How Does Coronary Artery Disease Lead to Heart Failure?

All organs in the body need blood to carry oxygen into the tissues. Without oxygen, cells starve and can die. If blood cannot get into heart cells, the heart muscle can no longer work as a pump.

The picture shows the vessels that bring blood to the heart muscle. Blockages in these arteries can cause cells to starve. When heart muscle cells become starved, people can have chest pain, dizziness, shortness of breath, and sweating. This is the beginning of a “heart attack.”

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Where do the blockages come from? Some people have a family tendency to build up blockages more than others. Blockages can be due to cholesterol build up and inflammation related to other conditions, like high blood sugar. Toxic chemicals such as drugs and nicotine may also cause development of these blockages. These conditions can be prevented or treated by healthy diet, exercise, and not using drugs or smoking. There are also medications available to help control cholesterol, and to relax veins along the heart to decrease pressure and help the blood to flow.

What can be done to treat the blockages? In many cases, doctors can insert a small wire into the blocked vessel to try to open the path and allow the blood to flow. In some cases, heart surgery is required to reroute blood flow into the starved area. In still other cases, the condition can treated with changes to medications.

How do I know if I have this problem? Most people report chest pain that may feel like squeezing or heaviness in the middle of the chest. Sometimes the pain extends into the left arm, or even up into the neck and jaw. It is also important to know that sometimes, people have little or no pain, and may just notice they are more short of breath, or cannot spend as much time doing activities before feeling tired or having chest discomfort. For this reason, being active is important because if you know what you can usually do, it is easier to tell if that changes. Any of these signs should be reported to your doctor immediately. Severe chest pain or shortness of breath is a medical emergency making it necessary to call paramedic services.