Cardiac Syndrome X: Information for Patients

What is Cardiac Syndrome X (CSX)?
CSX is chest pain (like angina) people who do not have blockages in the arteries of their heart (coronary arteries) seen by angiogram, also referred to as cardiac catheterization. CSX is more common in women than men: about 70% of patients are women who are approaching or have already gone through menopause.

How does Cardiac Syndrome X differ from other types of chest pain, such as stable angina?
Cardiac Syndrome X is different from stable angina because angina is chest pain due to heart disease that has been diagnosed. Typically, blockages in the arteries lining the heart will be seen by angiogram. People with stable angina typically experience chest pain during physical activity but this pain usually stops with rest. The chest pain associated with CSX is less predictable and can occur during exercise or at rest. CSX patients may experience chest pain more often, more intensely, and for longer periods than people with stable angina. In addition, a medication called nitroglycerin usually relieves chest pain in stable angina patients, but often will not work for people with CSX.

What causes Cardiac Syndrome X?
Cardiac syndrome X is a complex condition, thought to be caused by a number of factors:

- Endothelial dysfunction: this term refers to a diseased state of the endothelium, or the inner lining of blood vessels. This diseased state can be defined broadly as an imbalance between natural substances in the body which serve to dilate (open up) or constrict (tighten) the blood vessels.
- Widespread build-up of fatty deposits on the inside of the heart arteries.
- Thicker blood: Some people are more prone to larger-sized blood clotting factors in their blood, which can block narrowed heart arteries. Some people may have another condition wherein their blood has a tendency to clump together more often than those with thinner blood. Both of these are blood-related problems which have been found in persons with CSX.
- Widespread inflammation disorders.
- Heart vessels (arteries) that are reduced in size: Because some heart or coronary arteries are narrow, they can cause lack of blood flow to the heart muscle.
- Greater sensitivity to pain, compared to the average person.
- Lack of the hormone estrogen.
- On-going lack of oxygen to the heart muscle, referred to as ischemia.

How can CSX be managed?
As preventative treatment, heart disease risk management is suggested for those with CSX. Low fat, low salt, heart healthy diets, and exercise are needed to manage CSX. Daily chronic disease self-management, along with medical treatment can be very helpful in living with CSX. Chronic disease self-management programs help people with chronic conditions to better manage their symptoms and their daily lives. Information on chronic disease self-management programs can be found on the patient section of this website. There, you will also find links to resources, such as the Heart and Stroke Foundation website, where information on medical management of CSX (and other persistent cardiac pain conditions) can be found.