Introduction

Cardiovascular (or heart) disease is the number one cause of death among men and women in the United States. Approximately 1.2 million Americans experience heart attacks each year, and nearly one third of them die BEFORE they reach a hospital.

This booklet will explain what you need to know about what causes chest pain and how this type of pain can lead to a heart attack. It will also teach you about how to treat heart attack and to decrease your chances of having one in the future.

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Know the signs and symptoms of a heart attack. Call 9-1-1.
The heart is one of the most important organs in the human body. Day and night, the heart pumps about 2,000 gallons of blood into the body through blood vessels. It needs oxygen to survive.

A heart attack occurs when the blood flow that brings oxygen to the heart muscle (myocardium) is severely reduced or cut off completely. A blockage that is not treated within a few hours causes the affected heart muscle to die.

About every 34 seconds, someone in the United States has a heart attack (myocardial infarction).
A Test for Your Heart

Your doctor may suggest an echocardiogram if he or she suspects problems with the valves or chambers of your heart or your heart’s ability to pump.

An echocardiogram uses sound waves to create pictures of the heart. This commonly used test allows doctors to see the heart beating and pumping blood. It also shows the heart valves and other structures. An echocardiogram does not expose you to radiation or harm you.

During the test, a probe called a transducer is passed over your chest. The probe produces sound waves that bounce off your heart and “echo” back to the probe. These waves are changed into pictures viewed on a video monitor.

Heart diseases and conditions include coronary artery disease, valve disease, diseases of the heart muscle, abnormal heart rhythm, high blood pressure, aneurysms, stroke and peripheral vascular disease. These diseases and conditions can lead someone to have a heart attack. However, if you know the signs of a heart attack you may save a life – even your own.
Coronary arteries supply the heart muscle with blood. With coronary artery disease, these arteries (vessels) are narrowed by a buildup of fat, cholesterol and other substances that together are called plaque. This slow process is known as atherosclerosis. Narrow arteries cause less blood and oxygen to reach the heart. This is called coronary artery disease (or coronary heart disease) and can lead to heart attack.

When plaque in a heart artery breaks, a blood clot forms around the plaque. This blood clot can block the supply of blood and oxygen to the heart. Often this leads to an irregular heartbeat – called an arrhythmia – that causes a severe decrease in the pumping ability of the heart. This is the way most heart attacks happen. When the blood supplied to the heart is suddenly blocked, this is called Acute Coronary Syndrome (ACS).

There are three types of ACS. The type of ACS is known by where the blockage happened, how long blood flow has been blocked and how much damage occurred. Each type of ACS requires emergency medical care – they are:

- Unstable Angina
- NSTEMI – Non-ST Segment Elevation Myocardial Infarction (Heart Attack)
- STEMI – ST Segment Elevation Myocardial Infarction (Heart Attack)

Unstable Angina

Angina is a type of chest pain or discomfort caused by poor blood flow. Unstable angina happens when blood clots partly or totally block an artery. It causes unexpected chest pain and may lead to a heart attack. Unstable angina should be treated as an emergency. If you have new or constant chest discomfort, call 9-1-1.

The pain or discomfort of unstable angina:

- often happens while you are resting, sleeping, or doing little physical activity.
- may come as a surprise.
- is not usually relieved by rest or medicine.
- may get worse over time.
- may cause a heart attack.

Even a mild heart attack puts you at increased risk of arrhythmias or the complete stopping of your heartbeat (cardiac arrest) which could lead to sudden death.

NSTEMI Heart Attack

Heart attacks are divided into two types, based on their severity. A less severe type of heart attack, NSTEMI means Non-ST Segment Elevation Myocardial Infarction. This type of heart attack occurs when a coronary artery suddenly becomes at least partially blocked by a blood clot. The blockage causes at least some of the heart muscle to die (also known as infarction).
STEMI Heart Attack

STEMI, which means ST Segment Elevation Myocardial Infarction, is the other more severe type of heart attack. In a STEMI, a coronary artery is completely blocked off by a blood clot. As a result, virtually all the heart muscle being supplied by the affected artery starts to die.

