



**Baptist Cardiac &  
Vascular Institute**

**Reducing  
Your Risk  
of Heart  
and  
Vascular  
Disease**



**Baptist Cardiac &  
Vascular Institute**

**Baptist Hospital ■ 8900 North Kendall Drive**

*[www.baptisthealth.net](http://www.baptisthealth.net)*

**BAPTIST CARDIAC  
& VASCULAR INSTITUTE  
PHILOSOPHY**

Baptist Cardiac & Vascular Institute at Baptist Hospital views the heart and blood vessels as one system. Our physicians, nurses and technologists are concerned about disorders affecting your heart and circulatory system. We know that a problem affecting circulation in one area of your body may be an important clue to another problem elsewhere in your body.

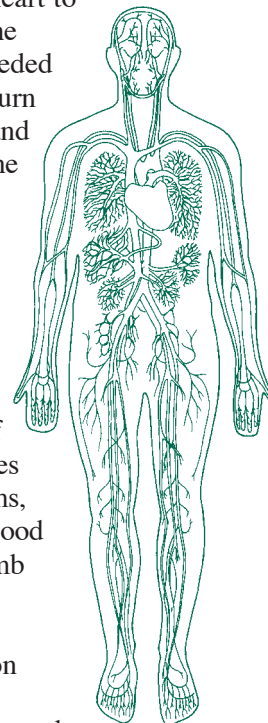
Institute physicians have pioneered the latest technological advances in cardiovascular care. They are also involved in ongoing research to find the best ways of treating and preventing heart and circulatory disease in the most cost-effective manner possible. The staff is dedicated to providing you with the highest quality possible in diagnosis, treatment, rehabilitation, prevention and education.

This booklet was developed by our staff to provide you with answers to the questions many people have about the risks, prevention and treatment of cardiovascular disease. It's not meant to take the place of the expertise, advice and care of your physician.

If you have questions about your cardiovascular health, ask your doctor, or call Baptist Cardiac & Vascular Institute at **786-596-2700** for a referral to an Institute physician. (Outside Miami-Dade County, call toll-free, **1-800-273-2700**.)

**REDUCING YOUR RISK  
OF HEART AND  
CIRCULATORY DISEASE**

Your circulatory system is a complex network of arteries and veins. The arteries carry blood from your heart to supply your body with the oxygen and nutrients needed for you to live. Veins return the blood to your heart and lungs. The heart keeps the blood pumping through this network called the vascular system (also known as the cardiovascular system). Roadblocks anywhere along this amazing highway of thousands of miles of veins and arteries will cause health problems, including heart attack, blood clots, severe leg pain, limb amputation, high blood pressure and stroke.



More than 60 million Americans have health problems related to heart and circulatory disorders. In the United States, cardiovascular disease causes more deaths than all other causes of death combined for both men and women.

Although many things are still unknown, research continues to answer questions about cardiovascular disease. We are able to point conclusively to several conditions and habits that increase our chances of having cardiovascular disease. We call these risk factors.

Risk factors can be broken down into two categories:

**Risk Factors That Can Be Modified:**

Abnormal cholesterol levels, diabetes or insulin resistance, cigarette smoking, high blood pressure, physical inactivity, obesity and high stress level. These are risks to your health that have been found to be directly related to cardiovascular disease and other problems.

**Risk Factors That Can't Be Modified:**

Family or personal history of cardiovascular disease, gender and advanced age.

In addition to these risk factors, many people who have heart disease may have circulatory problems, and those with circulatory problems have a higher risk of developing heart disease.

This booklet addresses risk factors that can be modified to help you gain control of your health.

## **RISK FACTORS THAT CAN BE MODIFIED**

### **■ HIGH CHOLESTEROL**

**Key words**

**Atherosclerosis:** A blood vessel disease in which the inner layers of the artery walls become thick and irregular due to deposits (or build-up) of fat, cholesterol and other substances. This build-up is also called plaque.

