NURA
Sustained Health with Active-AI Screening

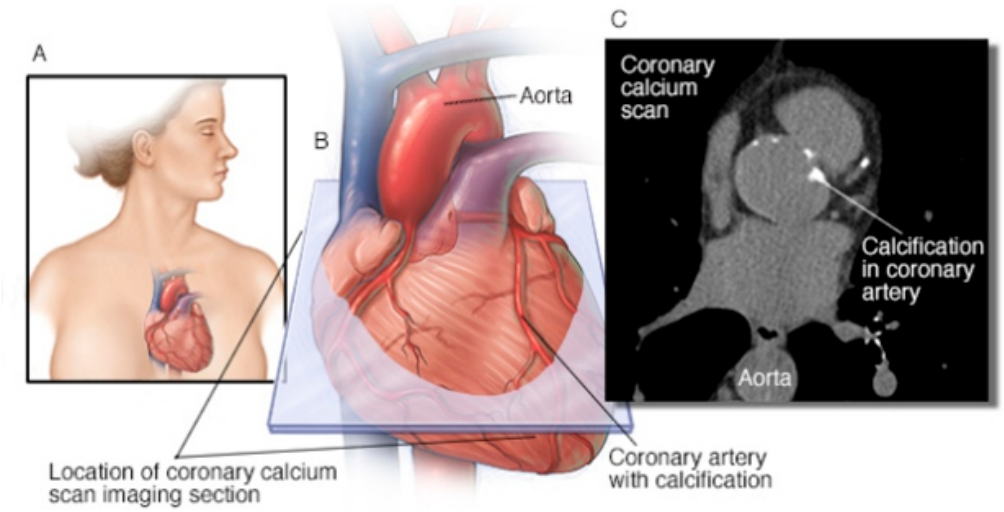
Know more about Heart Calcium Scoring

Coronary Heart Disease develops when the major blood vessels become damaged or diseased. Plaque (deposits made of fats, cholesterol, calcium, and other substances in the blood) and inflammation are usually the cause. Plaque builds up in the arteries and decreases blood flow to your heart. Over time, the decreased blood flow may cause symptoms of coronary heart disease such as chest pain and shortness of breath.

A complete blockage can cause a heart attack. Since plaque buildup happens over time, you may not show any symptoms, until there is a significant blockage. However, it is possible to prevent and treat this disease, beginning with early detection of the disease and making changes for a healthier lifestyle

Heart diseases – incidence in India? How common is it among Indians? What age groups are most affected?

As per the WHO Global Health estimates 2016, nearly 11% of the population in India is suffering from coronary artery disease known more commonly as heart disease. That is, 1 out 10 Indians has heart disease and this goes up to 1 in 5 if we take diabetics alone. This is much higher than the world average. It is the highest killer contributing to nearly 50% of all deaths in India.



And this becomes of more concern when we understand that Indians have it at a younger age and with high mortality. On average, Indians get a heart attack 10 years earlier or younger than the western population.

Which people are more susceptible to heart diseases, and what are the risk factors? Why is the incidence increasing?

Those most susceptible to heart disease are people with a family history of heart and high cholesterol levels. As per the INTER HEART study, conventional risk factors contributing to increased incidence of Heart disease in India are Hypertension, Diabetes Mellitus, Abnormal cholesterol levels, smoking, obesity, lack of physical activity, low fruits and vegetables intake and psycho social stress. All of these risk factors are in a rapid increase phase in India and hence the increasing prevalence at a younger age.

When and how many times should people get themselves checked for a heart at a diagnostic facility? What kind of tests can be done for heart checkup?

For those who are asymptomatic without any heart disease risk factors or family history, can get themselves checked once and choose an annual or once in 2 years routine for check ups.

Those with documented risk factors or signs suggestive of heart disease must monitor their Blood pressure, Cholesterol and Sugar levels regularly at regular intervals and also get their Coronary Artery Calcium Score or Heart Calcium score checked once a year.

The current medical approach is to start screening early and at regular intervals to control the rising epidemic of coronary artery disease in India.

