

A PATIENT RESOURCE GUIDE

Acute Coronary Syndrome: Stroke and Heart Attack Prevention



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Online Version Also Available

This self-help guidebook is a tool you can use to help manage your heart health. Please visit www.abc-patient.com/acs for an interactive version of this guidebook.

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Introduction: What is acute coronary syndrome?

Many people hear the term “acute coronary syndrome” related to heart attack. But just what is it?

Acute coronary syndrome (ACS) is a life-threatening form of **coronary heart disease (CHD)** that occurs when the heart muscle does not receive enough oxygen-rich blood. ACS is a term used to describe **myocardial infarction (MI)**, also known as a heart attack, and unstable **angina**, or sudden, severe chest discomfort that typically occurs when a person is at rest.

Chapter 1:

Understanding acute coronary syndrome (ACS) and heart attack

What causes acute coronary syndrome?

Fatty substances such as **cholesterol** can stick to the inner walls of your **arteries**. These deposits, called plaque, can eventually slow or block the flow of blood. This blockage is called **atherosclerosis**, and it can affect any medium- to large-sized artery in your body. When these blockages restrict blood flow to your heart, a heart attack occurs.

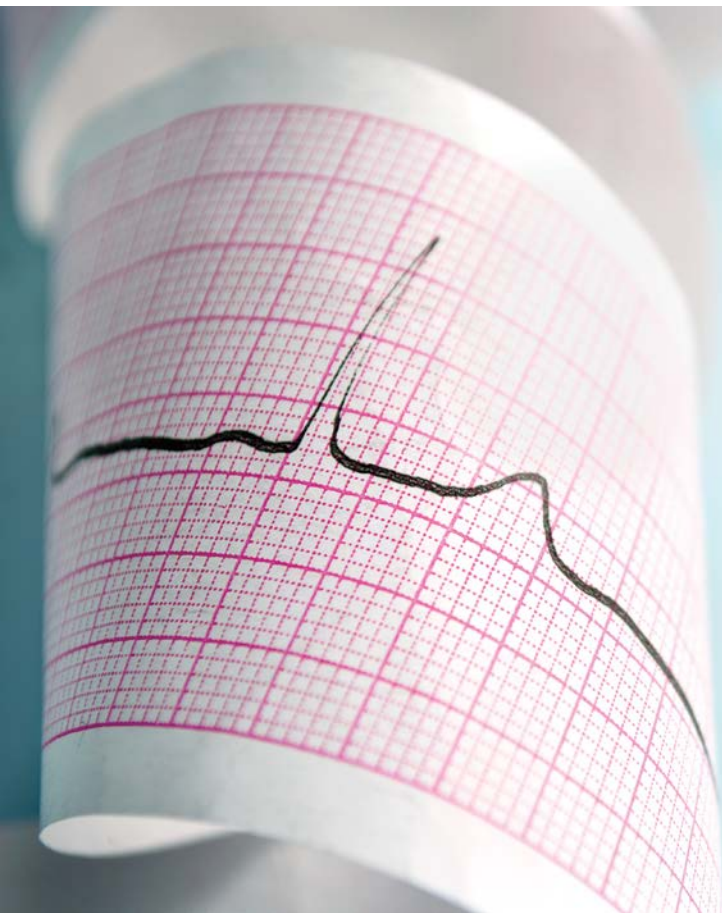
Symptoms

One of the most recognizable symptoms of ACS is discomfort or pain in the chest. This discomfort may include pressure and a feeling of tightness or fullness. Other common symptoms include:

- Shortness of breath
- Nausea and sweating
- Pain or discomfort in the neck, jaw, stomach or back
- Pain or discomfort in one or both arms
- Feeling lightheaded or dizzy

If you're experiencing any of these symptoms, call 911 immediately.





How is ACS diagnosed?

Several tests are used to diagnose ACS and to determine if your symptoms are the result of a heart attack or if there is another cause of your chest discomfort.

- An **electrocardiogram (ECG or EKG)**, which measures the electrical activity of the heart
- A blood test, which can determine if any of the heart's cells are dying or damaged

If you are having a heart attack, you will probably be admitted to the hospital to undergo more extensive tests to determine if your heart has been damaged. If your chest discomfort has subsided, your healthcare provider will perform tests to check the flow of blood to your heart.

How is ACS treated?

Medications such as aspirin, nitroglycerin and beta-blockers are one way ACS is treated, but your treatment will depend on the amount of blockage in your arteries and your symptoms.

If the blockage is significant enough, you may need to have an **angioplasty**. Angioplasty is a procedure designed to restore normal blood flow through clogged or blocked arteries by inserting a balloon-tipped catheter. The balloon is inflated to open the artery. Usually, a **stent**, a tube made of mesh wire, is placed in the artery to keep it open.



Can ACS be prevented?

There are several risk factors that increase your chance of acute coronary syndrome. These include:

- **High blood pressure (hypertension)**
- High cholesterol
- Smoking
- Diabetes
- Lack of exercise
- Excess weight
- Family history of **heart disease** or **stroke**

Talk to your healthcare provider about ways to reduce your risk.



What is a heart attack?

A heart attack occurs when the supply of blood and oxygen to an area of heart muscle is blocked. A heart attack is also known as a myocardial infarction, or MI.

Heart attacks are almost always the result of progressive **coronary artery disease, or CAD**. In CAD, the arteries that supply blood to the heart become clogged with fatty deposits called plaque, which narrows and blocks arteries. This condition is known as atherosclerosis. When pieces of the plaque break free, blood clots can form, blocking the flow of blood to the heart. As a result, the heart muscle does not get the oxygen and nutrients it needs. Parts of the heart may become damaged or die, and symptoms of a heart attack begin.



