

AmbujaNeotia



CARDIAC CT SERVICES



PREVENTIVE STRATEGIES AGAINST ANGINA & HEART ATTACKS

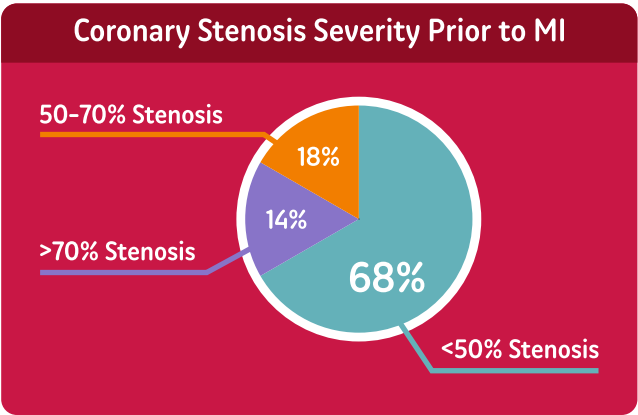
Ischemic heart disease, comprising Angina and Heart Attacks has reached an epidemic proportion in Eastern India. Some of the work groups have shown the incidence to be 10.3% in comparison to the world average of 1% and national average of 7%.

Angina

Angina Pectoris is the pain or sense of compression or discomfort you feel during physical exertion, i.e. during a brisk walk, jog or stair climbing. This is your heart's cry for more oxygen when its workload is increased. This is due to narrowing of the coronary arteries and their consequent inability to meet the heart's demand during exertion or exercise.

Heart Attack

Heart Attack or Myocardial Infarction is the condition where blood supply to a part of the heart muscle is temporarily or permanently cut-off leading to first stunning and then subsequent death of the myocardium. This is usually a life threatening condition. Unfortunately almost 70% of heart attacks occur in patients with less than 50% narrowing of coronary arteries, i.e. people with normal ECG, normal TMT and most of the time normal Catheter Angiograms.



Risk Factors

Genetics and heredity contribute 75% to this disease process. Diabetes, Hypertension, Dyslipidemia (high levels of Bad Cholesterol and concomitant low levels of Good Cholesterol) are the major, albeit, medically controllable factors.

The balance 25% is contributed by you. Wrong food habits, smoking and sedentary but stressful life style rapidly push you towards a Heart Attack, if you are genetically predisposed, like every 3rd Indian you meet.

Self-assessment of risk

www.medcentral.com/calculators/cardiology/cardiovascular-risk-assessment-10-year-procam-score-munster-heart-study

You require to enter your age, family history, smoking status, fasting blood sugar, Blood Good Cholesterol (HDL) level, Blood Bad Cholesterol (LDL) level, Blood Triglyceride level and your recent Systolic blood pressure in the PROCAM calculator.

The results are expressed as follows:

- **Low risk (0 to 10%)**
- **Medium risk (10 to 20%)**
- **High risk (above 20%)**

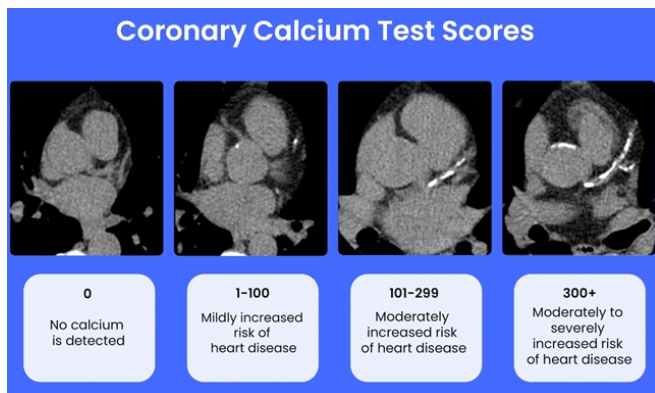
What next?

Low risk group should continue their healthy life style with treatment of any underlying hereditary factors.

Medium risk group need to undergo further tests, viz. CT Coronary Calcium Score, Blood LP(a) level and Blood Homocystine level.

High risk group should immediately seek guidance from their Physicians and plan for a MDCT Coronary Angiography or Conventional Catheter Angiography.

Calcium Score



A calcium score, also known as a coronary artery calcium score, is a calcium scan that can help predict your risk of heart attack or other cardiovascular events, such as a stroke.

A calcium score can range from zero to more than 1,000, with higher scores indicating a greater risk of heart disease:

- **0:** No calcium is seen in the heart, which suggests a low chance of developing a heart attack
- **1-10:** Minimal calcification, with a low risk of heart attack
- **11-100:** Mild calcification, with a moderate chance of heart attack
- **101-300:** Moderate calcification, with heart disease and plaque that may be blocking an artery
- **Over 300:** Severe calcification, with more than a 90 percent chance that plaque is blocking an artery

Healthy heart..... Healthy life

Calcium Score

CT Calcium score is done without any contrast injection in approximately 5 seconds.

