

## Functional Coronary Angiography

**Ischemia with No Obstructive Coronary Artery disease (INOCA)** refers to patients with signs and symptoms (chest pain, chest tightness, neck/shoulder/arm/back pain, shortness of breath, fatigue or other related symptoms) caused by blood supply problems to the heart muscle without significant blockage of the large arteries of the heart. INOCA is more common in women but also affects men.

Many patients with INOCA have **coronary microvascular disease**, which is a disease of the small arteries of the heart. Functional coronary angiography (FCA) also referred to as coronary reactivity test (CRT) is an angiography procedure done in the catheterization laboratory. It evaluates the coronary artery microcirculation and how the blood vessels respond to different medications. Cardiologists use this information to diagnose coronary microvascular disease. The results of this test enhance a cardiologist's ability to diagnose and treat patients with coronary microvascular disease or vasospastic disease and provide more specific treatment for symptoms of patients with INOCA.

### FCA/CRT test consists of:

1. Administration of the drug adenosine, which normally causes the small vessels of the heart to dilate, is injected into one of the coronary arteries and the amount of blood flow is measured.
2. Next, the drug acetylcholine, which normally causes dilation in the large arteries, is injected and the amount of blood flow is again measured.
3. Next, the drug nitroglycerin

If any of the tests show decreased blood flow to the heart muscle, a diagnosis of endothelial dysfunction and coronary microvascular dysfunction can be made.