Is it angina or a heart attack?

Angina usually goes away after a few minutes of rest. If you have never had angina before or if the following symptoms last for more than a few minutes, or if they go away and come back, you could be having a heart attack. **Call 911 right away!**

- Discomfort, aching, tightness or pressure that comes and goes. This may be in the back, abdomen, arm, shoulder, neck or jaw. It can also be in the chest.
- Feeling much more tired than usual, for no clear reason.
- Becoming breathless while doing something that used to be easy.
- Heartburn, nausea or a burning feeling that seems unrelated to food.

Signs and symptoms of a heart attack

Some heart attack sufferers report severe chest pain, while others only feel some chest discomfort. And about one-third of heart attack sufferers do not feel any chest pain at all.

Other symptoms besides chest pain are also common during heart attacks. These include:

- Pain in the left arm
- Pain that radiates down one or both arms
- Back, neck, jaw or stomach pain
- Shortness of breath
- Nausea or vomiting
- Dizziness or fainting
- Breaking out in a cold sweat
- Severe headache—especially in older adults
- Anxiety, weakness or a strong feeling of doom

Like men, women most commonly have chest pain or discomfort as a heart attack symptom. But women are somewhat more likely than men to have some of the other common symptoms, particularly shortness of breath, nausea and vomiting, back pain or jaw pain.

Don't wait to act

It's vital to get prompt treatment for a heart attack. Whenever you or a loved one experiences heart attack symptoms, use the following steps as a guideline:

- Chew an uncoated aspirin tablet as a protective step against heart damage.
- If the symptoms stop after a short time, call your healthcare provider. He or she will tell you what action to take.
- If symptoms continue for more than 15 minutes, call emergency medical services right away.

If You Think You're Having a Heart Attack

Get help right away if you have the symptoms described above. In some cases, medication can stop a heart attack and even reverse some of the damage. For best results, these medications need to be used as soon as possible. If you have heart attack symptoms:

- Call 911 or have someone else call. Do **NOT** try to drive yourself to the hospital.
- Take nitroglycerin if it has been prescribed. Take aspirin if your healthcare provider directed you to do so.
- Wait for help to arrive. Unlock your door if you can.
- Rest in a comfortable position. Loosen tight clothing.
- Don't panic or run around.
- Don't ignore the signs or tell yourself they will pass.



What can I do to help prevent a second heart attack?

Many people survive a first heart attack, but are at increased risk for another one. By taking action, however, you can significantly reduce your chance for a second heart attack.



Risk factors

These factors increase your risk for a second heart attack.

- Sedentary lifestyle
- Being overweight or obese
- High cholesterol
- High blood sugar if you have **diabetes**
- High **blood pressure**
- Smoking
- Excess stress



To reduce your risk and help prevent a second heart attack:

- **Quit smoking.** You can cut your risk for another heart attack in half by not smoking.
- **Eat a heart-healthy diet.** By cutting back on **saturated fat** and **trans fat**, you can lower your **LDL ("bad") cholesterol**, one of the primary substances that cause heart attacks. Eat less margarine and fewer cookies, crackers, fries, doughnuts and other snack foods that contain partially hydrogenated oils.
- **Control your cholesterol.** Besides eating a healthy diet, you can help keep your cholesterol under control by exercising regularly. Your healthcare provider may also prescribe a cholesterol-lowering medication, such as a statin. If you've had a heart attack before the age of 50-60, seek additional testing and family screening for the possibility of familial hypercholesterolemia. (See Chapter 4 for more information.)
- **Exercise regularly.** Exercise is important because it strengthens your heart muscle. It also boosts your energy level and helps with weight management, cholesterol and blood pressure. Try to get 30-60 minutes of exercise three to five times each week. Talk to your healthcare provider before starting an exercise program.
- **Maintain a healthy weight.** Being overweight dramatically increases your risk for a second heart attack. If you need to lose weight, ask your healthcare provider for help.
- **Control high blood pressure.** Follow your healthcare provider's instructions.
- **Assess your mental health.** Depression, stress, anxiety and anger can damage your heart and overall health. See a therapist if you need help maintaining your emotional balance.
- **Take your medications as directed.** It's very important to take as directed any medications your healthcare provider has prescribed.

Chapter 2:

Stroke

What is a stroke?

Stroke, sometimes called a brain attack, most often occurs when blood flow to the brain is suddenly cut off. Ischemic strokes are caused by blood clots or cholesterol **plaques** that block the flow of blood through arteries. Hemorrhagic strokes occur when arteries burst inside of, or on, the brain surface.

When blood flow is interrupted, your brain doesn't get the oxygen and nutrients it needs, and cells begin to die. Relatively few brain cells will be affected if the interruption is brief, and you may recover fully. Otherwise, the damage may vary in the degree of severity and can be permanent.

The part of your brain that's damaged depends on the location of the stroke. Areas commonly affected include those that involve sensory perceptions, movement, memory, thought patterns or behavior, and the ability to talk or understand speech.

Treatment for stroke patients includes medication, surgery, hospital care and rehabilitation. If you're having a stroke and get to the hospital early enough, clot-dissolving medication—called a thrombolytic, such as tPA—can be given.



Signs and symptoms of a stroke

Following are the most common symptoms of stroke. Each individual, however, may experience symptoms differently. **If any of these symptoms are present, call 911 (or your local ambulance service) immediately.** Treatment is most effective when started immediately.

Symptoms may be sudden and include:

- Weakness or numbness of the face, arm or leg, especially on one side of the body
- Confusion or difficulty speaking or understanding
- Problems with vision such as dimness or loss of vision in one or both eyes
- Dizziness or problems with balance or coordination
- Problems with movement or walking
- Severe headaches with no other known cause

All of the above warning signs may not occur with each stroke. Do not ignore any of the warning signs, even if they go away—take action immediately! The symptoms of stroke may resemble other medical conditions or problems. Always consult your healthcare provider for a diagnosis.

