fat (lipid) on the inside and proteins on the outside. Two kinds of lipoproteins carry cholesterol throughout your body. It is important to have healthy levels of both:

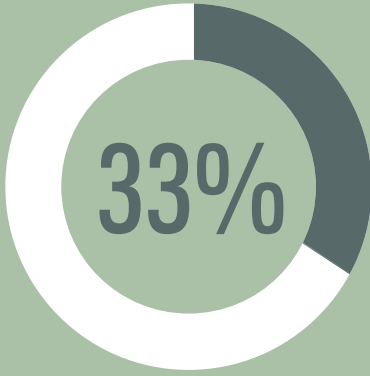
- » **LDL (low density lipoprotein)** cholesterol is sometimes called “bad” cholesterol.
  - High LDL cholesterol leads to a buildup of cholesterol in the arteries. The higher

the LDL level in your blood, the greater chance you have for getting heart disease.

- » **HDL (high density lipoprotein)** cholesterol is sometimes called “good” cholesterol.

- HDL carries cholesterol from other parts of your body back to your liver. The liver removes the cholesterol from your body. The higher your HDL cholesterol level, the lower your chance of getting heart disease.





## DID YOU KNOW?

According to the Centers for Disease Control and Prevention (CDC), high cholesterol affects about 33% of adults over the age of 20 in the United States. Unfortunately, less than half of adults with high LDL cholesterol get treatment.

People with high total cholesterol have approximately twice the risk of heart disease as people with optimal levels. A desirable level is lower than 200 mg/dL.

The average total cholesterol level for adult Americans is about 200 mg/dL, which is borderline high risk.

## What is High Blood Cholesterol?

- » Too much cholesterol in your blood can build up in the walls of your arteries (blood vessels that carry blood from the heart to other parts of the body). This buildup of cholesterol is called plaque. Over time, plaque can cause narrowing of the arteries. This is called atherosclerosis (ath-er-o-skler-O-sis) or “hardening of the arteries.”
- » Special arteries, called coronary arteries, bring blood to the heart. Narrowing of your coronary arteries due to plaque can stop or slow down the flow of blood to your heart. When the arteries narrow, the amount of oxygen-carrying blood is decreased. This is called coronary artery disease (CAD). Large plaque areas can lead to chest pain called angina. Angina happens when the heart does not receive enough blood and the oxygen it carries with it. Angina is a common sign of CAD.
- » Some plaque has a thin covering and can burst (rupture), releasing fat and cholesterol into the bloodstream. The release of fat and cholesterol may cause your blood to clot. A clot can block the flow of blood. This blockage can cause angina or a heart attack.
- » Lowering your cholesterol level decreases your chance for having plaque burst and the chance of a heart attack. Lowering cholesterol may also slow down, reduce, or even stop plaque from building up.
- » Plaque and resulting health problems can also occur in arteries elsewhere in the body.

## OTHER NAMES FOR HIGH BLOOD CHOLESTEROL

- ✓ Hypercholesterolemia
- ✓ Hyperlipidemia

## What Causes High Blood Cholesterol?

A variety of things can affect the cholesterol levels in your blood. Some of these things you can control and others you cannot.

You **CAN** control:

- ✓ **What you eat.** Certain foods have types of fat that raise your cholesterol level.
  - » Saturated fat raises your LDL cholesterol level more than anything else in your diet.
  - » Trans fatty acids (trans fats) are made when vegetable oil is “hydrogenated” to harden it. Trans fatty acids also raise cholesterol levels.
  - » Cholesterol is found in foods that come from animal sources, for example, egg yolks, meat, and cheese.
- ✓ **Your weight.** Being overweight tends to increase your LDL level, lower your HDL level, and increase your total cholesterol level.
- ✓ **Your activity.** Lack of regular exercise can lead to weight gain and raise your LDL cholesterol level. Regular exercise can help you lose weight and lower your LDL level. It can also help you raise your HDL level.