Catheter Angiography

Catheter Angiography requires insertion of a catheter into the coronary arteries through an artery in the hand or thigh. Usually requires hospitalisation.

Coronary CT Angiography

Coronary CT Angiography is achieved in approximately 4 heartbeats with IV contrast injection.

Role of MRI in Coronary Heart Disease

There are two very important conditions where Cardiac MRI helps in important decision making –

- 1. Diagnosis of acute heart attack when ECG & biochemical parameters are equivocal, Cardiac MRI shows the area of heart muscle having decreased oxygen supply by a method called Late Gadolinium Enhancement (LGE) study.
- 2. Myocardium at risk – estimated with the mismatch between Perfusion and LGE studies.
- 3. Diagnosis if a chestpain is of cardiac origin in presence of negative other investigations (ECG, CT Angiography) by Cardiac MRI procedure called Stress Perfusion study.
- 4. Triple rule out for a patient with known hypersensitivity to CT contrast– when a new patient comes to you with acute chest pain – three conditions are possible:

A. Pulmonary embolism.

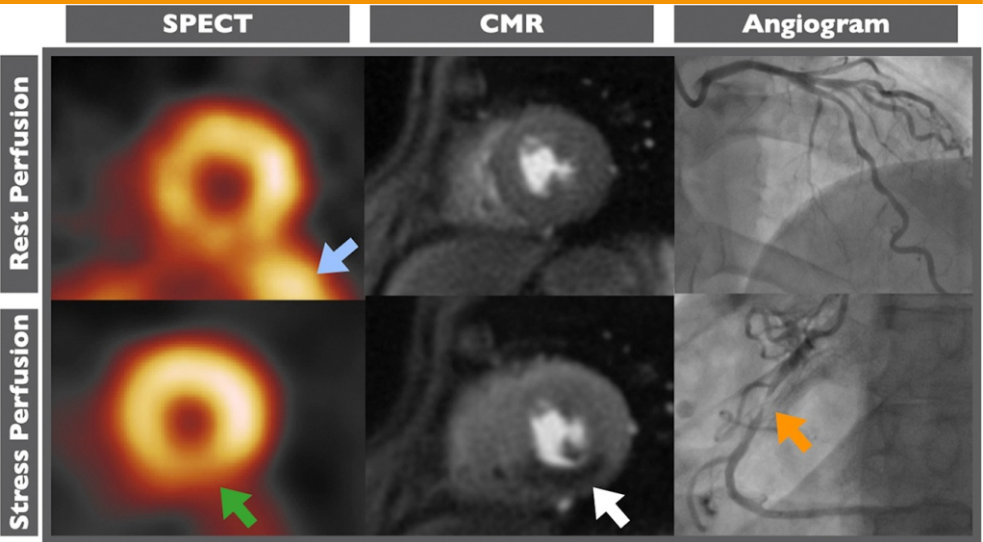
B. Acute coronary syndrome or myocardial infarction(heart attack).

C. Acute dissection involving Aorta.

5. Whether re-vascularisation (Angioplasty or CABG) will be worthwhile

Actual heart attack detection by Cardiac MRI.

The white arrow points to the area of heart muscle responding poorly to stress, i.e.increased work-load.



Detection of scar tissue after heart attack

How does this all help?

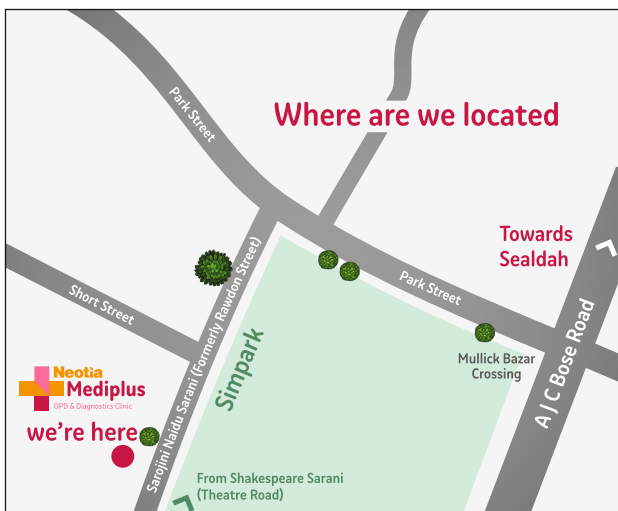
Based on our last 2 years of experience with almost 2500 Coronary CT Angiograms, we have found that 35% of the subjects have completely normal coronaries. Another 43% have early or mild coronary disease which is treatable – in fact reversible. Only the balance 22% patients require intervention in the form of Angioplasty or Bypass surgery.

BUT, NO HEART ATTACKS!

CARDIAC MRI 1.5T

CARDIAC MDCT (128 Slice System)





Scan to know more



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*The information provided here is subject to updates in accordance with the latest guidelines from relevant clinical authorities. Please consult with a healthcare professional for the most current advice and recommendations.



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