

Is there any additional information that Angiography with SOMATOM Definition AS+ Excel 700 slice Cardiac CT scanner gives more than catheter angiography?

CCTA can show the wall of the coronary arteries and show if the narrowing is due to calcification, fatty (soft) or fibrofatty plaques. Soft plaques are more dangerous as they could cause sudden heart attacks.

What are the other uses for CT Coronary Angiography ?

CCTA can be used to follow-up patients who have had a bypass surgery to see whether the graft vessels are open or not. It can also be used to check if previously placed coronary stents are patent, especially when CAD symptoms recur.

What are the risks?

There is a rare risk of allergy to the iodine - containing contrast (dye) that is injected, which has reduced in incidence these days due to usage of non-ionic contrast media. People with prior history of allergies and bronchial asthma are more prone for adverse reactions to intravenous contrast. Relatively high radiation dose is an inherent risk of CCTA, which is an x-ray based procedure. The risk of radiation is also there with coronary angiography done in cath lab. This test, like all other medical tests should be done after consultation with your doctor. CCTA is not to be done for pregnant women.

Does this test replace CT Coronary Angiography?

Invasive coronary angiography remains the gold standard to evaluate blockages in the coronary arteries. Since it is an invasive procedure, it is usually reserved for those persons who have definite signs and symptoms of heart disease or had a heart attack.

For those individuals who are at high risk without symptoms, or in whom other non-invasive tests (TMT, stress thallium etc) are positive or equivocal, CCTA with SOMATOM Definition is the ideal technique for excluding the presence of heart disease and evaluation of soft plaques.

## What are the indications to undergo a CT Coronary Angiogram?

Asymptomatic patients:

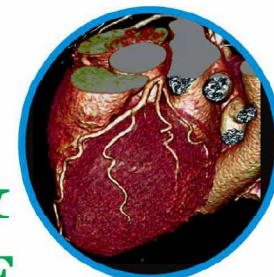
- Strong family history of CAD
- Long-standing Diabetes and/or Hypertension
- High cholesterol and lipid levels (dyslipidemia)
- Obesity
- Sedentary life style
- Heavy smoking
- Prior to major (non-cardiac) surgery.

Symptomatic persons:

- Atypical (unstable) chest pain.
- Inconclusive stress tests.
- Adjuvant to Coronary Angiogram for assessment of plaque, complicated coronary intubations in people with abnormal origin of coronary arteries.
- Follow-up of Percutaneous Coronary Intervention to assess stent patency.
- After Bypass Surgery (post-CABG).
- Evaluation of coronary anomalies.
- Assessment of Congenital Heart Diseases.
- Characterization of cardiac masses.
- Prior to planning of electro physiological procedures in the heart.