You **CANNOT** control:

- ✓ **Heredity.** High blood cholesterol can run in families. An inherited genetic condition (familial hypercholesterolemia) results in very high LDL cholesterol levels. It begins at birth, and results in a heart attack at an early age.
- ✓ **Age and sex.** Starting at puberty, men have lower levels of HDL than women. As women and men get older, their LDL cholesterol levels rise. Younger women usually have lower LDL cholesterol levels than men, but after age 55 they usually have higher levels than men.



**CHOLESTEROL IS FOUND  
IN FOODS THAT COME  
FROM ANIMAL SOURCES  
LIKE EGG YOLKS, MEAT,  
AND CHEESE.**



# HOW DO I KNOW IF I HAVE HIGH CHOLESTEROL?

## What are the Signs and Symptoms of High Blood Cholesterol?

There are usually no signs or symptoms of high blood cholesterol. In fact, many people don't know that their cholesterol level is too high.

Everyone age 20 and older should have their cholesterol levels checked at least once every five years. You and your doctor can discuss how often you should be tested.



THERE ARE USUALLY **NO SIGNS OR SYMPTOMS** OF HIGH BLOOD CHOLESTEROL. IN FACT, MANY PEOPLE DON'T KNOW THAT THEIR CHOLESTEROL LEVEL IS TOO HIGH.

## How is High Blood Cholesterol Diagnosed?

High blood cholesterol is diagnosed by checking levels of cholesterol in your blood. It is best to have a blood test called a lipoprotein profile to measure your cholesterol levels. Most people will need to "fast" (not eat or drink anything) for 9 to 12 hours before taking the test.

The lipoprotein profile will give information about your:

- ✓ Total cholesterol
- ✓ LDL (bad) cholesterol: the main source of cholesterol buildup and blockage in the arteries
- ✓ HDL (good) cholesterol: the good cholesterol that helps keep cholesterol from building up in arteries
- ✓ Triglycerides: another form of fat in your blood

If it is not possible to get a lipoprotein profile done, knowing your total cholesterol and HDL cholesterol can give you a general idea about your cholesterol levels. Testing for total and HDL cholesterol does not require fasting. If your total cholesterol is 200 mg/dL or more, or if your HDL is less than 40 mg/dL, you will need to have a lipoprotein profile done.

Cholesterol levels are measured in milligrams (mg) of cholesterol per deciliter (dL) of blood. See how your cholesterol numbers compare to the tables on the following page.

URIC	4.4	CHOL	210 HI	TRIG	58	HDL	30-200 mg/dL
URIC	2.1-8.1 mg/dL	CHOL	100-200 mg/dL	TRIG	50-150 mg/dL	HDL	30-60 mg/dL

## MEASURING CHOLESTEROL

Total Cholesterol Levels	Category
Less than 200 mg/dL	Desirable level that puts you at lower risk for coronary heart disease. A cholesterol level of 200 mg/dL or higher raises your risk.
200 to 239 mg/dL	Borderline high
240 mg/dL and above	High blood cholesterol. A person with this level has more than twice the risk of coronary heart disease as someone whose cholesterol is below 200 mg/dL.

HDL Cholesterol Levels	Category
Less than 40 mg/dL (men) Less than 50 mg/dL (women)	Low HDL cholesterol. A major risk factor for heart disease.
60 mg/dL and above	High HDL cholesterol. An HDL of 60 mg/dL and above is considered protective against heart disease.

If your total cholesterol is 200 mg/dL or more, or your HDL cholesterol is less than 40 mg/dL (for men) and less than 50 mg/dL (for women), you need to have a lipoprotein profile done to determine your LDL cholesterol and triglyceride levels. If your cholesterol is high or you have other risk factors, your healthcare provider will likely want to monitor your cholesterol more closely. Follow your provider's advice about how often to have your cholesterol tested. He or she will set appropriate management goals based on your LDL cholesterol level and other risk factors.