**Cholesterol:** Cholesterol is naturally produced by the body and also is found in foods we eat, such as egg yolks, dairy products, meat, poultry and organ meats. Cholesterol is carried in the blood by protein-coated packages that also carry fats. These packages are called lipoproteins (or lipids), and are important in determining your risk for cardiovascular disease. Lipoproteins are classified according to their density:

■ High-Density Lipoprotein (HDL), considered “good cholesterol,” transports cholesterol

and fat away from the cells to the liver to be eliminated from the body. HDL helps decrease the amount of fat adhering to the blood vessels. Low levels of HDL are associated with an increased risk of cardiovascular disease.

■ Low-Density Lipoprotein (LDL), considered “bad cholesterol,” deposits cholesterol in the artery walls. High levels of LDL are associated with an increased risk of cardiovascular disease. Recent clinical evidence suggests marked reduction of cardiovascular risk with aggressive LDL lowering.

■ Triglyceride is the name of fat produced by the body when too much dietary fat, sugar or alcohol is consumed. High triglycerides may also be caused by genetic factors.

**Hyperlipidemia:** Hyperlipidemia is diagnosed by a fasting blood test indicating high levels of cholesterol, triglycerides, LDL and/or low HDL. Hyperlipidemia may be treated by diet modification, medication, exercise or a combination of treatments. The National Cholesterol Education Program and the American Heart Association have developed national guidelines to treat hyperlipidemia.

The goal in managing cholesterol is to keep your total cholesterol level under 200 mg/dl and your LDL under 100 mg/dl. Very high-risk patients, including those with diabetes and heart disease, should have an LDL as low as possible (less than 70 mg/dl). A reading at or below this number is associated with less likelihood of heart and blood vessel problems.

### **Recommendations for Decreasing Your Risk**

**1.** Follow a low-fat, low-cholesterol diet.

This means eating fewer animal products such as red meat, egg yolks and dairy products; using skim milk products, as well as monounsaturated oils such as canola and olive oil; and eating more fresh fruits, vegetables, grains and legumes.

**2.** If you have abnormal cholesterol levels, check your cholesterol levels yearly or as prescribed by your physician.

3. Do regular aerobic exercise such as brisk walking for a minimum of five times per week for at least 30 minutes.
4. Certain behaviors, including a regular program of aerobic exercise, a proper diet and not smoking, have been found to increase the levels of HDL (good cholesterol) in the blood.
5. Maintain your weight and body mass index (BMI) at an ideal level. (See page 7.)

### ■ CIGARETTE SMOKING

Cigarettes are the most significant, preventable cause of premature death and disability in the United States today. Smoking accounts for 30 percent of all deaths due to heart attacks. The danger of death from heart disease and other illnesses is directly related to the number of cigarettes smoked per day. This may be more significant than the number of years one has smoked.

Carbon monoxide and nicotine deprive the body of necessary oxygen and narrow the blood vessels, forcing the heart to work harder to supply the cells with oxygen. Smoking also promotes plaque deposits in the arteries, increases the risk of clot formation, elevates blood pressure and heart rate and decreases HDL (good cholesterol) levels.

### **Recommendations for Decreasing Your Risk**

There are many ways to end your smoking habit, including participating in stop-smoking programs and using new prescription aids such as nicotine gum or patches. Ask your doctor for information on the various stop-smoking aids available.

### ■ HIGH BLOOD PRESSURE

Your blood pressure reflects the force of blood as it presses against the walls of the arteries. Hypertension, commonly known as high blood pressure, is often inherited, and is more common in men, African Americans and the elderly. This disorder can eventually cause damage to the heart and kidneys, and is a major cause of strokes.

Hypertension is called the “silent killer” because there are usually no symptoms. Without symptoms, many people will not seek medical care and the disease goes undetected. Blood pressure changes frequently and is affected by many things, including emotions, food, drink, illness, exercise, time of day, position of the body, smoking and weight.

