

Women and Coronary Artery Disease

Coronary artery disease is often not "typical" in women

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More women die of cardiovascular disease than of any other cause, and most of these deaths are due to [coronary artery disease \(CAD\)](#).

The majority of women with CAD have a fairly "typical" form of the disease - the disease behaves the way the textbooks say it is supposed to behave, which is to say, the way it behaves in men. On average, women who develop CAD are about 10 years older than men who develop CAD, and these "older" women have roughly the same outcomes as men, when matched age for age - at least when their CAD is diagnosed and treated in a timely fashion. The majority of women with CAD fall into this "older patient, typical CAD" pattern.

[Read here about "typical" CAD.](#)

Unfortunately, many more women than men display "atypical" patterns when they develop CAD, and these atypical patterns all too often lead to missed diagnoses and inadequate therapy, and therefore, to worse outcomes. In particular, there are three aspects CAD that are often problematic in women:

- The symptoms of CAD can be different in women.
- Standard methods of diagnosing CAD can be misleading in women.
- The CAD itself can be atypical in women.

These atypical features of CAD, when coupled with the false notion (still held by too many doctors) that "women just don't get heart disease," contribute mightily to critical delays in the diagnosis and treatment of CAD in women. Let's look at these three factors more closely:

The Symptoms of CAD Can Be Different In Women.

When women have [angina](#), they are more likely than men to experience "atypical" symptoms. Instead of chest pain, they are more likely to experience a hot or burning sensation, or even tenderness to touch, which may be located in the back, shoulders, arms or jaw - and often women have no chest discomfort at all. An alert doctor will think of angina whenever a patient describes any sort of fleeting, exertion-related discomfort located anywhere above the waist, and they really shouldn't be thrown off by such "atypical" descriptions of symptoms. However, unless doctors are thinking specifically of the possibility of CAD, they are all too likely to write such symptoms off to mere musculoskeletal pain or gastrointestinal disturbances.

Heart attacks (or [myocardial infarctions](#)) also tend to behave differently in women. Frequently, instead of the crushing chest pain that is considered typical for a heart attack, women may experience nausea, vomiting, indigestion, shortness of breath or extreme fatigue - but no chest pain. Unfortunately, these symptoms are also easy to attribute to something other than the heart. Furthermore, women (especially women with diabetes) are more likely than men to have "silent" heart attacks - that is, heart attacks without any acute symptoms at all, and which are diagnosed only at a later time, when subsequent cardiac symptoms occur.

[Read more about cardiac symptoms in women.](#)

The Diagnosis Of CAD in Women Can Be More Difficult.

Diagnostic tests that work quite well in men can be misleading in women. The most common problem is seen with [stress testing](#) - in women, the [electrocardiogram \(ECG\)](#) during exercise can often show changes suggesting CAD, whether CAD is present or not, making the study difficult to interpret. Many cardiologists routinely add an [echocardiogram](#) or a [thallium study](#) when doing a stress test in a woman, which greatly improves diagnostic accuracy.

In women with typical CAD, [coronary angiography](#) is every bit as useful as in men; it identifies the exact location of any [plaques](#) (i.e., blockages) within the coronary arteries, and guides therapeutic decisions. However, in women with atypical coronary artery disorders (to be discussed in the next section), coronary angiograms often appear misleadingly normal. Thus, in women angiography is often *not* the gold standard for diagnosis, as it is for most men.

CAD In Women Can Take Atypical Forms.

At least four atypical coronary artery disorders can occur in women, usually in younger (i.e., pre-menopausal) women. Each of these conditions can produce symptoms of angina with apparently "normal" coronary arteries (that is, coronary arteries that often appear normal on angiogram). The problem, obviously, is that if the physician trusts the results of the angiogram, he/she is likely to miss the real diagnosis.

- [Prinzmetal's Angina](#)
- [Cardiac Syndrome X \(CSX\)](#)
- [Female-Pattern CAD](#)
- [Coronary artery erosions](#)

- [Read more about chest pain with "normal" coronary arteries in women.](#)

Summary

While CAD is quite common in women, it has become clear in the past few years that CAD in women can be quite different from CAD in men. This makes the correct diagnosis of CAD a particular challenge in women.

If you or a loved one are concerned that you might have CAD, make sure you know about the atypical symptoms that often accompany CAD in women, and of the atypical results of diagnostic tests you may encounter during your evaluation. And just as importantly, make sure your doctor is aware of these atypical patterns as well, before he/she writes off your symptoms as being non-cardiac.