LDL Cholesterol Levels	Category
Less than 100 mg/dL	Optimal
100 to 129 mg/dL	Near or above optimal
130 to 159 mg/dL	Borderline high
160 to 189 mg/dL	High
190 mg/dL or above	Very high

Triglyceride Levels	Category
Less than 150 mg/dL	Normal
150 to 199 mg/dL	Borderline high
200 to 499 mg/dL	High
500 mg/dL or above	Very high

Triglycerides can also raise your risk for heart disease. Levels that are borderline high (150-199 mg/dL) or high (200 mg/dL or more) may need treatment. Things that can increase triglycerides include:

- » Overweight
- » Physical inactivity
- » Cigarette smoking
- » Excessive alcohol use
- » Physical inactivity
- » Very high carbohydrate diet
- » Certain diseases and drugs
- » Genetic disorders



Source: American Heart Association Recommended Cholesterol Levels

# TREATMENT AND RISK FACTORS

## How is High Blood Cholesterol Treated?

The main goal of a cholesterol-lowering treatment is to lower your LDL level enough to reduce your risk of having a heart attack or other diseases caused by hardening of the arteries. In general, the higher your LDL level and the more risk factors you have, the greater your chances of developing heart disease or having a heart attack. Some people are at high risk for heart attack because they already have heart disease. Other people are at high risk for developing heart disease because they have diabetes or a combination of risk factors for heart disease.

## The Risk Factors

Your blood cholesterol level is affected not only by what you eat but also by how quickly your body makes LDL (“bad”) cholesterol and disposes of it. In fact, your body makes all the cholesterol it needs, and it is not necessary to take in any additional cholesterol from the foods you eat.

Many factors help determine whether your LDL-cholesterol level is high or low. The following factors are the most important:

- ✓ **Heredity.** Your genes influence how high your LDL (“bad”) cholesterol is by affecting how fast LDL is made and removed from the blood. One specific form of inherited high cholesterol that affects one in 500 people is familial hypercholesterolemia, which often leads to early heart disease. But even if you do not have a specific genetic form of high cholesterol, genes play a role in influencing your LDL cholesterol level.
- ✓ **What you eat.** Two main nutrients in the foods you eat make your LDL (“bad”) cholesterol level go up: saturated fat, a type of fat found mostly in foods that come from animals; and cholesterol, which comes only from animal products. Saturated fat raises your LDL cholesterol level more than anything else in the diet. Eating too much saturated fat and cholesterol is the main reason for high levels of cholesterol and a high rate of heart attacks in the United States. Reducing the amount of saturated fat and cholesterol you eat is





a very important step in reducing your blood cholesterol levels.

- ✓ **Weight.** Excess weight tends to increase your LDL (“bad”) cholesterol level. If you are overweight and have a high LDL cholesterol level, losing weight may help you lower it. Weight loss also helps to lower triglycerides and raise HDL (“good”) cholesterol levels.
- ✓ **Physical activity/exercise.** Regular physical activity may lower LDL (“bad”) cholesterol and raise HDL (“good”) cholesterol levels.
- ✓ **Age and sex.** Before the age of menopause, women usually have total cholesterol levels that are lower than those of men the same age. As women and men get older, their blood cholesterol levels rise until about 60 to 65 years of age. After the age of about 50, women often have higher total cholesterol levels than men of the same age.
- ✓ **Alcohol.** Moderate alcohol intake increases HDL (“good”) cholesterol but does not lower LDL (“bad”) cholesterol. Doctors don’t know for certain whether alcohol also reduces the risk of heart disease. Drinking too much alcohol can damage the liver and heart muscle, lead to

high blood pressure and raise triglycerides. Because of the risks, alcoholic beverages should not be used as a way to prevent heart disease.

- ✓ **Stress.** Stress over the long term has been shown in several studies to raise blood cholesterol levels. One way that stress may do this is by affecting your habits. For example, when some people are under stress, they cope by eating fatty foods. The saturated fat and cholesterol in these foods contribute to higher levels of blood cholesterol.



**GET SCREENED!** Make a point of getting screened for high cholesterol regularly. **If you’re over the age of 20, you need to have your cholesterol checked every five years.** High cholesterol can be managed—either with lifestyle modification, medication, or both—but you must know your cholesterol is high in order to address it effectively.

# MANAGING YOUR CHOLESTEROL

## Lowering Cholesterol with TLC

Therapeutic lifestyle changes (TLC) is a set of changes you can make to help lower your LDL cholesterol. The components of TLC are diet, weight management, and physical activity.

