

RISK FACTORS FOR HEART DISEASE & STROKE

Even though they are the top causes of death in Louisiana, heart disease and stroke can be prevented by making changes to your risk factors. **Risk factors** are conditions or behaviors that increase the likelihood of developing a disease. Having more than one risk factor for heart disease or stroke greatly multiplies the risk of developing these illnesses. The major risk factors that you can change are:

- Hypertension (high blood pressure)
- High blood cholesterol
- Tobacco use
- Diabetes
- Poor nutrition
- Obesity
- Physical inactivity

High Blood Pressure

Blood pressure is the force of blood against the walls of arteries. It rises and falls throughout the day. When the pressure stays elevated over time, it is called **high blood pressure**. The medical term for high blood pressure is **hypertension**. Hypertension is dangerous because it makes the heart work too hard thereby increasing the risk of heart attack and stroke. High blood pressure also can result in other conditions, such as congestive heart failure, kidney disease, and blindness.

BP Classification	Systolic mm Hg Diastolic mm Hg
Normal	<120 and <80
Pre-hypertension	120-139 or 80-89
Stage 1 Hypertension	140-159 or 90-99
Stage 2 Hypertension	>160 or >100

High blood pressure can be prevented and controlled by:

- Having blood pressure checked at least once a year;
- Maintaining a healthy weight;
- Being physically active: 30 minutes of moderate-level physical activity on most, and preferably all, days of the week;
- Following a healthy eating plan, including foods lower in salt and sodium. Have no more than 2,400 milligrams of sodium (6 grams of salt) a day;
- Consuming alcoholic beverages in moderation; alcohol in excess has been shown to drive up blood pressure; and,
- Taking prescribed high blood pressure medication as directed.

Heart Disease & Stroke Prevention

Louisiana Department of Health and Hospitals

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High Blood Cholesterol

Blood cholesterol levels play an important part in determining the chance of developing coronary heart disease (CHD). The higher the blood cholesterol level is, the greater the risk. **Cholesterol** is a waxy substance found in all parts of the body. When there is too much cholesterol in the blood, the excess builds up on the walls of the arteries that carry blood to the heart. This buildup is called "*atherosclerosis*" or "hardening of the arteries." It narrows the arteries and can slow down or block blood flow to the heart. With less blood, the heart gets less oxygen. Without enough oxygen to the heart, there may be chest pain ("angina" or "angina pectoris"), heart attack ("myocardial infarction"), or even death.

It is important to know an individual's cholesterol levels because lowering those that are too high lessens the risk for developing heart disease and reduces the chance of a heart attack or dying of heart disease. Cholesterol levels are measured in milligrams (mg) of cholesterol per deciliter (dL) of blood. The following charts show how the National Heart, Lung & Blood Institute (NHLBI) categorizes cholesterol levels.

Total Cholesterol Levels	
Less than 200 mg/dL	Desirable
200 - 239 mg/dL	Borderline high
240 mg/dL and above	Very high

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

HDL Cholesterol Levels	
60 mg/dl and above	Protective against heart disease
40 to 59 mg/dl	Some risk
Less than 40 mg/dl	Major risk for heart disease and stroke

- **Low density lipoprotein (LDL)** or bad cholesterol is the main source of cholesterol buildup and blockage in the arteries. A high LDL combined with any of the following risk factors increases the risk of heart attack:
 - Cigarette smoking;
 - High Blood Pressure (140/90 mm Hg or higher or on blood pressure medication);
 - Low HDL cholesterol (less than 40 mg/dL);
 - Family history of early heart disease (heart disease in father or brother before age 55; heart disease in mother or sister before age 65); or,
 - Age (men 45 years or older; women 55 years or older).
- **High density lipoprotein (HDL)** or good cholesterol protects against heart disease by helping keep cholesterol from building up in the arteries, so higher numbers are better.
- **Triglycerides** are another form of fat in blood that can also raise heart disease risk. Levels that are borderline high (150-199 mg/dL) or high (200 mg/dL or more) may need treatment in some people.

Maintaining Healthy Serum Cholesterol Levels

Even when an individual's blood cholesterol level is close to the desirable range, lowering it will reduce the risk of developing heart disease. Eating in a heart-healthy way, being physically active, and losing weight, for those who are overweight or obese, are things everyone can do to help lower their risk of developing heart disease.

- Choose foods low in saturated fat, low in total fat and low in cholesterol;
- Maintain a healthy weight, and lose weight if overweight or obese;
- Drink fat-free or 1% milk rather than 2% or whole milk to reduce saturated fat intake;
- Eat fruits and vegetables often: fresh, frozen, or canned. They have no cholesterol and most are low in saturated fat;
- Eat whole-grain breads, rolls, and cereals;
- Choose restaurants that have low fat, low cholesterol menu items; and,
- Make physical activity part of a daily routine.