Other, less common, symptoms of stroke may include the following:

- Sudden nausea, vomiting or fever not caused by a viral illness
- Brief loss or change of consciousness such as fainting, confusion, seizures or coma

A **transient ischemic attack (TIA)**, or “mini-stroke”, can cause many of the same symptoms as a stroke, but TIA symptoms are brief and last from a few minutes up to 24 hours. Call for medical help immediately if you suspect a person is having a TIA, as it may be a warning sign that a stroke is about to occur. Not all strokes, however, are preceded by TIAs.

Warning signs of stroke

Anyone having a stroke should seek medical attention immediately. These are warning signs:

- Sudden weakness or numbness of the face, arm, or leg on one side of the body
- Sudden dimness or loss of vision, particularly in only one eye
- Loss of speech or trouble talking or understanding speech
- Sudden, severe headaches with no known cause
- Unexplained dizziness, unsteadiness or sudden falls, especially combined with any other symptom

What can I do to prevent a second stroke?

Stroke can strike at any time, becoming more common as you grow older. Fortunately, you can reduce your risk of stroke—at any age—with the following strategies:

- If you smoke, talk to your healthcare provider about nicotine replacement and other stop-smoking aids. Smoking almost doubles your risk of stroke. But your risk will start decreasing as soon as you give up cigarettes.
- Limit your salt intake to help control your blood pressure. Processed foods, such as snack foods and frozen entrees, are the source of most salt in the American diet.
- Drink alcohol in moderation, if at all. Heavy drinking, as well as binge drinking, increases stroke risk.
- Look for ways to eat more fruits and vegetables. Serve fruit for dessert, for instance.
- Choose whole-grain cereals and breads.
- Get moving ... for at least 30 minutes every day. Go for a brisk walk or a bike ride.
- Ask your healthcare provider whether you should take aspirin. A daily aspirin may help prevent stroke in certain people.
- Practice good dental habits to prevent gum disease. People with gum disease have a higher stroke risk.
- Seek treatment for depression. Depressed adults are more likely to suffer strokes.



Chapter 3:

Hypertension and cholesterol

Understanding and controlling hypertension

High blood pressure, also called hypertension, occurs when blood pushes too hard against artery walls as it travels through the arteries. This damages the lining of the blood vessels.

The blood pressure reading is written as two numbers, the systolic pressure (the first, or “top” number) and the diastolic pressure (the second, or “bottom” number). Systolic is the measure of pressure when your heart beats (contracts) and blood flow is strongest. Diastolic is the measure of the pressure in the arteries when the heart relaxes between beats.

If your blood pressure is 120/80 or higher, you’re at risk. High blood pressure raises your risk of heart attack and especially of stroke.

Blood pressure is considered normal if it’s less than 120/80. Pressure between 120-139/80-89 is **pre-hypertension**; 140-159/90-99 is stage 1 hypertension; and greater than 159/99 is stage 2 hypertension.



Blood Pressure Reading	
Normal	Less than 120/80
Pre-hypertension	Between 120-139/80-89
Stage 1 hypertension	140-159/90-99
Stage 2 hypertension	greater than 159/99

What are risk factors for hypertension?

Certain factors make hypertension more likely. Some factors cannot be changed, but others can. These are the risk factors for hypertension:

- **Age.** The risk for hypertension increases with age.
- **Male gender.** Men have a higher risk of developing high blood pressure than women until age 55; after that, their risks are similar.
- **Blood relatives** who have high blood pressure.
- **Smoking.**
- **Overweight or obesity.**
- **Alcohol.** The risk rises for anyone drinking more than one ounce of pure alcohol a day. This means an average of more than two drinks a day for men and one drink per day for women.
- **Too little physical activity.** At least 30 minutes of moderately strenuous activity most days is recommended.
- **Sensitivity to sodium (salt).** In some people, eating too much sodium leads to hypertension. African Americans appear to be more sensitive than people of other ethnic backgrounds to the effects of salt on blood pressure.
- **Type 2 diabetes**, gout, or kidney disease.
- **Pregnancy.** Some women who do not have hypertension develop it during pregnancy.
- **Taking certain medications** or herbal supplements. Certain medications and herbal supplements can raise blood pressure in some people. Common ones include steroids, ibuprofen, nasal decongestants and other cold remedies, and diet pills.



If you have hypertension or pre-hypertension, you can lower your blood pressure by making changes to your lifestyle. Your healthcare provider can help you determine what changes you need to make and how to make them.

The best first step to taking control is to have your blood pressure checked routinely. One reason your blood pressure is checked every time you visit your healthcare provider is because there’s no other way to know when your pressure is high—you can’t feel high blood pressure at work.

Talk to your healthcare provider about your blood pressure reading and what your goals should be.

Medications help many people manage risk factors such as high blood pressure, and live longer, healthier lives.

If medications have been prescribed for you, make sure you know what they do and how to use them. Be sure to fill all the prescriptions that are written for you. If you have any questions or concerns, talk to your healthcare provider or pharmacist.

Each time you have your blood pressure checked, record the results below. Bring this chart to your next healthcare exam and discuss the results with your healthcare provider.



Date	Blood Pressure	Category (Normal: less than 120/80; pre-hypertension: between 120-139/80-89; stage 1 hypertension: 140-159/90-99; and stage 2 hypertension: greater than 159/99)

Understanding and controlling cholesterol

Cholesterol, a type of lipid, is a waxy, fat-like substance produced naturally and stored in the liver. Your body needs cholesterol to function normally, but you only need a small amount in your bloodstream.