### ✓ **Diet Recommendations**

- » Limiting the amount of saturated fat and cholesterol you eat.
- » Eating only enough calories to achieve or maintain a healthy weight.
- » Increasing the soluble fiber in your diet. For example, oatmeal, kidney beans, and apples are good sources of soluble fiber.

### ✓ **Weight Management**

Losing weight if you are overweight can help lower LDL. Weight management is especially important for those with a group of risk factors that includes high triglyceride and/or low HDL levels and being overweight with a large waist measurement (more than 40 inches for men and more than 35 inches for women). We'll cover how you can determine your ideal weight in the next section.

### ✓ **Physical Activity**

Regular physical activity is recommended for everyone. It can help raise HDL and lower LDL and is especially important for those with high triglyceride and/or low HDL levels who are overweight with a large waist measurement. Tips and helpful hints on how to start a basic exercise program are covered later in this handbook.



## Determine Your Ideal Weight with the Body Mass Index

Body Mass Index (BMI) is one of the best measures of our true weight status. Put simply, BMI is a common measure expressing the relationship of weight-to-height, and is an easy calculation using inches and pounds.

When calculated, your BMI will help you determine your true weight status as either underweight, normal, overweight, or obese.

Generally, as a person's BMI increases, so does their risk for a number of health conditions and diseases. These include the risk of premature death, heart disease, high blood pressure, osteoarthritis, cancer, and diabetes.

## Calculating Your BMI

The BMI Chart found on page 10 (*Chart 2*) makes determining your BMI easy. Simply find your height and weight and circle the number where the two lines intersect. This is your BMI. Once you have determined your

BMI, you can use this number to determine weight status (using *Chart 1*—underweight, normal, overweight, or obese). BMI values for adults are interpreted using a fixed number, regardless of age or gender.

CHART 1

BMI	Weight Status
Below 18.5	Underweight
18.5 - 24.9	Normal
25.0 - 29.9	Overweight
30.0 and above	Obese

Using Chart 1, we can tell that a BMI of 25.0 is defined as being overweight.