High blood pressure puts a strain on the heart, which now must work harder to pump the blood out to your body. When the heart works harder, it needs more oxygen, which is supplied by blood flow through the arteries of the heart. If you have heart or circulatory disease, the flow of oxygen-rich blood is reduced. As a result, the high pressure may cause heart attacks, blood vessel damage, stroke, kidney failure and life-threatening blood clots. To avoid these problems, you must have your high blood pressure carefully monitored and treated.

To be accurate, blood pressure should be checked by a trained health professional. You should be sitting or lying down, and several checks should be made to obtain a true average. The cuff should wrap comfortably around your arm. Your arm should be supported on a table at the level of the heart. Cuffs that are too small or too large will produce false readings. Children should be checked with a pediatric cuff.

A blood pressure reading measures the force of blood as it presses against the inside walls of the arteries. The higher number (systolic) is the pressure when the heart contracts. The lower number (diastolic) is the pressure between the beats when the heart relaxes.

A systolic reading greater than 120 or diastolic reading greater than 80 is considered prehypertension and should receive prompt attention. Stage one hypertension is classified by systolic blood pressure greater than 140 or diastolic blood pressure greater than 90. Stage two hypertension is classified by systolic blood pressure greater than 160

or diastolic blood pressure greater than 100. Treatments vary with age, severity, the length of time you have had it and your doctor's recommendation.

### **Recommendations for Decreasing Your Blood Pressure**

1. If high blood pressure runs in your family, alert your physician to this fact and have your pressure checked frequently. High blood pressure may be passed on to the next generation. Blood pressure above 120/80 is considered prehypertension and should be taken seriously if you have a strong family history. Lifestyle changes should be made by prehypertensive patients. These changes include weight loss, regular aerobic exercise, reduced salt intake and moderate alcohol consumption.
2. If you have hypertension, have your blood pressure checked every three to six months. You may want to monitor this yourself. Check your pressure at the same time every day using the same arm, and record the readings for your doctor. If you have an automatic blood pressure cuff, have it checked and calibrated with your blood pressure in the doctor's office.
3. Reduce the amount of salt in your diet. Salt increases the amount of circulating fluid in the body, which in turn increases your blood pressure. Salt does not directly cause high blood pressure, but it will contribute to the problem if you are hypertensive or salt-sensitive. The American Heart Association recommends that you limit salt intake to 2,400 mg (1 teaspoon) per day.
4. Reduce your weight. Many people have been able to bring their blood pressure to normal just by losing weight. Reducing your weight as little as five to 10 percent of your body weight signifies a five- to eight-point reduction in diastolic blood pressure.

5. Take all medications your physician has prescribed on a regular basis. Do not run out of or skip taking your medicine for any reason. If you experience unpleasant symptoms from any prescribed medication, or if your blood pressure suddenly worsens, call your doctor.

Remember: As long as your blood pressure is under control, damage to your heart and blood vessels due to high blood pressure is less likely to occur. Consult with your physician before taking over-the-counter medication such as cold remedies, stomach medication and diet pills.

### **■ OVERWEIGHT AND OBESITY**

Your heart is responsible for pumping blood to your body. If you are overweight, the heart has to work harder. A hard-working heart requires more oxygen-rich blood.

Overweight is defined as a body mass index (BMI) greater than 25 or 10 percent over ideal body weight. Obesity is defined as a BMI greater than 30 or 20 percent over ideal body weight.

The average person grows up thinking his weight, instead of his body fat, is a direct indication of body fitness. Body fat percentage reflects how much fat is in the body compared to lean muscle mass. A high percentage of body fat can contribute to medical conditions such as hypertension, heart disease, high cholesterol, diabetes, insulin resistance syndrome, digestive disease and even some forms of cancer.