# 1<sup>st</sup> time in Tamilnadu

The most  
**SAFEST**  
**FASTEST &**  
**ACCURATE**  
**Cardiac CT**

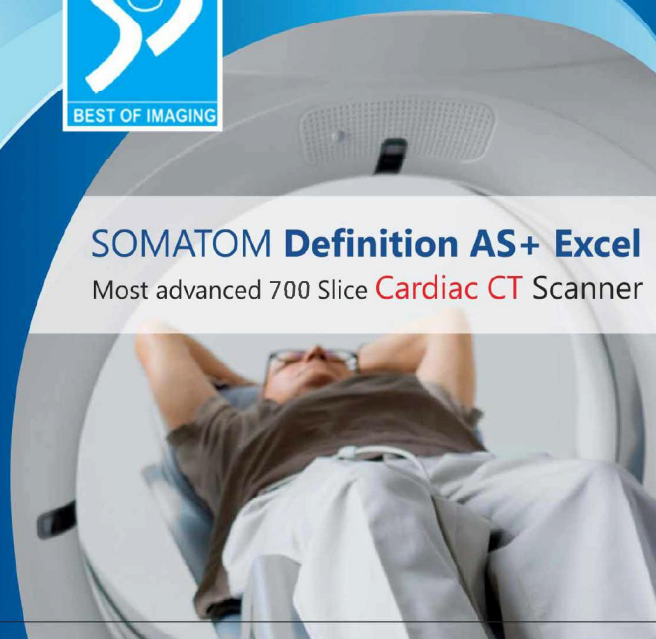


only at

## SARAVANA SCANS

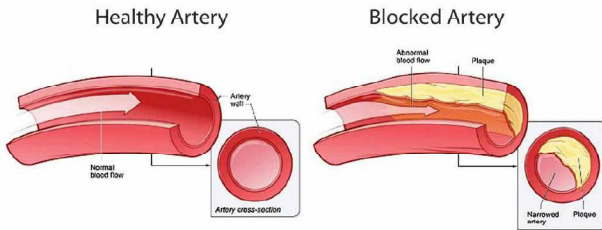


**SOMATOM Definition AS+ Excel**  
Most advanced 700 Slice Cardiac CT Scanner



## What is Coronary Artery Disease (CAD)?

Narrowing or blockage in the arteries supplying blood to the heart is known as **Coronary Artery Disease**.



## How does the Blockage occur?

Blockage in the coronary arteries occurs due to the deposition of cholesterol on the inner surface of the arteries. This is a slow process and occurs over a period of time. The cholesterol deposits harden over time with deposition of calcium.

## What are the implications of blockage of the coronary arteries?

If the blockage becomes severe, then the person gets pain or discomfort in the chest. They may also have radiating pain in the left shoulder or arm. If the blockage persists or suddenly progresses, the person may develop a heart attack (Myocardial Infarction, MI). This is life threatening.

## Why does this disease occur?

There are various documented risk factors that predispose an individual to develop CAD. This includes a strong family history, long standing diabetes, hypertension (high blood pressure), abnormal blood cholesterol levels (dyslipidemia), smoking and even stressful lifestyle. The likelihood of developing CAD increases as the number of risk factors increase.

## Can anything be done to prevent CAD?

Yes. Though we cannot change our genes, the other risk factors can be avoided or controlled. A positive change in lifestyle can decrease the likelihood of developing CAD.

## How does one detect the degree of blockage of the coronary arteries?

The most definite technique is to perform a coronary angiography, which usually requires hospitalization. A catheter with a wire is inserted into an artery in the thigh or arm in the Cath Lab (Angio Room) and advanced to the coronary arteries. Contrast medium (also commonly referred to as dye) is then injected into the coronary arteries to detect and quantify any blockage. Although this test has been refined over years, there are some inconveniences. This includes possible hospitalization, immobilization for 4-6 hours and some rare procedure related complications.

## Are there other techniques to detect the blockage?

Certain non-invasive tests have traditionally been performed for those persons at risk of developing CAD as a part of regular heart checkups. These include stress test (treadmill), echocardiography and stress Thallium tests. The Coronary arteries are not seen on these tests, but abnormal results strongly indicate blockage in the arteries.

So is there a choice for someone if that person is not sure that he/she has CAD, or is at high risk, or has atypical chest pain and does not want to undergo hospitalization or an invasive test?

Yes. Coronary CT Angiography (CCTA) with **SOMATOM Definition AS+ Excel 700 slice Cardiac CT scanner** is a non-invasive test that a person with risk factors or atypical chest pain can get done.

If the results are normal on CCTA, then the accuracy is nearly 99%. Abnormal results on CCTA have a good correlation with results on invasive catheter angiogram.

## What is so special with the SOMATOM Definition AS+ Excel 700 slice Cardiac CT scanner installed at SARAVANA SCANS?

It is the world's fastest CT scanner, which no other scanner can match. It shows the finest anatomical details in crisp, clear images with no artifacts. With advanced scanning techniques, it can perform reliable, visually outstanding cardiac imaging at the lowest radiation dose.

## What if angiography with SOMATOM Definition AS+ Excel 700 slice Cardiac CT scanner shows an abnormality?

If CCTA shows blockage in the coronary arteries, the person should meet a cardiologist for further evaluation and would need further management depending on the degree of blockage (mild, moderate or severe). A mild blockage would need lifestyle changes and control of risk factors and some medication to prevent the progression of blockage. If the CT angiography shows a significant abnormality, the cardiologist may suggest an interventional procedure like stenting or a bypass surgery.