CHART 2

HEIGHT (INCHES)		58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	
BMI		BODY WEIGHT (POUNDS)																			
NORMAL	19	91	94	97	100	104	107	110	114	118	121	125	128	132	136	140	144	148	152	156	
	20	96	99	102	106	109	113	116	120	124	127	131	135	139	143	147	151	155	160	164	
	21	100	104	107	111	115	118	122	126	130	134	138	142	146	150	154	159	163	168	172	
	22	105	109	112	116	120	124	128	132	136	140	144	149	153	157	162	166	171	176	180	
	23	110	114	118	122	126	130	134	138	142	146	151	155	160	165	169	174	179	184	189	
	24	115	119	123	127	131	135	140	144	148	153	158	162	167	172	177	182	186	192	197	
OVERWEIGHT	25	119	124	128	132	136	141	145	150	155	159	164	169	174	179	184	189	194	200	205	
	26	124	128	133	137	142	146	151	156	161	166	171	176	181	186	191	197	202	208	213	
	27	129	133	138	143	147	152	157	162	167	172	177	182	188	193	199	204	210	216	221	
	28	134	138	143	148	153	158	163	168	173	178	184	189	195	200	206	212	218	224	230	
	29	138	143	148	153	158	163	169	174	179	185	190	196	202	208	213	219	225	232	238	
OBSE	30	143	148	153	158	164	169	174	180	186	191	197	203	209	215	221	227	233	240	246	
	31	148	153	158	164	169	175	180	186	192	198	203	209	216	222	228	235	241	248	254	
	32	153	158	163	169	175	180	186	192	198	204	210	216	222	229	235	242	249	256	263	
	33	158	163	168	174	180	186	192	198	204	211	216	223	229	236	242	250	256	264	271	
	34	162	168	174	180	186	191	197	204	210	217	223	230	236	243	250	257	264	272	279	
	35	167	173	179	185	191	197	204	210	216	223	230	236	243	250	258	265	272	279	287	
	36	172	178	184	190	196	203	209	216	223	230	236	243	250	257	265	272	280	287	295	
	37	177	183	189	195	202	208	215	222	229	236	243	250	257	265	272	280	287	295	304	
	38	181	188	194	201	207	214	221	228	235	242	249	257	264	272	279	288	295	303	312	
	39	186	193	199	206	213	220	227	234	241	249	256	263	271	279	287	295	303	311	320	
	40	191	198	204	211	218	225	232	240	247	255	262	270	278	286	294	302	311	319	328	
SEVERE OBESITY	41	196	203	209	217	224	231	238	246	253	261	269	277	285	293	302	310	319	327	336	
	42	201	208	215	222	229	237	244	252	260	268	276	284	292	301	309	318	326	335	344	
	43	205	212	220	227	235	242	250	258	266	274	282	291	299	308	316	325	334	343	353	
	44	210	217	225	232	240	248	256	264	272	280	289	297	306	315	324	333	342	351	361	
	45	215	222	230	238	246	254	262	270	278	287	295	304	313	322	331	340	350	359	369	
	46	220	227	235	243	251	259	267	276	284	293	302	311	320	329	338	348	358	367	377	
	47	224	232	240	248	256	265	273	282	291	299	308	318	327	338	346	355	365	375	385	
	48	229	237	245	254	262	270	279	288	297	306	315	324	334	343	353	363	373	383	394	
	49	234	242	250	259	267	278	285	294	303	312	322	331	341	351	361	371	381	391	402	
	50	239	247	255	264	273	282	291	300	309	319	328	338	348	358	368	378	389	399	410	
	51	244	252	261	269	278	287	296	306	315	325	335	345	355	365	375	386	396	407	418	
	52	248	257	266	275	284	293	302	312	322	331	341	351	362	372	383	393	404	415	426	
	53	253	262	271	280	289	299	308	318	328	338	348	358	369	379	390	401	412	423	435	
	54	258	267	276	285	295	304	314	324	334	344	354	365	376	386	397	408	420	431	443	

## Lowering Cholesterol with TLC:

### START A WALKING PROGRAM

Walking does wonders in helping to reduce the harmful effects of high cholesterol. But you have to leave time in your busy schedule to follow a walking program that will work for you. In planning your walking program:

- ✓ **Choose a safe place to walk.** Find a partner or group of people to walk with you. Your walking partner(s) should be able to walk with you on the same schedule and at the same speed.
- ✓ **Wear shoes with thick flexible soles** that will cushion your feet and absorb shock.
- ✓ **Wear clothes that will keep you dry and comfortable.** Look for synthetic fabrics that absorb sweat and remove it from your skin.
- ✓ **For extra warmth in winter, wear a knit cap.** To stay cool in summer, wear a baseball cap or visor.
- ✓ **Do light stretching** before and after you walk.
- ✓ **Think of your walk in three parts.** Walk slowly for five minutes. Increase your speed for the next five to 20 minutes. Finally, to cool down, walk slowly again for five minutes.
- ✓ **Try to walk at least three times per week.** Add two to three minutes per week to the fast walk. If you walk less than three times per week, increase the fast walk more slowly.
- ✓ **To avoid stiff or sore muscles or joints, start gradually.** Over several weeks, begin walking faster, going further, and walking for longer periods of time.

The more you walk, the better you will feel.



## IS IT OK FOR ME TO WALK?

Answer the following questions before you begin a walking program.