### **Recommendations for Decreasing Your Weight**

1. Do not crash-diet or follow a fad diet simply because it's in style. Many of these diets omit essential food groups, which can adversely affect your health. Utilize the services of a registered dietitian in planning a weight-loss program and determine your ideal body mass index.

2. Do not plan to lose a large amount of weight at once. Establishing small, achievable goals over time (one pound per week) is the most effective way to lose weight and keep it off.
3. Ask your health professional about joining reputable diet groups.
4. Check with the American Heart Association, American Diabetes Association, American Dietetic Association or a health professional for more information about what foods are best for you to attain your goal.
5. Weight loss occurs more quickly when a diet is combined with exercise. Establish a program of exercise following the advice of a professional. A combination of aerobic exercise and resistance training (weights) is recommended.

#### ■ DIABETES AND METABOLIC SYNDROME

People with diabetes have heart attacks at three times the rate of the general population. They are four times more likely to develop circulatory problems in their legs and arms that could lead to high blood pressure, atherosclerosis and even amputation. Diabetes is caused by the inadequate production of insulin in the body or the body's inability to recognize insulin. Insulin is necessary to break down sugar from food. When blood sugar increases to high levels, it can cause damage to blood vessels and also contributes to other complications. Diabetes requires control of blood sugar by meal planning, exercise, medication and/or insulin injections.

Metabolic syndrome, a prediabetic condition, poses significant risk for cardiovascular disease. This syndrome is diagnosed with three of the following five factors: abnormal blood sugar, low HDL, increased blood pressure, increased triglycerides, and waist measurement over 40 inches in men and over 35 inches in women.

#### Recommendations for Decreasing Your Risk from Diabetes and Metabolic Syndrome

1. Schedule regular medical checkups every three months, including tests, as needed, to measure the health of your circulatory system.
2. Maintain your prescribed meal plan and reduce weight as needed.
3. Take all medications as prescribed.
4. Test blood sugar levels at home two hours after meals, not only after fasting.
5. Maintain an active exercise program to keep blood sugar levels under control.
6. Know your glycohemoglobin (HgbA1C), which is a two-to-three-month average of your blood sugar levels. Less than 6.5 percent is recommended. Your glycohemoglobin should be evaluated every three months.

#### ■ HIGH STRESS LEVEL

Stress and tension are normal parts of daily life. Many stressors are interesting and vital to our well-being, providing challenges and opportunities to grow in different directions. Unfortunately, in our busy, competitive world we may encounter an excess number of stressors, which become difficult to control. A high degree of tension can take its toll on our minds and bodies. How it affects us depends on what shape we are in physically and emotionally.

Though stress and tension have not been shown to be a direct cause of cardiovascular disease, we know they contribute to the problem. Here's how:

- Stress causes the body to release chemicals into the bloodstream, causing the blood vessels to narrow and heart rate and blood pressure to increase.
- Prolonged stress may actually cause high blood pressure due to its destructive effect on arteries throughout the body.
- Cholesterol and blood sugar levels tend

to become high under stressful conditions. The added cholesterol speeds up the rate of atherosclerosis and blockages in the arteries.

■ Mental fatigue and inappropriate methods used to relieve tension, such as alcohol and drugs, break down the body's defenses against disease.

### **Recommendations for Decreasing Your Stress Level**

Take a good, hard look at yourself. Are you under a great deal of personal, work-related, family, financial or social stress? Do you have difficulty relaxing or dealing with anger? Are you an overachiever or perfectionist? If so, you may benefit from incorporating some new behaviors into your lifestyle.

1. Set aside time each day in which you do nothing but relax. Just 10-20 minutes of resting with eyes closed will do wonders to restore your energy level.
2. Learn to focus. Being attentive to one task at a time helps minimize stress and energy output.
3. When you find yourself in a stressful or anger-provoking situation, step back, count to 10, and take a deep breath. The mental process of gaining control over the situation will help you and your stressor come to terms more easily. If you find you are out of control in a specific situation, simply walk away. Return when you feel you have a calm handle on matters again.
4. A healthy diet and regular exercise can lessen the negative effects of stress. Take care of yourself!

