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Women Are Said to Face Hidden Heart Disease Risk

By [DENISE GRADY](#)

Women are more likely than men to have a hidden type of [coronary disease](#) in which their heart muscle is starved for oxygen even though their coronary arteries look clear and free of blockages on X-rays, doctors are reporting. The condition, which may affect three million American women, greatly increases the risk of a heart attack. **Its main symptom is chest pain or discomfort. In many women, the pain occurs but nothing shows up on an angiogram, a test in which dye is injected into the coronary arteries and they are X-rayed in a search for blockages, so doctors conclude that no treatment is needed. But patients may then go on to have heart attacks or develop heart failure,** a weakening of the heart muscle that can be debilitating and ultimately fatal.

"When there are no blockages, everybody slacks off, including the patient, and we don't want to do that," said Dr. George Sopko of the National Heart, Lung and Blood Institute. Such patients almost certainly need treatment, he said.

The best way for a woman to find out whether she has the artery disease is to undergo tests, including certain type of stress tests that measure blood flow to the heart. But not everyone needs to be tested; women with symptoms, a family history of heart disease or severe risk factors may be candidates.

The findings are among those in a series of articles to be published today in two medical journals — the Journal of the American College of Cardiology, and Circulation — exploring the differences in heart disease between men and women. The subject has drawn increasing interest in recent decades, as scientists began to realize that the results of previous studies, done mostly in men, did not always apply to women.

Among the differences already known are **that women with heart disease tend to be sicker than men by the time it is diagnosed, to benefit less from bypass surgery and to have more severe symptoms when they develop heart failure. Some of the difference is because women are older and frailer when they develop heart disease, but that does not account for all of it.**

Symptoms of heart attack also tend to differ. Men report crushing pain in the chest, while women are more likely to feel dizzy, sick, short of breath and sweaty.



Heart disease, strokes and other cardiovascular diseases are the leading causes of death in the United States and other developed countries. They killed 910,600 people in the United States in 2003, the most recent year for which data are available; more than half the deaths, 484,000, were among women.

Although women's risk is greatest after [menopause](#) and increases with age, heart disease is the No. 1 cause of death in all women older than 25. Overall death rates from coronary disease have declined in the past few decades, *but most of the improvements have been in men's rates.*

The cause of the hidden disease being described today is a diffuse buildup of fatty deposits inside the walls of the coronary arteries and in the very small arteries in the heart. The deposits, or plaques, do not show up as blockages on X-rays, but they still interfere with blood flow and can damage the heart muscle, causing ischemic heart disease. ("Ischemia" means "inadequate blood flow.")

But often the condition is not recognized, and the women are told they have nothing to worry about. Instead, Dr. Sopko said, they should be treated aggressively for other problems that lead to artery disease like high [cholesterol](#), high [blood pressure](#) and [diabetes](#). If necessary, he added, they should also be advised to quit [smoking](#), lose weight and exercise more. The researchers report that compared to a nonsmoker, a woman who smokes has a risk of dying from heart disease equal to the risk she would have if she weighed 90 pounds more than the nonsmoker.

"To women as patients, the message is, look, if you have symptoms, don't think because you are a woman you are immune to having a heart problem," Dr. Sopko said.

The findings are based on a **government-sponsored study** called Wise, for Women's Ischemia Syndrome Evaluation. **Begun in 1996, it included 936 women who had symptoms that led doctors to order angiograms.** The women's average age was about 58, but a quarter were young enough to be premenopausal. **Despite their symptoms, only a third of the group had obvious blockages in their coronary arteries. In a similar group of men, three-quarters or more would have a severe blockage,** said Dr. Carl J. Pepine, the chief of cardiovascular medicine at the University of Florida in Gainesville and one of the lead investigators in the Wise study.

In the remaining two-thirds of the women — that is, those without blockages — more than half had abnormalities in their arteries, like an inability to dilate when needed, that could cause ischemia, Dr. Pepine said. The abnormalities occurred in both the coronary arteries and smaller ones that feed the heart, a network of tiny vessels called the microvasculature. **Tests showed that the artery walls were full of plaque but had grown outward to accommodate it, so that the opening appeared normal. But, eventually, the condition may progress enough to start pinching the artery shut,** Dr. Pepine said.

After four years, the rate of deaths or heart attacks in the group without blockages was 10 percent. "That's much too high for somebody with a normal coronary angiogram," Dr. Pepine said. It is not clear why women seem more prone to the hidden vascular disease, the researchers said, though it may be linked to hormonal imbalances and a greater tendency to suffer from inflammation, which plays a role in artery disease.