

UNDERSTANDING CORONARY ARTERY DISEASE

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Let's take a look at what happens in your arteries when you have coronary artery disease, or CAD.

The heart is a muscle which continuously pumps blood throughout your body. To do its job, the heart needs oxygen and nutrients which are supplied by blood vessels, called coronary arteries. The arteries and their branches wrap around the surface of the heart. Your blood acts as a transport, carrying oxygen, cholesterol, blood cells, and other substances to all the organs in your body.

Over time, risk factors such as high blood pressure, high cholesterol, smoking, and diabetes can cause the lining of your arteries to become damaged. This is called atherosclerosis. While atherosclerosis can affect any blood vessel in the body, when it occurs in the coronary arteries it is called coronary artery disease.

Once your arteries are damaged, a type of cholesterol called low density lipoproteins, or LDL's, can coat the inside of the artery wall. Your body reacts to this fat build-up by sending white blood cells to help heal the area. Unfortunately, the white blood cells only add to the problem.

Other substances in the blood can stick to the artery walls. This mixture of cholesterol, white blood cells, calcium, and others form plaque. These plaque deposits can range in size throughout your arteries.

Over time, the plaque can become hard on the outside and soft on the inside. This plaque build-up causes the arteries to become hardened and inflexible, especially with high blood pressure.

As CAD progresses, the artery can become partially blocked. This blockage is usually measured by percentage. For example, a 50% blockage.

Sometimes the hard shell of the plaque can crack or tear and expose the soft fatty inside. Your body reacts to the tear in the artery just as it does when you have a cut on your skin – by sending blood platelets to clot the wound.

However, the blood clot that forms causes more problems due to the already narrowed arteries. Blood now has less room to move through the artery.

A myocardial infarction, or a heart attack, can occur if a blood clot fully blocks the flow of blood to the heart. The surrounding tissue is damaged, and quickly starts to die.

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It's very important to get treatment for a heart attack as quick as you can. Call 911 as soon as possible; don't delay. Quick treatment to open the flow of blood back to the heart helps limit heart damage, and can save your life.

Understanding coronary artery disease, and how it can affect the flow of blood to the heart, is a good first step in managing the disease.