Heart attacks have "beginnings" that occur in over 20 percent of patients. Most importantly, if recognized in time, these "beginnings" can be treated before the heart is damaged.

Heart Attack Warning Signs

- Pain, pressure or squeezing in the center of the chest that lasts for more than a few minutes or goes away and comes back
- Pain or discomfort in other areas of the upper body, including one or both arms, back, neck, jaw or stomach
- Shortness of breath or difficulty breathing

- Breaking out in a sweat for no apparent reason
- Nausea/vomiting or severe indigestion with temporary weakness
- Unusual fatigue or sleeplessness
- Pounding heartbeats, light-headedness or dizziness
- A feeling of panic and approaching doom
- Chronic or severe indigestion without burping, belching, heartburn, nausea or sour taste in the mouth

Not all of these warning signs occur in every attack. Heart attacks can feel like simple health conditions such as indigestion, panic attack, respiratory infection or sports injury.
What Should I Do for Someone in a Cardiac Emergency?

If you think that you or someone you are with is having a heart attack:

- Call 9-1-1 or your local access number for emergency medical service. Tell the dispatcher where you are and that someone (or you) is having a heart attack. Do not hang up until you are told to do so.

- While waiting for emergency help to arrive, help the victim get into a relaxed sitting position, with the legs up and bent at the knees. This will help to ease the strain on the heart.
- Loosen tight clothing around the neck and waist.
- Be calm and comforting while saying that medical help is on the way.
- If the victim is conscious, give him or her one adult aspirin to chew.

Diagnosis, Treatment and Prevention

To find the blocked part or parts of the coronary arteries, a cardiologist (a heart doctor) does a cardiac catheterization.

Cardiac Catheterization

During catheterization, a catheter is guided through an artery in the arm or leg and into the coronary arteries. The arteries are then injected with a dye through the catheter. High-speed X-ray movies record the dye as it flows through the arteries. Doctors use these recordings to show blockages by tracing the flow. An echo-cardiogram can be done during cardiac catheterization.

Cardiac Catheterization

- Catheter
- Aorta
- Right coronary artery
- Blockage
- Catheter is routed to the heart by a small incision in the groin

Know the signs and symptoms of a heart attack. Call 9-1-1.
Based on how much the coronary artery is blocked, your doctor will discuss the following treatment options:

- Percutaneous Coronary Intervention (PCI)
- Coronary Artery Bypass Graft (CABG) surgery
- Medical management

**Percutaneous Coronary Intervention (PCI)**

- **Inflated balloon**
  - Catheter is routed to the heart by a small incision in the groin
  - Balloon inserted into area of blockage
  - Balloon inflated into area of blockage
  - Balloon removed; artery reopened
  - Balloon inflated; expanding stent
  - Balloon removed; stent permanently implanted
  - Stent positioned at site of obstruction
  - Aorta
  - Right coronary artery

**Percutaneous coronary intervention (PCI)** is used to open a blocked coronary artery. During this catheterization procedure, a catheter with a small balloon at the tip is used. The balloon is blown up to move the plaque and open the artery. Then the balloon is let down and the catheter is removed. It is common for a stent to be inserted to keep the vessel open. This allows for increased blood flow to the heart.
Coronary artery bypass graft (CABG) surgery may be necessary depending on the amount of coronary artery blockage and your medical history. In this procedure, a blood vessel from another part of your body is used to form a different path for blood to flow around the blocked part of the artery.

**Coronary Artery Bypass Graft (CABG) Surgery**

- Healthy vein grafted to bypass blockage in coronary artery
- Aorta
- Internal mammary artery graft
- Heart muscle
Medical management allows your doctor and other health care providers to work with you on a long-term basis to improve your health. Each decision is made based on your specific condition and needs.

Medications
If you have heart disease, there are several types of medications that your doctor will prescribe to help prevent a heart attack. Your doctor will consider your specific condition and personal health history to decide what is best for you.

If you had a heart event, such as chest pain, you will probably need to take two or more medications. Your doctor may prescribe:

• nitrates to help relieve chest pain.
• statins to lower cholesterol.
• blood-thinning medications to help prevent blood clots.
• other medications as needed.
There are many risk factors that can lead to heart attack. Some, like age or problems you are born with, cannot be changed. Others can be managed by the lifestyle choices you make.