If you have too much cholesterol in your blood, your body stores the extra in your arteries, including the **coronary arteries**. Cholesterol build-up narrows and clogs the arteries, resulting in heart disease, such as acute coronary syndrome. As your cholesterol level increases, so does your risk for heart disease.

Your total cholesterol level is made up of three parts. LDL (low-density lipoprotein) is often called the “bad” cholesterol. When the body has too much LDL, it can build up in artery walls. **HDL (high-density lipoprotein)** is known as the “good” cholesterol because it picks up leftover LDL from the arteries and carries it back to the liver to be used again.

Triglycerides are fatty substances made by your liver from the food you eat. A high triglyceride level may lead to plaque buildup in arteries.

Type of Fat	Best Level
Total cholesterol	Less than 200 mg/dL
LDL cholesterol	Less than 100 mg/dL
HDL cholesterol	Higher than 60 mg/dL
Triglycerides	Less than 150 mg/dL

Each time you have your cholesterol checked, record the results below. Bring this chart to your next healthcare exam and discuss the results with your healthcare provider.

Date	Total cholesterol	HDL	LDL	Triglycerides

Your healthcare provider can do a **lipoprotein profile** to measure your total cholesterol. A lipoprotein profile is a blood test that’s done after you’ve fasted for 8-10 hours. It tells how much total cholesterol, HDL cholesterol, LDL cholesterol and triglycerides are in your blood.

If your total cholesterol or LDL levels are too high, or your HDL level too low, your healthcare provider may prescribe medication to help bring your cholesterol to a healthier level. If your LDL cholesterol level is over 190 mg/dL, and you have a family history of early heart disease, talk to your healthcare provider about screening for familial hypercholesterolemia. (See Chapter 4 for more information.)

Talk with your healthcare provider about how often you should have a lipoprotein profile.

Wellness strategies to lower cholesterol

Cholesterol-lowering good health calls for a diet rich in fruits, vegetables, whole grains, fish, skinless poultry, nonfat dairy, beans, seeds, nuts, and healthy vegetable oils like olive or canola. Your diet should restrict saturated fat, trans fat and salt. You should also cut back on sugar and refined flour, which have been linked with high triglycerides.



When preparing meals, try the following:

- Bake, steam, microwave, or broil foods instead of frying.
- Cook with olive oil, canola oil, or trans-fat-free margarine instead of butter or normal margarine.
- Before cooking, trim fat from meat and remove the skin from chicken.
- Chill soups and stews. Skim off the fat before reheating and serving.
- Try using half as much cheese as a recipe calls for. Or less! (Doing this will help you meet your sodium goal, too.)
- Remember that foods marked “low fat” can be high in sodium. Read food labels carefully (see page 27) so you can stick to your sodium goal.

Your body needs some fats to stay healthy. But eating too much of certain fats is bad for your heart. Try to choose the healthier fats and avoid unhealthy ones.

	CHOOSE	LIMIT	AVOID
Type of Fat	Unsaturated fat	Saturated fat	Trans fat
Where it's found	Nuts, seeds, fish, avocados, some vegetable oils (such as olive, canola, and soy)	Animal foods such as beef, pork, or high-fat dairy	Snack foods, french fries and other fast food, shortening, most margarines
What you should do	Eat unsaturated fat some of the time. For instance, cook with olive or canola oil instead of butter.	Eat as little saturated fat as you can. To cut down, choose fat-free milk and lean meats, chicken, or fish.	Avoid foods with trans fat. Check for it on food labels and on the ingredients list in the form of hydrogenated oils.

Don't forget the fiber

Foods high in fiber make you feel full longer. This can help you control your weight. Eating foods high in soluble fiber (found in peas, beans, oats and some fruit) helps to lower your cholesterol. To add more fiber to your diet:

- Eat grains, such as oatmeal, brown rice, barley and kasha (buckwheat). Choose whole-grain breads, crackers and cereals.
- Include fresh vegetables and fruit in your diet. Try raw or lightly steamed vegetables. And eat whole fresh fruit with the skin.
- Eat dried, cooked beans, peas and lentils instead of meat.



Other steps to take to help keep your cholesterol at healthy levels:

- **Get regular aerobic exercise.** Regular physical activity is critical to improving your cholesterol levels and cutting your risk for heart disease. Exercise reduces not only total cholesterol, but also LDL cholesterol and triglycerides, and increases HDL ("good") cholesterol.
- **If you drink, do so in moderation.** Excessive alcohol use increases triglyceride levels.
- **Reduce stress.** It may help keep your cholesterol in check.
- **If you smoke, quit.** Smoking raises triglyceride levels.
- **Set goals for healthy eating.** Making even small changes will help you lead a healthier lifestyle.
- **Make healthy food choices for you and your family.** Find ways to substitute lower fat and cholesterol foods for those you might normally use.
- **Take medication as directed.** Always talk to your healthcare provider or pharmacist if you have questions about medicines you take, whether prescribed or over-the-counter.

My Fat and Cholesterol Goals

If you have been told to limit fat and cholesterol, work with your healthcare provider to set daily goals for the following:

Total fat: ____ g Saturated fat: ____ g Dietary cholesterol: ____ mg

Chapter 4:

Familial hypercholesterolemia (FH)

What is familial hypercholesterolemia?

Familial hypercholesterolemia, or FH, is one of the most common inherited disorders leading to very high cholesterol. “Familial” means it runs in families and is transmitted from generation to generation. If untreated, FH leads to early heart disease and can be life-threatening at a young age.