- |                          |                          |  |                          |                          |   |
|--------------------------|--------------------------|--|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Has your health care provider ever told you that you have heart trouble?                                       | <input type="checkbox"/> | <input type="checkbox"/> | Has your health care provider told you that you have high blood pressure?   |
| YES                      | NO                       |  | YES                      | NO                       |   |
| <input type="checkbox"/> | <input type="checkbox"/> | When you are physically active, do you have pains in your chest or on your left side (neck, shoulder, or arm)? | <input type="checkbox"/> | <input type="checkbox"/> | Has your health care provider told you that you have bone or joint problems, like arthritis, that could get worse if you are physically active? |
| YES                      | NO                       |  | YES                      | NO                       |   |
| <input type="checkbox"/> | <input type="checkbox"/> | Do you often feel faint or have dizzy spells?  | <input type="checkbox"/> | <input type="checkbox"/> | Are you over 50 years old and not used to a lot of physical activity?   |
| YES                      | NO                       |  | YES                      | NO                       |   |
| <input type="checkbox"/> | <input type="checkbox"/> | Do you feel extremely breathless after you have been physically active?  | <input type="checkbox"/> | <input type="checkbox"/> | Do you have a health problem or physical reason not mentioned here that might keep you from starting a walking program?                         |
| YES                      | NO                       |  | YES                      | NO                       |   |

**If you answered yes to any of these questions, please check with your health care provider before starting a walking program or other form of physical activity.**

Source: <http://win.niddk.nih.gov/publications/walking.htm>

## Cholesterol-Lowering Medicines

Along with changing the way you eat and exercising regularly, your doctor may prescribe medicines to help lower your cholesterol. Even if you begin drug treatment, you will need to continue TLC. Drug treatment can control but does not “cure” high blood cholesterol. Therefore, you must continue taking your medicine and make changes to your lifestyle to keep your cholesterol level in the recommended range.

There are five major types of cholesterol-lowering medicines:

### ✓ **Statins**

- » Very effective in lowering LDL (“bad”) cholesterol levels
- » Safe for most people
- » Rare side effects to watch for are liver and muscle problems

### ✓ **Bile Acid Sequestrants** (*seh-KWES-trants*)

- » Help lower LDL cholesterol levels
- » Sometimes prescribed with statins
- » Not usually prescribed as the only medicine to lower cholesterol

### ✓ **Nicotinic (Nick-o-tin-ick) Acid**

- » Lowers LDL cholesterol and triglycerides, and raises HDL (“good”) cholesterol
- » Should only be used under a doctor’s supervision

### ✓ **Fibrates**

- » Lower triglycerides
- » May increase HDL (good) cholesterol levels

- » When used with a statin, may increase the chance of muscle problems

### ✓ **Ezetimibe**

- » Lowers LDL cholesterol
- » May be used with statins or alone
- » Acts within the intestine to block cholesterol absorption

When you are under treatment, you will be checked regularly to:

### ✓ **Make sure your cholesterol level is in control**

### ✓ **Check for other health problems**

You may take medicines for other health problems. It is important that you take ALL medicines as prescribed by your doctor. The combination of medications may lower your risk for heart disease or heart attack.

When trying to lower your cholesterol or keep it low, it is important to remember to follow your treatments for other conditions you may have such as high blood pressure. Get help with quitting smoking and losing weight if they are risk factors for you.



# FREQUENTLY ASKED QUESTIONS

## **Q Do I need to worry about lowering my blood cholesterol now that I'm over 65?**

Yes. Older Americans have the nation's highest rate of coronary heart disease (CHD) and can benefit greatly from lowering elevated cholesterol. Cholesterol lowering also has been shown to reduce the risk of strokes. For seniors who do not have heart disease, cholesterol lowering will reduce their high risk of developing CHD. Older Americans should have their total cholesterol and, if possible, their high density lipoprotein (HDL, the "good" cholesterol) tested once every five years. Older Americans should keep their cholesterol low by following an eating pattern lower in saturated fat, total fat, and cholesterol, being physically active, and maintaining a healthy weight.

## **Q Should I be concerned about my child's blood cholesterol?**

Yes. Everyone older than age 2 should care about cholesterol to reduce the risk of developing heart disease as an adult. Children as well as adults can improve the health of their hearts by following a low-saturated fat and low-cholesterol diet, avoiding obesity, and being physically active. Only children from families in which the father or grandfather has had heart disease at the age of 55 or younger, or the mother or grandmother has had heart disease at the age of 65 or younger, or in which a parent has high blood cholesterol (240 mg/dL or higher), should have their cholesterol levels

tested. If a child from such a "high-risk" family has a high cholesterol level, it should be lowered under medical supervision, primarily through dietary changes and increased physical activity.