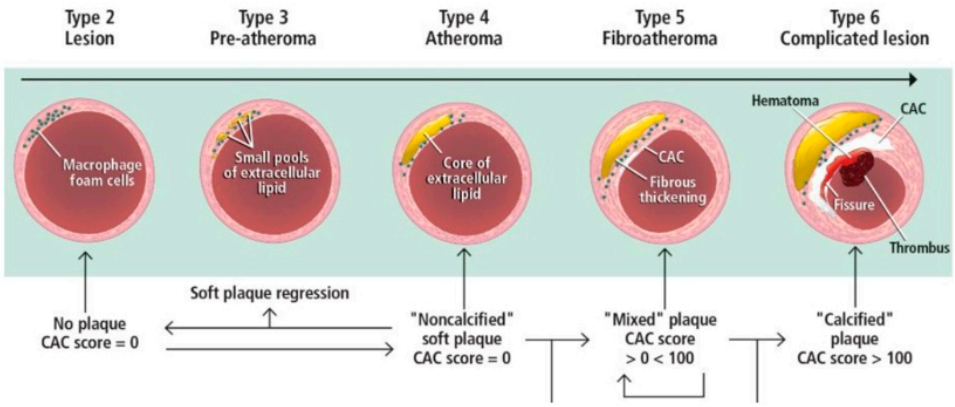
FUJIFILM Dr Kutty's Alliance

NURA
Sustained Health with Active-AI Screening

What is a calcium scoring test? How is it done? What does it measure?

As per the American Heart Association, Coronary Artery Calcium Score or Heart Calcium score uses low dose CT scan to take cross-sections of the blood vessels of the heart (coronary arteries) to look for buildup of calcified plaque. These calcified plaques are made of fats, cholesterol, calcium and other substances in the blood. Their presence leads to narrowing of the coronary arteries and increased risk of Heart attack. This calcium is different from the calcium in the bones and is not related to calcium in our diet.

Why is it important to get a calcium scoring test done? How many times should it be done by a person?



The Heart Calcium Score can help us identify a person who may be at risk of a heart attack even before signs and symptoms develop. It also helps doctors refine the treatments and further evaluation needed for their patients. They can also decide on medications and their dose based on this score. People with a zero score can be reassured about their heart and avoid unnecessary medications as well.

A Heart Calcium Score can be done once a year to give us a good chance of picking any coronary artery disease at an early stage.

How is the calcium scoring test better from other heart tests in predicting disease? What are the advantages over ECG, treadmill tests, etc.?

A Heart Calcium Score gives us a direct visualisation of the coronary arteries. It picks up the presence or absence of calcified plaques and thereby predicts the risk of a heart attack or coronary artery disease. At Nura, we also use the internationally validated Agatston Score to predict severity as well.

An ECG or Echo, can pick up a heart attack only after it occurs. A normal ECG or Echo does not rule out the risk or presence of atherosclerotic plaques. A treadmill test tests the ability of the heart to increase its blood flow under physical stress. It can pick up the risk of a heart attack only if the coronary artery narrowing reaches a critical stage.

Today, the world over, Heart Calcium score is recommended for screening cardiac risk in asymptomatic people and an angiogram is recommended in those who are symptomatic.

What are your findings at NURA for healthy people coming for a calcium scoring test? What is the incidence of positive findings? Pls give data and breakup between gender and age.

At Nura, over the last 1 year, we have screened 4000 people for heart calcium score. We find that nearly 1 in 5 asymptomatic people (20%) have build up of calcified plaque in their heart and are completely unaware about it. It is more common in Men than women and also incidence increases with age. We have rescued nearly 150 people (4%) who have had a 90% chance of heart attack with agatston score of more than 400.

Q) Has there been an increase in reportage of cardiac arrests or cardiac issues over the years (please mention the duration of years we are looking at) post gymming?

In the recent past from 2017 onwards, more and more research studies are focusing on what we call the "extreme exercise hypothesis" where people are having sudden cardiac deaths and heart attacks after strenuous exercise. This phenomenon has increased