Your liver is constantly producing the cholesterol your body needs to build cells. Individuals with FH are unable to recycle this natural supply of cholesterol; therefore, cholesterol levels in people with FH are exceedingly high. Over time, these elevated cholesterol levels in the blood can lead to blockages in the arteries of the heart and/or brain, putting them at a much higher risk of heart attack or stroke. People with FH have a high cholesterol level from birth, because they have a lack of low-density lipoprotein (LDL) receptors that remove cholesterol from the blood.

There are two forms of FH. If you inherit this genetic mutation from one parent, you have Heterozygous FH (HeFH). HeFH occurs in 1 in 300-500 people worldwide. If you inherit FH from both parents, you have Homozygous FH (HoFH). This form has much more severe consequences and is very rare, occurring in about 1 in one million people worldwide.



Certain ethnic groups are more susceptible to having FH. These include people with Lebanese, French Canadian, Ashkenazi Jewish and South African Afrikaner backgrounds. These populations can have a familial hypercholesterolemia frequency rate of as high as 1 in 80 or 1 in 100.

How is FH diagnosed?

Many people with FH look and feel healthy, but because the effects of the disorder take place inside the body, it can be difficult to see the physical symptoms.

The accumulation of cholesterol and subsequent narrowing or blockage of arteries is a gradual process, which might take years to be discovered.

FH is suspected if there is a family history of heart disease early in life. If you or a family member suffers a heart attack before the age of 50-60, it may be due to high cholesterol. Other symptoms that less frequently appear in people with more severe forms of FH include the development of cholesterol deposits, called xanthomas, on their hands, ankles, knees and elbows.

People with FH may develop orange or yellow fatty deposits called xanthelasmas underneath the eye or surrounding the eyelids. Cholesterol may also deposit in the clear outer covering (cornea) of the eye. This usually occurs in the shape of a half-moon (arcus) and can be more difficult to notice.



In general, the older a person is, the more likely they are to manifest physical signs of FH. Treating physicians, unfortunately, don't always recognize these physical symptoms as signs of FH. It is important to find a healthcare provider, such as a lipidologist or cardiologist, who specializes in treating diseases like FH.

However, most individuals with FH do not show these physical signs.

If you have a family history of early heart disease or death from cardiac events, as well as an LDL cholesterol level over 190 mg/dL, talk to your healthcare provider to rule out FH as the cause. In the United States it is estimated that nearly 90 percent of individuals with FH have not been diagnosed.



What does this diagnosis mean for my family and me?

The closest relatives of people with FH (parents, brothers and sisters, and children) all have a 50 percent chance of also having FH.

In families with FH, there generally is a pattern of people with very high cholesterol and early heart disease. In these families, it is not uncommon for people to have heart attacks in their 50s, 40s, 30s or even 20s. In fact, the risk of early heart disease is about 20 times higher in people with untreated FH than in the general population. The risk of a fatal heart attack before the age of 40 is significantly higher in those with FH than among the general population.

What treatments are available?

In most individuals, diet and lifestyle contribute to their risk of cardiovascular disease. In people with FH, they are not the cause of cardiovascular problems, but can still make a difference.

If FH is found early, serious problems of the heart and blood vessels may be prevented or delayed by taking these steps:

- Not smoking
- Exercising regularly
- Eating a healthy diet low in saturated and trans fats
- Taking medications

Almost all people with FH will require cholesterol-lowering medications. For some people with FH, more extensive measures are needed, including LDL-apheresis (a dialysis-like procedure in which LDL-C cholesterol is removed from the blood on a weekly or bi-weekly basis).

The American Academy of Pediatrics recommends that a family with a pattern of early heart attacks or heart disease (defined as before age 55 for men and age 65 for women) have their children tested for cholesterol after age 2 and before age 10.

It's important to find FH and take action at any age, because when treated, the risk of heart disease can be reduced to levels similar to those of the general population.



Chapter 5:

Managing risk factors and making healthy changes

Managing your weight

Maintaining a healthy weight will help lower your blood pressure and cholesterol levels, and help reduce your risk for type 2 diabetes.

If you need to lose weight, the only safe way to do so is to eat fewer calories AND become more active. This doesn't mean following a strict diet or exercising for hours a day. Instead, talk to your healthcare provider or dietitian to set weight-loss goals, then think about safe ways to meet those goals.

Your first goal might be to eat about 250 fewer calories daily. Reaching this goal could be as simple as switching from whole milk to skim or from regular to diet soda. Along with diet changes such as this, try adding a little more activity to your day.

A body mass index (BMI) of 25 to 29.9 is considered overweight. A BMI of 30 or higher is considered obese. To calculate your BMI, multiply your weight in pounds by 703. Divide the result by your height in inches, then divide that result by your height in inches again.

Even if you need to lose a lot of weight, losing just 5 to 10 pounds can make a difference.

Starting an exercise program

Being active can help you maintain healthy blood pressure and manage cholesterol levels. When you commit to being active, you're not only protecting your heart, you're helping yourself look better, feel better and have more energy.