## **Q How useful is it to know my cholesterol ratio?**

Although the cholesterol ratio can be a useful predictor of heart disease risk, especially in the elderly, it is more important for treatment purposes to know the value for each level separately because both LDL and HDL cholesterol separately affect your risk of heart disease and the levels of both may need to be improved by treatment. The ratio is useful if it helps you and your doctor keep the entire picture of your LDL and HDL levels in mind, but it should not take the place of knowing your separate LDL and HDL levels.

## **Q What is a heart-healthy diet?**

A heart-healthy diet emphasizes foods low in saturated fat, total fat, and cholesterol to help lower blood cholesterol. This is the recommended eating pattern for Americans older than 2:

- » Less than 10 percent of calories from saturated fat;
- » An average of 30 percent of calories or less from total fat; and
- » Less than 300 mg a day of dietary cholesterol.



Saturated fat increases blood cholesterol more than anything else you eat, so choose foods low in saturated fat to reduce blood cholesterol. If you are overweight, losing weight is important for lowering blood cholesterol. Being physically active also helps improve blood cholesterol levels because it can raise HDL (“good”) cholesterol and lower LDL (“bad”) cholesterol, as well as help you lose weight, lower your blood pressure and improve the fitness of your heart and blood vessels.

**Q My last cholesterol level was within my goal. Does that mean I do not have to worry about my cholesterol any more?**

High cholesterol and heart disease are not cured but are only controlled by diet and drug therapy. Stopping your treatment quickly returns your cholesterol to the level that existed before therapy was started.

**Q In a cholesterol-lowering eating pattern, is it healthier to eat butter or margarine?**

Use butter sparingly—opt for buttery-tasting spreads or better yet, extra virgin olive oil. In lieu of stick margarine, which is packed with trans fats, you can choose from a delicious array of “tubed” spreads like Smart Balance. Whatever alternative you



choose, be sure to check the label to ensure that it lists “0” grams of trans fat and is free of “partially hydrogenated oil.”

Source: Dr. Ann’s Eat Right For Life

## **Q** How does smoking affect my cholesterol?

Smoking has several harmful effects on cholesterol. Smoking reduces HDL (“good”) cholesterol and in all likelihood changes LDL (“bad”) cholesterol to a form that promotes the buildup of deposits in the walls of the coronary arteries. In addition, smoking has harmful effects on the heart and blood vessels. In these ways, smoking substantially raises the risk for coronary heart disease if you are healthy and multiplies that risk many more times if you have other risk factors such as high blood cholesterol. All in all, smoking is the leading preventable cause of death.

## **Q** I’m young and healthy. Do I need to have my cholesterol checked?

Yes. Young adults 20 years of age and older should have their cholesterol measured. Studies have shown that the buildup of plaque in the arteries that supply the heart begins in late adolescence and early adulthood, and a cholesterol level measured at age 22 predicts the risk of a heart attack over the following 30 to 40 years. Waiting until midlife to measure and lower cholesterol reduces the benefit that can be obtained. Checking your cholesterol and discussing it with your doctor can help you make lifestyle changes—eating right, being physically active, and controlling weight—to maintain good health now and prevent heart disease later in life.





## Questions About Cholesterol Testing

NO MATTER WHICH TESTING SYSTEM IS USED, YOU MAY WANT TO ASK:

- ✓ What is being measured—total cholesterol, HDL cholesterol, LDL cholesterol, and/or triglycerides?
- ✓ Do I need to fast before the test?
- ✓ How long will it take to get the test results?
- ✓ Will someone be available to explain the results and whether I need further testing?
- ✓ Will I receive educational materials with my test results?
- ✓ How reliable are the results? Is the lab certified?

The accuracy and reliability of cholesterol tests vary from lab to lab. Labs participating in the U.S. Centers for Disease Control and Prevention (CDC) standardization testing should be used.



### MANAGING CHOLESTEROL

The information contained in this guide is based on the best health information available and has been reviewed for accuracy. This information is not intended to replace the advice of your healthcare provider. If you have any questions about managing your own health and/or seeking medical care, please contact a medical professional.

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