HIV and Your Heart

Heart disease is the leading cause of death for men and women in the United States. As people with HIV live longer thanks to effective treatment, they are more likely to develop age-related conditions like cardiovascular disease. The large—and sometimes conflicting—body of research on heart problems in HIV-positive people can be confusing, but you can take some basic steps to improve your heart health, such as exercise and smoking cessation, to minimize your risk.

What is cardiovascular disease?

Cardiovascular disease is a general term for medical conditions that affect the heart and blood vessels. One of the most common is atherosclerosis, which occurs when deposits of cholesterol and other material, known as plaque, build up on blood vessel walls and impede the flow of oxygen-carrying blood. If the heart muscle itself is deprived of blood (coronary artery disease), this can lead to chest pain and other symptoms. Bits of plaque or blood clots can also break off become lodged in arteries that supply the heart or brain, blocking the flow of blood and causing a heart attack or stroke.

Cardiovascular and related conditions include, but are not limited to, the following:

- Angina: Chest pain resulting from reduced supply of oxygen to the heart.
- Arrhythmia: Abnormal heartbeat, which can be too fast, too slow or irregular.
- Atherosclerosis (hardening of arteries): buildup of cholesterol, calcium, cell debris and other material on artery walls, which over time makes the arteries narrower and less elastic.
- Cardiomyopathy: Disease or damage to the heart muscle, reducing its ability to pump blood.
- Congestive heart failure: When the heart does not pump as strongly as it should, reducing the supply of blood to the rest of the body.
- Coronary artery disease (coronary heart disease): Blockage of arteries that supply the heart, which deprives the heart muscle of oxygen.
- Heart attack (myocardial infarction): Acute damage to the heart muscle that typically occurs when the supply of blood and oxygen is cut off.

- Hyperlipidemia: elevated levels of lipids (fats), such as cholesterol and triglycerides, in the blood.
- Hypertension (high blood pressure): Excessive pressure of blood against artery walls, which forces the heart to work harder.
- Myocarditis: Inflammation of the heart muscle.
- Peripheral artery disease: Blockage of blood flow in the legs and arms.
- Stroke: Interruption of blood flow to the brain, either due to a blood clot or other blockage (ischemic stroke) or rupture of a blood vessel (hemorrhagic stroke).
- Valve Problems: Disease or damage to the heart valves, which may include stiffening and narrowing (stenosis) or inability to close properly, causing blood leakage.

What is the link between HIV and heart disease?

Cardiovascular disease is one of the most complex areas of HIV medicine, and countless studies have looked at associations between HIV and various cardiovascular outcomes. HIV and its treatment have been linked to conditions including coronary and peripheral artery disease, arrhythmias, heart failure, heart attacks and strokes, but results are not consistent across studies. Early data from the REPRIEVE trial showed that HIV-positive people have more cardiovascular problems at a younger age compared with HIV-negative people. What's more, cardiovascular risk score developed for the general population may underestimate the risk for people with HIV.

The reasons for higher rates of heart problems among people living with HIV are not fully understood. HIV itself can cause chronic inflammation even in people on effective antiretroviral therapy. Specific antiretroviral medications have either been directly linked to heart problems or can contribute to metabolic problems—such as high blood sugar (hyperglycemia), insulin resistance, elevated blood lipids (hyperlipidemia) and weight gain—that increase cardiovascular risk. However, research clearly shows that promptly starting and staying on antiretroviral treatment leads to better outcomes compared with delayed treatment.

What's more, people with HIV have higher rates of traditional cardiovascular risk factors, such as smoking, diabetes and high blood pressure. Male sex, Black race and family history are also linked to increased risk. Studies have found that scoring systems designed to predict cardiovascular risk in the general population can underestimate the risk for people living with HIV.

How can I improve my heart health?

The good news is that you can take steps to reduce your risk for heart disease. Perhaps the most important is smoking cessation. Studies of HIV-negative people have shown that cardiovascular risk starts to drop soon after quitting and reaches the level of nonsmokers in 10 to 15 years. Quitting is easier said than done, but researchers have developed effective interventions for

people living with HIV.

Eating a well-balanced diet, getting enough exercise and maintaining a healthy weight can also reduce cardiovascular disease risk. A healthy diet includes plenty of vegetables, fruit and whole grains and is low in highly processed foods, added sugar and sodium (which can raise blood pressure). Try to move more and sit less throughout the day. Experts recommend getting at least 150 minutes of moderate-intensity physical activity per week plus muscle strengthening exercises. Getting enough sleep and reducing stress also contribute to heart health.

Regular checkups that include monitoring of blood pressure, blood sugar and cholesterol and triglyceride levels can detect warning signs of heart problems at an earlier stage, when they are easier to manage. In some cases, medications—such as medications to control blood pressure and statins to lower cholesterol—can play a role. The REPRIEVE trial, which tested pivastatin in people with HIV, showed that the drug reduced the risk for major cardiovascular events by 35%. Ask your doctor for advice about lifestyle modifications and treatments than can help keep your heart in good health.

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