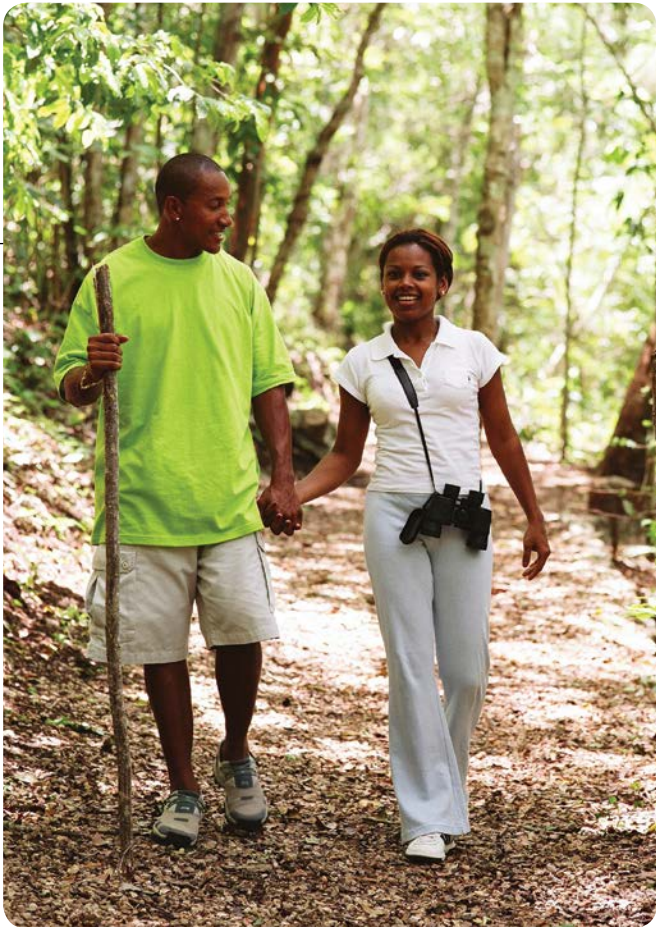
Becoming active starts with moving more. Find simple ways to make your day more active, such as light gardening or housework, or walking to a coworker's office instead of using the phone.

Walking is the easiest way to exercise. It's an aerobic exercise that's good for your heart, and it requires nothing more than a pair of sneakers and your own two feet. Try walking with some friends, outdoors on nice days or in a shopping mall if it's cold or raining.

Before starting a new exercise program, ask your healthcare provider about activities to try—this is especially important if you have heart disease. If you choose activities you enjoy, you’re more likely to stick with it. Try to do a total of at least 30 minutes of activity most days, or 60 to 90 minutes of activity if you’re trying to lose weight.

Many people want to be as physically active as possible. But being active every day can be a challenge. You may find yourself making excuses or getting distracted. If so, what’s keeping you from reaching your activity goals?

Identify Your Barriers	Solutions to Keep You Moving
“I don’t know where to walk when it’s cold or raining.”	Find out if your local shopping mall opens early for indoor walkers. Check with local schools to see if the gym or track is available for walking.
“I work all day and am too tired to be active when I get home.”	Take an activity break during the day. Take the stairs instead of the elevator or escalator. Park your car farther away, or ride your bicycle or walk to work.
“It’s difficult for me to stick to an exercise routine.”	Choose activities you like. The key to starting and sticking with an exercise program is to pick activities that you enjoy. Then choose a convenient time and place to workout. Try to make exercise a habit. Do different activities rather than relying on just one so that you don’t become bored with your routine. Finding an exercise partner may make it easier to stick to a regular schedule. If you miss an exercise session, don’t worry. Just find another way to be active that day.



- Activities of moderate intensity include:**
- Using exercise or aerobics videos
 - Swimming laps at a local pool
 - Joining an exercise class or gym. Not all gyms are expensive, and some are for women only.
 - Playing a game with your children or grandchildren
 - Taking a bike ride around the block or neighborhood
 - Going on a hike with your family or friends

Making lifestyle changes

Your daily habits and lifestyle have a direct effect on your heart. Take care of your heart and yourself by making a few simple—but very beneficial—lifestyle changes.

Stop smoking. Nicotine causes blood vessels to narrow and makes it difficult for blood to reach your heart muscle. It also temporarily raises your blood pressure and the carbon monoxide in cigarette smoke deprives your heart of oxygen. Smokers have twice the risk of having a heart attack as nonsmokers. If you need help quitting, talk with your healthcare provider. Try to avoid secondhand smoke, which is also bad for your heart.

Eat heart-friendly foods. Eating fatty foods can cause fat deposits to build up in your arteries, leading to blockages in the arteries of your heart. This may eventually cause a heart attack. Limit foods that are high in animal fats, such as fatty meats, whole-milk products, egg yolks and fried foods. Choose cooking oils with **unsaturated fats**, such as canola and olive oils, and use them in limited amounts. Try to eat 2 cups of fruit and 2½ cups of vegetables daily.

Set exercise goals. Exercise gets your heart pumping and helps your body use oxygen better and makes your heart stronger. It can also decrease your blood pressure and the amount of fat in your blood. Start slowly, with short sessions, such as a 10-minute walk. Gradually increase the length of your workouts, up to 30 minutes most days of the week. Be sure to talk with your healthcare provider before starting an exercise program.

Watch your blood pressure. Make sure your blood pressure is in the optimal range or under control. According to the American Heart Association, a normal blood pressure is less than 120/80.

Watch your weight. Being overweight is a risk factor for heart disease. Losing weight decreases your risk, and reaching or maintaining an ideal weight also helps lower your blood pressure and cholesterol level.

Reduce stress. Stress is frequently associated with anger, another emotion that is tightly linked with risk of cardiac death. Common ways of dealing with stress, such as overeating and smoking, can harm your heart. Keep your stress low by exercising, sharing your concerns with friends and family, and making some quiet time for yourself each day. Spending 15-20 minutes every day doing something you enjoy is a simple, but effective, step toward a less stressful life.



Healthy diet: Dos & don'ts

Shopping

Look for:

- Bright colored fruits and vegetables
- Low fat meats, such as fish, chicken or turkey, and lean beef
- Whole grain foods and low-fat dairy (milk) products

Avoid:

- High fat snack foods

Food Labels—look at food labels to check how much makes a serving, and how much fat, salt (sodium) and starches (carbohydrates) are in each serving.

