

Elective Module: **Diagnostic techniques and related diseases in Cardiology**

INTRODUCTION

A 2D echo, or 2D echocardiogram, is a type of ultrasound scan that uses sound waves to create an image of the heart. It can show the shape, size, and function of the heart, as well as the condition of the valves, chambers, and major blood vessels. A 2D echo can provide information about:

- Chamber size, volume, and wall thickness
- Pumping function
- Valve function
- Volume status
- Pericardial effusion
- Congenital heart disease
- Blood clots or tumors
- Abnormal elevation of pressure within the lungs

A TMT, or stress test, is a standard procedure that evaluates heart function during physical activity. During the test, you walk or run on a treadmill while being monitored by a healthcare provider. The TMT can help determine:

- How well your heart pumps blood
- Whether your heart receives enough blood supply
- If you have muscle or valve problems
- Your heart's electrical stability during rest and exercise
- If you have heart abnormalities such as:
 - Cardiovascular disease
 - Coronary artery disease (CAD)
 - Cardiomyopathy with hypertrophy

A TMT is often suggested for patients with diabetes who may be at risk of developing cardiac problems. Additionally, individuals with a history of heart diseases or those who have undergone cardiac treatments might also be advised to undergo the TMT test.

1	Name of Block	Dept of Cardiology, 1 st Floor
2	Name of Elective	Diagnostic techniques and related diseases in Cardiology
3	Location of hospital Lab or research facility	Department of Cardiology DMCH Ludhiana
4	Name of Internal preceptor(s)	Dr Shibba Takkar Chhabra
5	Name of External preceptor	Dr Bishav Mohan
6	Learning objectives of elective	Bruce protocols in TMT, General principles of 2D Echocardiography Common conditions in which it is done Contraindications of doing TMT Therapeutics in common conditions
7	Number of students that can be accommodated in this elective	Four
8	Prerequisites for elective	Knowledge of following topics : 2D echocardiography TMT
9	List of activities of student participation	1. History taking and examination of patients listed for echo and TMT. 2. Attend and observe all the TMT procedures being done in the department 3. Present at least two cases that are fully worked up in the teaching Session 4. Participate in patient education and Multidisciplinary team meetings
10	Learning Resources	Braunwald's heart disease Feigenbaum's echocardiography
11	Portfolio entries required	Daily log of activities participated and examining and discussing cases of CAD, DCMP, heart failure.

12	Log book entry required	Satisfactory completion of posting by a Preceptor with a “meets expectation ‘M’ Grade.
13	Assessment	Attendance Formative: Participation in Endoscopy lab, rounds and team activities. Presentation of worked up cases Documentation of attendance Required portfolio and logbook entries
14	Other Comments	
Week	Activities	
Week 1	Basics of Echocardiography Bruce protocols and 2D echocardiographic views Pre requisites of the procedure Hemodynamics assessment before and after procedure Indications of TMT and 2D echo Angina under evaluation Evaluation before surgical procedure Cardiomyopathies Valvular heart disease Myocardial infarction	
Week 2	Complications of TMT Arrhythmias Conditions in which it is contraindicated	