



## Screening Test for Heart Ailments

**For Prelims:** [Heart Ailments](#), **cardiovascular disease**, [Blood Pressure](#), [National Health Mission](#).

**For Mains:** Screening Test for Heart Ailments.

### Why in News?

Recently, some experts have suggested the Large-Scale Screening Tests to prevent [Heart Ailments](#).

### What is the Screening Test?

#### ▪ About:

- The main purpose of screening or early detection is to **pick up people with probable disease** and confirm it with another test.
  - Screening tests are usually **cheap and easy to operate on a large-scale** while confirmatory tests are resource intensive.
- The goal of **mass screening is to detect heart diseases** in their early stages, before symptoms appear, so that preventive measures can be taken to reduce the risk of future heart attacks or sudden cardiac death.
- The screening tests for heart ailments include [Blood Pressure](#) measurement, cholesterol and lipid profile test, ECG (Electrocardiogram), etc.
- These tests can help identify the risk of [heart disease](#), **irregular heart rhythms, abnormalities** in the heart's structure or function.

#### ▪ Need:

- The need for screening tests for heart ailments is to **detect any underlying risk factors or signs** of heart disease **before it becomes life-threatening**.
  - Sudden blockages of the artery supplying the heart **can lead to a heart attack, which can be fatal**.
- Screening tests can help **identify risk factors such as high blood pressure, high cholesterol levels**, or irregular heart rhythms, **which can be managed with lifestyle changes, medication, or other interventions** before they develop into more severe forms of heart disease.

### What are the Challenges Related to Screening at Mass Level?

#### ▪ Risk of Procedure or False Labeling:

- The risks associated with screening tests include **both the risk of procedure** (how tests are performed) **as well as false labeling**.
  - For instance, stress ECG when used as a screening test in young asymptomatic patients gives many false positives.
- This results in unnecessary **anxiety and more unwarranted tests** to confirm or reject its findings.

#### ▪ Additional Risk and Costs:

- Tests like stress echocardiography/radionuclide test and CT angiography can accurately

detect blockages and people with higher risk for cardiac events as compared to ECG. But there may also be associated risks related to false results, leading to unnecessary test and additional Costs.

- A Danish study published in 2022 showed that a population well-treated for risk factors for heart disease derived no benefit from **additional tests, including CT scans.**

▪ **Lack of Access to Tests:**

- In India, a significant portion of the population (about 25-30%) is above 40 years old. However, most district **hospitals and some medical colleges in India do not have access to imaging tests** such as stress echocardiography, radionuclide tests, and CT angiography.
  - Moreover, these tests are relatively expensive, ranging from Rs 6,000 to Rs 15,000 in the public or private sector.
- It is crucial to take into account the accessibility of these tests for the public and whether **our healthcare infrastructure is capable of handling individuals** who receive a positive test result.

## What are the Important Facts Related to Heart Ailments?

▪ **About:**

- **Cardiovascular diseases (CVDs)** is a group of disorders of the heart and blood vessels and include coronary heart disease, cerebrovascular disease, rheumatic heart disease and other conditions.
- CVDs are the **leading cause of death globally**, taking an estimated 17.9 million lives in 2019 according to WHO.
- More than **four out of five CVD deaths are due to heart attacks and strokes, and one third of these deaths occur prematurely** in people under 70 years of age.
- Total economic burden of cardiovascular diseases (CVD) in India is approximately **Rs 6 trillion annually.**

▪ **Indian Initiative:**

- **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)** is being implemented under the [National Health Mission \(NHM\)](#).
- **Affordable Medicines and Reliable Implants for Treatment (AMRIT)** Deendayal outlets have been opened at 159 Institutions/Hospitals with an objective to make available Cancer and Cardiovascular Diseases drugs and implants at discounted prices to the patients.
- **Jan Aushadhi** stores are set up by the Department of Pharmaceuticals to provide generic medicines at affordable prices.
- **ST-Elevation Myocardial Infarction (STEMI) Project:** The **Maharashtra government** launched the STEMI programme recognised by **NHM** in 2021 to **enable rapid diagnosis of heart disease.**
  - ST-Elevation Myocardial Infarction (STEMI) is a condition wherein one of the heart's major arteries, supplying oxygen-rich blood to the heart muscle, gets completely blocked.

## Way Forward

- Using modern medical tools such as stress echocardiography, radionuclide tests, and CT angiography should be **limited to a smaller set of people who are at higher risk of ischemic heart** disease.
- High-risk individuals can be identified by screening for known risk factors such as tobacco use, obesity, hypertension, diabetes, hypercholesterolemia, and family history of early heart disease.
  - However, the most important approach for preventing cardiac deaths is to **promote healthy habits among populations of all ages.**
- Simple tests for known risk factors are cheap, widely available, and can be conducted during

standard executive checkups at district hospitals.

**Source: TH**

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