Nutrition Facts	
Serving Size 1 cup (240g)	
Servings Per Container 2	
Amount Per Serving	
Calories 100	Calories from Fat 20
% Daily Value*	
Total Fat 2g	3%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 70mg	3%
Total Carbohydrate 17g	6%
Dietary Fiber 3g	12%
Sugars 5g	
Protein 4g	
Vitamin A 70%	• Vitamin C 20%
Calcium 15%	• Iron 8%
*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.	

Serving size

This tells you how much of the food makes up one serving. If you eat more than one serving, all the other values increase.

Fat

This is the total amount of fat in each serving. Limit saturated fats and avoid trans fats. Both are bad for your health.

Sodium (salt)

This is the total amount of sodium in each serving given in milligrams (mg). People with diabetes should try to eat less than 1,400 mg of sodium a day.

Total carbohydrate (starches)

This tells you how many grams of carbohydrate are in one serving. If you do carb counting, this number helps you fit the food into your meal plan.



Cooking at home/ Portion size

Dos

- Trim fat off meats before cooking
- Boil, steam, bake or grill meats
- Use olive or canola oil
- Watch your serving size (the amount of any food)

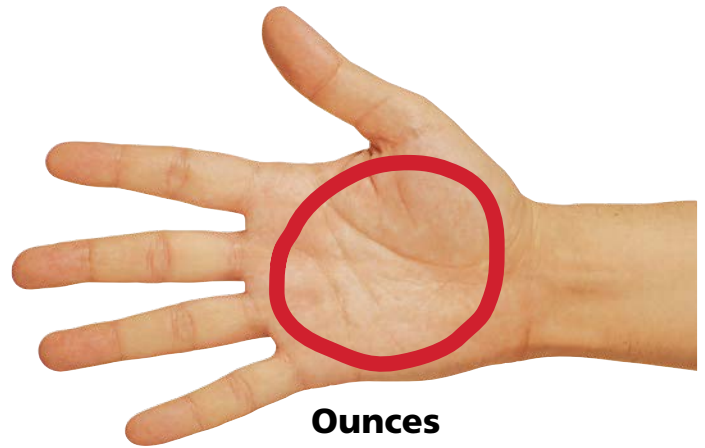
Avoid

- Frying foods
- Butter or lard
- Cream or butter-based sauces

Eating out

What you eat and how you eat are difficult to control when you eat out. Here are some tips to help you stick to your meal plan:

- Avoid fried or breaded foods
- Avoid foods cooked in butter or cream
- Order sauces and salad dressings on the side, then use only a little at a time
- Take half your meal home for another meal
- At buffets, keep the plate picture in mind and make half your plate vegetables and salad and $\frac{1}{4}$ starch and $\frac{1}{4}$ lean protein
- Share a meal or dessert with a friend or family member
- Don't snack on the chips or bread that's served before your meal



Ounces

2 to 3 ounces are about the size of your palm.

1 Cup

1 cup (or a medium-sized piece) is about the size of your fist.



$\frac{1}{2}$ Cup

$\frac{1}{2}$ cup is about the size of your cupped hand.



Medication compliance

If your healthcare provider has prescribed medication for you, he or she did so for a reason. Medications are a very important part of staying healthy and preventing a heart attack or stroke. Not adhering to a medication plan can have serious consequences, so it's important to understand the medications you're taking and how they work.

You can take several steps to ensure that any medications you take are as effective as possible.

- Bring all the medications you take to each appointment with your healthcare provider and make sure your pharmacist knows all the medications you are taking. If you take any over-the-counter medications, vitamins or herbal supplements, be certain to inform both your healthcare provider and pharmacist.
- If you are having trouble figuring out when to take a particular drug, discuss it with your healthcare provider or your pharmacist.
- Don't forget to tell your healthcare provider and your pharmacist about any allergies you have, so they can assess whether those allergies will interact with drugs you are taking.
- If you can, have all your prescriptions filled by the same pharmacy so that the pharmacist can prevent any problems with drug interactions. Problems can occur if the pharmacist isn't aware of other medications you are taking when he or she fills a new prescription.
- If you take a number of medications, carry a list with you of all the drugs and how much you take of each one.
- When you take multiple medications, always ask your doctor or pharmacist about potential drug interactions.
- When you get a new prescription filled, make sure you understand how the drug should be taken and what is supposed to happen.
- If you develop any new symptoms or your conditions worsen after starting a new drug, call your healthcare provider or pharmacist to discuss it.
- Don't take other people's medicines.



Chapter 6: Resources

American Academy of Pediatrics
www.aap.org

American College of Cardiology (ACC)
800-253-4636, ext. 5603
www.acc.org

American Diabetes Association (ADA)
703-549-1500 800-DIABETES
www.diabetes.org

**American Dietetic Association
National Center for Nutrition and
Dietetics Information**
800-366-1655
www.eatright.org

American Heart Association
1-800-242-8721
www.heart.org

American Kidney Fund
800-638-8299
www.kidneyfund.org

American Stroke Association
a division of The American Heart
Association
888-4STROKE (888-478-7653)
www.StrokeAssociation.org

**Association of Black Cardiologists,
Inc. (ABC)**
800-753-9222
www.abccardio.org

Association of Black Psychologists
202-722-0808
www.abpsi.org

Calorie Control Council
www.caloriecontrol.org

Cardiosmart
www.cardiosmart.org

**Centers for Disease Control and
Prevention (CDC)**
800-311-3435
www.cdc.gov

Clinical Trials
www.clinicaltrials.gov

European Atherosclerosis Society
www.eas-society.org/

Familial Hypercholesterolemia
[www.primaryissues.org/2011/07/
how-concerned-are-you-about-
familial-hypercholesterolemia-in-your-
practice/](http://www.primaryissues.org/2011/07/how-concerned-are-you-about-familial-hypercholesterolemia-in-your-practice/)