FUJIFILM Dr Kutty's Alliance

NURA
Sustained Health with Active-AI Screening

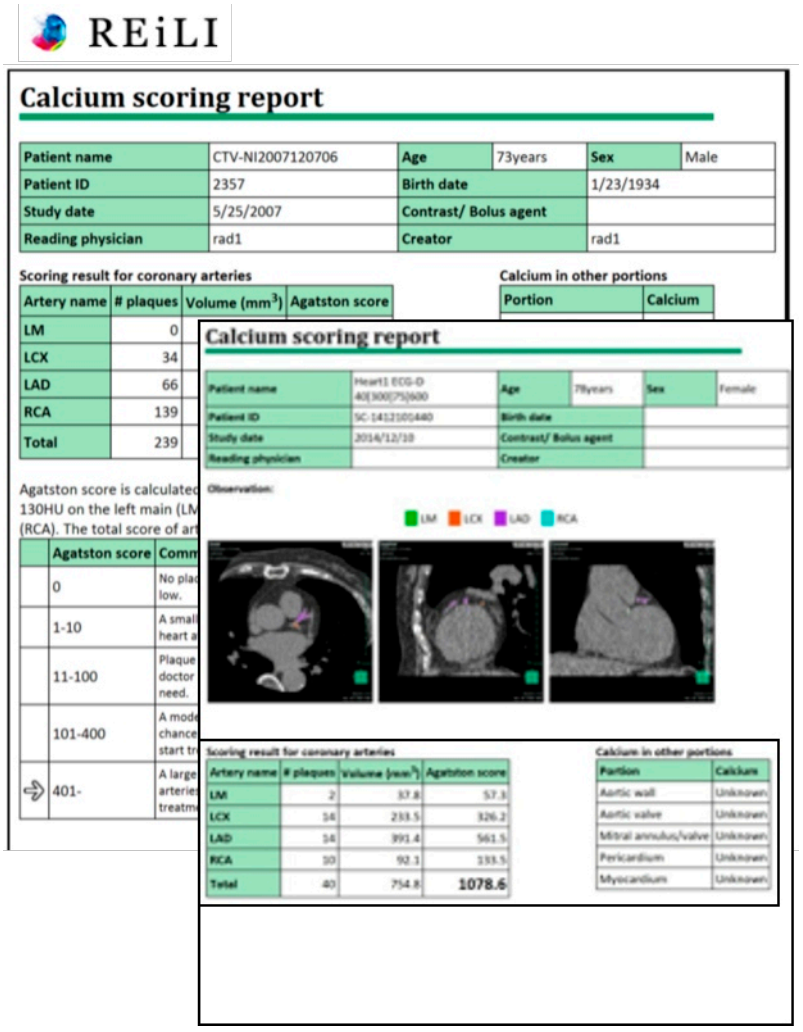
in presentation especially during and after the covid pandemic in the last 2 years.

We now understand that although exercise is good for the heart in the long run, strenuous exercise or overworking oneself carries an increased risk of sudden cardiac arrest or death.

Q) What has contributed to this increase

As per a 2018 research paper in Cardiovascular medicine journal, many veteran athletes and gym buffs have been found to have underlying unrecognized or subclinical atherosclerotic heart disease or calcified plaques which can lead to heart attacks and also some structural heart abnormalities which can cause arrhythmias or irregular beating of the heart leading to sudden cardiac death. So, being physically fit or an athlete need not mean a healthy heart always.

Covid has further contributed as it causes inflammation of the coronary arteries and increases plaque build-up or clotting and thereby the risk of a sudden heart attack.


REiLI

Calcium scoring report

Patient name	CTV-NI2007120706	Age	73years	Sex	Male
Patient ID	2357	Birth date		1/23/1934	
Study date	5/25/2007	Contrast/ Bolus agent			
Reading physician	rad1	Creator		rad1	

Scoring result for coronary arteries

Artery name	# plaques	Volume (mm^3)	Agatston score
LM	0		
LCX	34		
LAD	66		
RCA	139		
Total	239		

Calcium in other portions

Portion	Calcium

Calcium scoring report

Patient name	Heart1 ECG-D 40[300][75]600	Age	78years	Sex	Female
Patient ID	SC-1412100440	Birth date			
Study date	2014/12/10	Contrast/ Bolus agent			
Reading physician		Creator			

Observation:

LM LCX LAD RCA

Scoring result for coronary arteries

Artery name	# plaques	Volume (mm^3)	Agatston score
LM	2	37.8	57.3
LCX	14	233.5	326.2
LAD	14	391.4	561.5
RCA	10	92.1	133.5
Total	40	754.8	1078.6

Calcium in other portions

Portion	Calcium
Aortic wall	Unknown
Aortic valve	Unknown
Mitral annulus/valve	Unknown
Pericardium	Unknown
Myocardium	Unknown

Q) What are the do's and don'ts before and after gymming

The first and foremost rule is to know your body well and not to overstress yourself. Before starting a workout regimen: Get a proper health examination done and a doctor consult. For heart attack risk, heart calcium score is the best and safest test to do.

During the workout: Don't overstress. A good workout lasts from 45 to 90 minutes, not more. Your gym trainer is not a doctor and does not know your limits better than you. Have a set routine and follow it regularly. The body loves consistency.

Ensure that you hydrate yourself well and take appropriate breaks between workouts as recommended.

Email: hello@nura.in,
Phone: +91 7310494949

Book packages and learn more on www.nura.in

REiLI
FUJIFILM
Value from Innovation