Factors that Cannot be Changed or Managed

- **Age**: Risk of coronary artery disease increases at 65 or older.
- **Gender**: Men have a greater risk of heart attack than women do, and they have attacks earlier in life.
- **Heredity (family history)**: Risk is greater if a parent, grandparent, sister or brother has had a heart attack.
- **Race**: Black Americans have more severe high blood pressure than White Americans and a higher risk of heart disease. Heart disease risk is also higher among Mexican Americans, American Indians, native Hawaiians and some Asian Americans. This is partly due to higher rates of obesity and diabetes.

Factors that Can be Changed or Managed

Your health care team will help you understand how to manage these factors.

- **Cigarette smoking**
- **High blood cholesterol**
- **High blood pressure**
- **Lack of exercise and obesity**: Being inactive, obese or both can increase your risk of high blood pressure, high blood cholesterol, diabetes, heart disease and stroke.
- **Diabetes mellitus**: If you have diabetes, you may also have high blood pressure. You may also be overweight. Both of these conditions put you at risk.
- **Poor diet**: Diets high in saturated fat, trans fat, cholesterol, sodium (salt) and excess calories can contribute to the risk of heart disease and stroke.
- **Stress**: Stress raises your heart rate and blood pressure which increases the workload on your heart.
- **Peripheral artery disease (PAD)**: This narrowing of the arteries in the legs, stomach, arms, and head, puts you at more risk for clots to form and break. PAD is most commonly found in arteries of the legs.

Heart disease is not just a “man's disease.” In fact, heart disease is the #1 killer of American women today, more than breast and lung cancers combined.
What You Can Do To Improve Your Health

Stop Smoking
Smoking hurts the lungs and the heart. It can also make heart failure worse. If you smoke, you should try to quit now. Ask your doctor about products that can help you stop smoking.

Also, stay away from places where other people smoke so that you don’t breathe in second-hand smoke.

Limit or Avoid Alcohol
Alcohol makes it harder for the heart to work. Ask your doctor how much alcohol (if any) is safe for you.

Reduce Stress
When you are anxious or upset, your heart beats faster. Find ways to reduce stress in your life to give your heart a rest.

It is never too late to reduce your risk of heart disease. Other health-improving tips include:

• Control high blood pressure.
• Manage your weight with a healthy diet and regular physical activity.
• Prevent and/or manage diabetes.

Your heart is a muscle, and exercise can help make it stronger. Exercise can also:

• Help you lose weight or stay at a healthy weight.
• Help you get rid of stress and give you more energy.
• Help reduce heart failure symptoms.
• Lower cholesterol levels and blood pressure.
• Lead to better circulation.

Ask your doctor before you begin or change an exercise program. Always do what your doctor tells you and listen to your body. Only do what feels right for you.

Activities and Exercise

Cardiac Rehabilitation at St. Peter’s Health Partners

If you have recently had a heart attack, or had open heart surgery or PCI, you are probably feeling a little frightened and confused. You are unsure of the effect this will have on your life and normal activities.

At St. Peter’s, we understand your questions and concerns. Our cardiovascular rehabilitation programs can help you through your recovery process. Our team includes doctors, a cardiac rehabilitation nurse, a clinical dietitian, social workers and therapists in locations around the Capital Region.
You should talk with your doctor, who can help you decide if you would benefit from the program. Your doctor will need to set up your appointment. Medicare and most major health insurers will pay for part of cardiac rehabilitation. Check with your insurance provider about your coverage.

St. Mary’s Hospital Cardiac Rehabilitation
1300 Massachusetts Ave.
Troy, NY
(518) 268-5558

St. Peter’s Hospital Cardiovascular Rehabilitation & Wellness
400 Patroon Creek Suite 102
Albany, NY
(518) 525-1030

Sunnyview Cardiac Rehabilitation
1270 Belmont Ave.
Schenectady, NY
(518) 382-4502
Nutrition

Healthy food habits can help you reduce three risk factors for heart disease – poor cholesterol levels, high blood pressure and excess weight. Diets high in saturated fat, trans fat and cholesterol can raise blood cholesterol levels. Diets high in salt can cause your blood pressure to increase. High-calorie diets may cause you to be overweight.