FH Diagnosis app for iPhone
[https://itunes.apple.com/us/app/
fh-diagnosis/id543676258?ls=1&mt=8](https://itunes.apple.com/us/app/fh-diagnosis/id543676258?ls=1&mt=8)

The FH Foundation
www.theFHfoundation.org

**Food and Drug Administration
(FDA)**
www.fda.gov

**Genetics in Primary Care Institute
(American Academy of Pediatrics)**
www.geneticsinprimarycare.org/

Global Genes Project
www.globalgenes.org

International FH Foundation
www.fh-foundation.org/

Medlineplus
www.medlineplus.gov

Million Hearts
www.millionhearts.hhs.gov

Med Ped
www.medped.org

Mended *Little* Hearts
www.mendedlittlehearts.org

**National Diabetes Information
Clearinghouse (NDIC)**
800-860-8747
www.niddk.nih.gov

**National Heart, Lung, and Blood
Institute
NHLBI Information Center**
301-592-8573
www.nhlbi.nih.gov

National Lipid Association
<https://www.lipid.org/>

National Institutes of Health
www.nih.gov

National Medical Association
888-662-7497
www.nmanet.org

**National Organization of Rare
Diseases (NORD)**
www.rarediseases.org/

National Stroke Association
800-STROKES (800-787-6537)
www.stroke.org

**National Women's Health
Information Center**
www.womenshealth.gov

**Preventive Cardiac Nurses
Association (PCNA)**
www.pcna.net

Sister to Sister
www.sistertosister.org

**The Society for Cardiovascular
Angiography and Interventions
(SCAI)**
800-992-7224
www.scai.org

WomenHeart
www.womenheart.org

Glossary

Angina: Symptoms that occur when the heart muscle can't get enough oxygen-rich blood. Angina often feels like pressure, tightness, or pain in the chest, arm, neck, shoulder, or jaw.

Angioplasty: A procedure to unclog blocked arteries, using a thin tube (catheter) with a balloon that inflates to open the artery.

Artery: A blood vessel that carries oxygen-rich blood from the heart to the body.

Atherosclerosis: Buildup of plaque in arteries, reducing blood flow to the heart, brain, or parts of the body. It occurs when artery walls thicken and lose elasticity.

Blood pressure: The amount of force blood exerts against the walls of your blood vessels.

Cholesterol: A fatty substance that can build up within artery walls. Some is made by the body; some enters the body through foods you eat. In people with heart disease, the level of cholesterol in the blood is often too high.

Coronary arteries: The blood vessels that wrap around the heart. These supply the heart muscle with oxygen-rich blood.

Coronary artery disease (CAD): A condition that occurs when the arteries that carry blood to the heart are narrowed. Also known as heart disease.

Coronary heart disease (CHD): A condition that occurs when the blood vessels that supply oxygenated blood to the heart muscle gradually become narrowed or blocked by plaque deposits. Also known as coronary artery disease (CAD).

Diabetes: A condition in which your body doesn't make enough insulin to handle the sugar in the blood, or the body can't use the insulin it makes, or both.

Electrocardiogram (ECG or EKG): A test that records the way electrical signals move through the heart.

Familial hypercholesterolemia (FH): An inherited disorder of high cholesterol that leads to aggressive and premature cardiovascular disease.

HDL cholesterol: "Good" cholesterol that helps remove LDL ("bad") cholesterol and triglycerides from the blood. HDL stands for high-density lipoprotein.

Heart disease: A disease in which damage to the heart or the blood vessels that supply blood to the heart keeps the heart from working properly.

High blood pressure (hypertension): A disease in which blood pushes with too much force against artery walls as it moves through the arteries. This damages the arteries over time.

LDL cholesterol: "Bad" cholesterol that can cause plaque to build up in artery walls. LDL stands for low-density lipoprotein.

Lipoprotein profile: A blood test usually done after you've fasted for 8-10 hours that tells how much total cholesterol, HDL cholesterol, LDL cholesterol and triglycerides are in your blood.

Myocardial infarction (MI): Another term for heart attack. This occurs when the blood supply to the heart is cut off, resulting in permanent damage to the heart muscle. (The myocardium is the thick middle layer of the heart muscle.)

Plaque: Fatty deposits that build up inside the arteries and reduce blood flow.

Pre-hypertension: Blood pressure that is higher than normal, but not high enough to be called high blood pressure (hypertension).

Saturated fat: A type of fat that raises blood cholesterol. It's mostly found in foods from animal sources, such as butter, lard, fatty cuts of beef, and high-fat dairy. This fat should be limited as much as possible because it's bad for your heart.

Stent: A tiny wire-mesh tube inserted into a blocked artery to help keep it open.

Stroke: Occurs when blood flow is cut off by blockage or rupture in a blood vessel supplying the brain. Brain damage results.

Trans fat: A type of fat found in french fries and other fast food, snack foods (such as chips and cookies), and some margarines and shortenings. This is the worst fat for your heart and should be avoided.

Transient ischemic attack (TIA): A temporary blockage of blood supplying the brain, causing stroke-like symptoms.

Triglycerides: A type of fat measured in the blood along with cholesterol. High triglyceride levels are a risk factor for heart attack and stroke.

Unsaturated fat: The healthiest type of fat. It's found in some oils (such as olive, peanut, and canola), nuts, seeds, and fish. Unsaturated fat can be good for your heart in moderate amounts.



Your comments and suggestions are needed!

And now, please tell us what you think about this guidebook! We need your suggestions to make sure that this has everything you need to know about acute coronary syndrome. Go to our online survey (https://www.research.net/s/acute_coronary_syndrome) and answer just a few questions. It will only take a few minutes of your time. Thank you for your help!