### **■ SEDENTARY LIFESTYLE**

Medical research has shown that people who are in good physical condition have fewer heart attacks and circulatory problems. The heart is a muscle that, like other muscles, can be strengthened and conditioned. Exercise also helps develop collateral

(alternate) vessels for blood to flow back into your heart and peripheral blood vessels.

**Target Heart Rate:** The level your heart rate (beats per minute) should achieve for the conditioning benefits of exercise. Your health professional can help you determine the ideal exercise range for you.

### **Recommendation for Increasing Activity**

1. Maintain a regular exercise program of moderate activity consisting of walking, biking or swimming for 30 minutes, five days per week.
2. Simple exercise strategies may include taking the stairs instead of the elevator or parking farther from your destination so that you walk more.
3. Know your target heart rate.

### **Benefits of exercise:**

- Decreases the risk of blood clot formation.
- Lowers blood cholesterol and triglycerides.
- Lowers blood pressure and blood sugar levels.
- Decreases insulin resistance.
- Decreases appetite.
- Decreases weight and fat and builds lean muscle mass.
- Reduces stress and symptoms of depression.
- Provides a feeling of confidence and well-being.

## **RISK FACTORS THAT CAN'T BE MODIFIED**

### **■ HEREDITY**

Like other health problems, heart and blood vessel disease can be inherited. It's not uncommon for the son of a 60-year-old heart attack victim to have his own heart attack at age 35 or 40. When considering family history, grandparents, parents, brothers and sisters are most significant. The greater number of family members involved, the greater the risk.

Although you cannot change your family history, careful management of your own

lifestyle can delay or avoid heart and blood vessel-related problems. Consider these recommendations:

1. Control the risk factors pertinent to you. High blood pressure, high cholesterol, obesity and diabetes are commonly inherited. If you have a family history of these problems, be sure to be evaluated periodically to keep them under control.
2. Education is an important part of making positive changes. Teach your children and grandchildren everything you can about risk factors and their family history.

#### ■ AGE

The longer the body is exposed to risk factors and their disease-producing elements, the greater the probability of a heart or circulatory problem, and the less efficient our body becomes in fighting disease. Fighting back with risk factor management may help delay and avoid some of the complications of cardiovascular disease.

#### ■ GENDER

A common myth about cardiovascular disease is that it affects men more than women. The truth is, heart and blood vessel disease is the number-one killer of both American men and women. While it's true that more men have heart attacks than women and have them earlier in life, women who have heart attacks are twice as likely to die from them within the first few weeks.

More research is needed to determine how heart disease affects women differently than men. We do know that most women are protected from heart attacks until after menopause (or surgical menopause), when the amount of estrogen in a woman's body declines. After age 55, there is no difference in cardiac risk between the sexes. Women who are nearing the age of menopause may want to discuss with their physician the risks and benefits associated with hormone replacement therapy and the role it may play in preventing cardiovascular disease.

## IN CLOSING

This booklet cannot possibly answer all of the questions you might have about managing your risk factors for heart and circulatory disease. If you would like to talk with a physician who is a member of Baptist Cardiac & Vascular Institute, call the Physician Referral Service at **786-596-2700**. (Outside Miami-Dade County, call toll-free **1-800-273-2700**.) You can also visit our website at [www.baptisthealth.net](http://www.baptisthealth.net).

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## IMPORTANT PHONE NUMBERS

**Cardiovascular Rehabilitation**  
**786-596-6564**

**Diabetes Care Center**  
**786-596-3696**

**WomenHeart, a support group for  
women with cardiovascular disease**  
**786-596-6564**

**CADRE (Cardiovascular and Diabetes  
Risk Eradication) Program**  
**786-596-6564**