

# Cardiovascular Testing

## Cardiovascular Disease

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Like everyone else, you are undoubtedly aware that cardiovascular disease is a major health problem in this country. However, you may not realize just how serious the problem is:

- ♥ Cardiovascular disease (including heart attack and stroke) is the leading cause of death in the United States, claiming nearly 1 million lives each year.
- ♥ Over 50 million people in this country suffer from high blood pressure, a major risk factor for cardiovascular disease.
- ♥ Almost 14 million Americans have coronary artery disease, while 4 million have experienced a stroke.
- ♥ Nearly one in every two people in this country will die of cardiovascular disease.

## Are you at risk for cardiovascular disease?

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In order to determine your risk, your doctor will evaluate many factors including:

- ♥ Whether you smoke
- ♥ Your blood pressure
- ♥ The amount and type of fat (lipids) in your blood
- ♥ Whether you have diabetes
- ♥ Your age
- ♥ Your body mass index (the proportion of fat on your body)
- ♥ Your exercise habits
- ♥ Any family history of cardiovascular disease
- ♥ Levels of other substances in your blood

A diet high in saturated fats will increase your risk, as will smoking, obesity, diabetes, a sedentary lifestyle, and a family history of early (before age 55)

cardiovascular disease. To further evaluate you, your doctor will want to draw blood for testing. The first step is obtaining your lipid levels. Lipids include LDL, HDL, total cholesterol, and triglycerides.

## Secret of the heart #1:

### What you don't know can hurt you.

There are crucial facts about this disease you may not know. These facts could help you protect yourself from its devastating effects. They are:

Cardiovascular disease is an "equal opportunity" killer. Whether you are male or female, and no matter what your race or ethnic group, you are not immune. Like everyone, you can benefit from a careful assessment of your own risk for cardiovascular disease.

Cardiovascular disease can begin in childhood and progress silently through adulthood in the body. Sometimes, the first sign of heart disease is a serious heart attack, stroke, or even sudden death.

Early detection can give you a crucial opportunity to reverse or slow the progression of the disease through changes in diet and exercise habits, stress management, or the use of preventive medication. With early detection, knowledge truly is power.

The level of risk for developing cardiovascular disease in adults with no symptoms can often be revealed by simple blood testing available through your doctor and Sonora Quest Laboratories.

## Secret of the heart #2:

### Testing for total cholesterol isn't enough.

There are many different kinds of lipids in your body, all of which are reflected by your total cholesterol level. A desirable total cholesterol is less than (<) 200 mg/dL. Even if your level is desirable, more information regarding your lipids is needed to determine your risk for cardiovascular disease. Understanding the difference between the different kinds of lipids will help you understand why you need to know more than your total cholesterol level.

**LDL (low-density lipoprotein) cholesterol** is considered to be the "bad" cholesterol because it can adhere to the inner walls of your arteries, narrowing them and making blood flow more difficult. An optimal LDL level for adults is <100 mg/dL, near optimal is 100-129 mg/dL, borderline high is 130-159 mg/dL, high is 160-189 mg/dL, and very high is greater than (>) 189 mg/dL.

**HDL (high-density lipoprotein) cholesterol** is known as the "good" cholesterol because it can aid in the removal of excess cholesterol in the blood and help prevent the accumulation of LDL in the arteries. HDL cholesterol levels should be >39 mg/dL and ideally >60 mg/dL.

**Testing for HDL cholesterol is vital.** A healthy level for your total cholesterol level is <200 mg/dL. But even if you test at that level, unless you know what part of that number represents your HDL cholesterol, you cannot accurately determine your risk for cardiovascular disease. That is why the American Heart Association recommends testing for both total and HDL cholesterol levels.

Your doctor may also calculate the ratio of your total cholesterol to your HDL cholesterol.

**Triglycerides** are blood fats composed of fatty acids and glycerol. The level of triglycerides in your blood can indicate how efficiently your body processes the fat in your diet. The greater your triglyceride level, the higher the risk of cardiovascular disease. A level of <150 mg/dL is normal, borderline is 150-199 mg/dL, high is 200-499 mg/dL, and very high is >499 mg/dL.

### Secret of the heart #3:

#### **There are more ways to test your risk for cardiovascular disease.**

There are several other substances in your blood that may indicate an increased risk for cardiovascular disease.

**Homocysteine** is an amino acid in your blood that is thought to promote the narrowing of the blood vessels, which can cause a heart attack or stroke. Levels of 8 umol/L or greater may indicate increased risk for heart disease.

**Lipoprotein (a)** is a modified form of LDL cholesterol. Elevated levels of >30 mg/dL have shown to be a risk factor for early development of cardiovascular disease.

**LDL subparticles** indicate the size of the LDL cholesterol particles that circulate in your blood. Smaller particles are thought by some experts to be associated with increased risk. Even though individuals with smaller-size LDL subparticles are thought to be at greater risk, they respond more favorably to lipid-lowering therapy than those with larger size particles. Thus, this test can help your doctor refine any drug therapy that might be indicated to lower your lipid levels.

**High-Sensitivity CRP (hs-CRP)** is a protein produced by the liver in response to tissue injury, infection, or inflammation. Recent studies have shown that hs-CRP may be the strongest prediction of future cardiovascular disease risk.

### Secret of the heart #4:

#### **One of the best things for your heart is a healthy talk with your doctor.**

Better health often begins with better communication between you and your doctor. Be sure to have an open talk about any concerns you have, including concerns about your personal level of risk for cardiovascular disease. Your doctor is in the best position to assess your individual risk and advise you on how to lower it. If you have already been diagnosed with high blood pressure, atherosclerosis, or any

other form of heart disease, your concerns will be different; but the general principle of open and honest communication remains. Be sure to bring up any questions you have about lifestyle issues, any medication your doctor may have prescribed for you, and any tests your doctor wants performed on a regular basis to track your progress.

## **Secret of the heart #5:**

### **The most important secret of all - cardiovascular disease is often avoidable.**

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Some of the risk factors for cardiovascular disease, such as family history or having diabetes, cannot be changed. However, the good news is that you are not automatically going to have a heart attack or stroke simply because you may have one or more of those factors. It is easy to underestimate how powerful a role “changes in lifestyle” can play in helping you lower your chances of cardiovascular disease.

These steps can dramatically improve your odds. Make sure to consider them seriously and discuss them with your doctor:

- ♥ If you smoke, stop. This is the single biggest thing you can do to protect yourself.
- ♥ Eat a healthy diet – one that emphasizes fruits, vegetables, beans, and whole grains, and is low in saturated fats and cholesterol. Your doctor can give you more specific guidance on the best diet.
- ♥ Achieve and maintain the weight your doctor thinks is best for you.
- ♥ Get regular exercise to help you maintain a healthy cardiovascular system and control your weight.
- ♥ See your doctor for regular checkups.
- ♥ Follow your doctor’s recommendations regarding any test you should have to assess your cardiovascular health.

### **Questions to ask your doctor:**

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- ♥ How often should I have my blood lipid levels checked?
- ♥ What type of diet is best? Should I be trying to lose weight?
- ♥ Why is physical activity important, and what can I do to increase my activity levels safely?
- ♥ How does alcohol affect cardiovascular risk?
- ♥ What is my blood pressure, and is it what it should be? What do the two numbers mean?

- ♥ Does cardiovascular disease affect men and women differently? Do hormones (for example, estrogen) play a role?