Tobacco Use

Some facts about tobacco use:

- Tobacco use is the number one preventable cause of death in our society
- Smokers have **2 - 4 times** the risk of nonsmokers for sudden cardiac death
- Smoking is an important risk factor for stroke
- Constant exposure to secondhand smoke may increase the risk of heart disease.
- Smoking increases blood pressure, decreases exercise tolerance and increases the tendency for blood to clot.
- Smoking increases LDL (bad) cholesterol and decreases HDL (good) cholesterol.
- Smoking also worsens other risk factors such as hypertension, diabetes or obesity.

Benefits to Smoking Cessation

- Just **20 minutes** after finishing a cigarette, blood pressure and pulse rate return to normal and heartbeat becomes stable.
- **8 hours** after quitting, oxygen levels rise and carbon monoxide is removed from the lungs.
- **3 months** after quitting, circulation improves and blood flows through the body more easily.
- In **one year**, the risk of dying from a heart attack is cut in half.
- In **five years**, the risk of a stroke has become that of a non-smoker.



Diabetes

The risk of heart disease and stroke is much higher among individuals with diabetes. Diabetes requires monitoring of blood pressure, blood sugar and cholesterol levels to avoid complications. Individuals with diabetes should ask their physician for testing and explanation of the following:

- **Hemoglobin A1C** - This measures average blood sugar levels over the last three months and should be below seven percent for most people;
- **Blood pressure** - High blood pressure is particularly dangerous for diabetics. Blood pressure should be treated to keep below 130/80 mm Hg; and,
- **Cholesterol** - LDL cholesterol should be below 100 mg/dl for people with diabetes.

Maintaining Cardiovascular Health for Individuals with Diabetes

People with diabetes can reduce their risk of heart disease and stroke by following the suggestions provided below:

- Do some physical activity every day;
- Stay at a healthy weight; lose weight if overweight or obese;
- Eat more fiber - choose whole grains, fruits, vegetables and beans;
- Eat less fat and less salt;
- Stop smoking - seek help if needed;
- Take medicines as prescribed; and,
- Ask your doctor about taking aspirin.

Poor nutrition

Poor diet can lead to many cardiovascular health problems, especially high blood cholesterol levels, obesity and diabetes. Diets too high in calories combined with inadequate physical activity have fueled an epidemic of obesity and a dramatic rise in the prevalence of diabetes.



Benefits of a Healthy Diet

- A diet low in saturated fat and calories has been shown to reduce the risk of cardiovascular disease.
- Studies have demonstrated that people who eat the most fiber (average 21 grams/day) have a greater reduction in coronary heart disease and ischemic stroke than those who eat the least fiber.
- Consumption of legumes (alfalfa, clover, peas, beans, lentils, and peanuts) four times or more per week has been shown to be associated with a 22% lower risk of coronary heart disease and an 11% lower risk of CVD.
- Increasing consumption of fruit, vegetables, and whole grains and choosing foods low in saturated fat will reduce the risk of heart disease and stroke.

Overweight and Obesity

According to CDC, **overweight** refers to increased body weight in relation to height, when compared to an acceptable or desirable weight. **Obesity** is defined as an excessively high amount of body fat in relation to lean body mass. Overweight (Body Mass Index of 25 to 29.9 kg/m) and obese individuals (BMI of 30 kg/m² and above) are at increased risk for physical ailments such as:

- High blood pressure, or hypertension
- High blood cholesterol levels
- Type 2 (non-insulin dependent) diabetes
- Insulin resistance, or glucose intolerance
- Coronary heart disease
- Angina (chest pain or discomfort due to coronary heart disease)
- Congestive heart failure
- Stroke

Benefits of Weight Control

- Reduced risk for diabetes and cardiovascular disease.
- Lower blood pressure, lower blood sugar, and improved cholesterol levels.
- Reduced serum triglycerides

Physical Inactivity

Regular physical activity is critically important for the health and well being of people of all ages. Research has demonstrated that virtually all individuals can benefit from regular activity, whether they participate in vigorous exercise or some type of moderate physical activity. Even among frail and very old adults, mobility and functioning can be improved through physical activity. Regular physical activity improves health in the following ways:

- Reduces the risk of dying prematurely;
- Reduces the risk of dying from heart disease;
- Reduces the risk of developing diabetes and high blood pressure;
- Helps reduce blood pressure in people who already have high blood pressure;
- Reduces feelings of depression and anxiety;
- Helps control weight;
- Helps build and maintain healthy bones, muscles, and joints;
- Helps older adults become stronger and better able to move about without falling; and,
- Promotes psychological well-being.



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