A diet with five or more servings of fruits and vegetables per day may reduce the risk of heart disease. The American Heart Association/American Stroke Association offers these recommendations for a healthy diet:

- Eat a diet rich in vegetables and fruits.
- Choose whole-grain, high-fiber foods.
- Reduce the meat in your meal by filling at least half of your plate with fruits and vegetables; fill one-fourth of your plate with a fiber-rich whole grain. (See the MyPlate illustration on Page 14.)
- Eat fish at least twice a week. Choose omega-3-rich fish, like salmon or tuna.
- Limit cholesterol, saturated fat and trans fats. Avoiding partially-hydrogenated oils will reduce trans fats.
- Avoid salt. Choose and cook foods with spices and salt-free seasoning mixes.
- Choose lean meats and poultry, and cook them without using saturated or trans fats.
- Select fat-free, 1 percent or low-fat dairy products.
- Avoid drinks and foods with added sugars.
- If you drink alcohol, limit yourself to no more than one drink per day if you are a woman or two drinks if you are a man.
- Prepare healthy recipes at home.
- Learn to read food labels. This will help you to choose items that have less than 140 mg of sodium per serving.

Call your grocery store and ask to meet with a registered dietitian. This nutrition expert will meet you at the store to help you find heart-healthy products. Most stores offer this service at no charge.

Tips to Help Limit Sodium Intake at Restaurants

Here are some tips to help you limit or avoid sodium when you are dining outside of home:

- Order food that is fresh, broiled, baked, or grilled.
- Ask for mixed green salads or fruit as side dishes.
- Use olive oil and vinegar or low-fat vinaigrette dressings.
- Avoid fried, cured, smoked, processed, or convenience foods.
- Ask for dressings and sauces on the side.
- Ask your server if it is possible to omit butter and salt-based seasonings from your dish.

Know the signs and symptoms of a heart attack. Call 9-1-1.
• Try to avoid eating “fast food.”
• Bring your own low-sodium, heart-healthy foods like fresh fruits, vegetables or yogurt when traveling.

MyPlate illustrates the five food groups that are the building blocks for a healthy diet using a familiar image – a place setting for a meal. Before you eat, think about what goes on your plate or in your cup or bowl.
Follow-Up Appointments with Your Doctor

Remember to keep your medical appointments with your primary care doctor. Feel free to call your doctor if you have any questions or concerns. It is best to write down any questions you have and bring them with you to your appointments.

Heart attack symptoms can begin as early as a week before an attack happens. People may or may not experience any or all of the following symptoms:

- Pain, pressure or squeezing in the center of the chest that lasts for more than a few minutes or goes away and comes back
- Pain or discomfort in other areas of the upper body, including one or both arms, back, neck, jaw or stomach
- Shortness of breath or difficulty breathing
- Breaking out in a sweat for no apparent reason
- Nausea/vomiting or severe indigestion with temporary weakness
- Unusual fatigue or sleeplessness
- Pounding heartbeats, light-headedness or dizziness
- A feeling of panic and approaching doom
- Chronic or severe indigestion without burping, belching, heartburn, nausea or sour taste in the mouth

KNOW THE SIGNS AND SYMPTOMS OF A HEART ATTACK. CALL 9-1-1.

To learn about the Early Heart Attack Care Initiative, visit www.scpcp.org.
Know the signs and symptoms of a heart attack. Call 9-1-1.
Albany Memorial Hospital
600 Northern Blvd.
Albany, NY 12204

St. Mary’s Hospital
1300 Massachusetts Ave.
Troy, NY 12180

St. Peter’s Hospital
315 South Manning Blvd.
Albany, NY 12208

Samaritan Hospital
2215 Burdett Ave.
Troy, NY 12180

Sunnyview Rehabilitation Hospital
1270 Belmont Ave.
Schenectady, NY 12308

Eddy Visiting Nurse Association
433 River St.
Troy, NY 12180

www.sphp.com