

Post Graduate Diploma in Non Invasive Cardiology Lab

TRIMESTER I

Objectives:

At the end of the course, the candidate will –

1. Acquire the updated knowledge about Non invasive lab, and what are the core activities
2. Also will know the location and plan of an ideal Non invasive lab
3. In addition to it, the student will be briefed on the basic human functions
4. Also the student will be updated about pathological investigations as well as basic microbiology and infection control practices Acquired the updated knowledge of ECG, ECHO, Stress test, Stress ECHO, Holter Monitoring , BP Ambulatory
5. Monitoring techniques
6. Also the student will be updated about the common cardiac diseases and it's diagnosis and its management.

Syllabus:

1. Role of Non invasive lab in Health Care Delivery, Planning and layout
2. Fundamental Principles of Electrocardiography and its importance.
3. Fundamental Principles of Echocardiography and its importance.
4. Fundamental Principles of Stress test and its importance.
5. Fundamental Principles of Holter monitoring and machine details.
6. 6.Fundamental Principles of 24 hours Ambulatory BP monitor and machine details Interpretation of abnormal ECG

7. Myocardial Infarctions
8. Arrhythmias
9. Heart Blocks
10. Ventricular Tachycardia and Ventricular Fibrillation
11. Interpretation of normal and abnormal Stress test and its implications
12. Ischemic Heart Disease Evaluation on echocardiography
13. Valvular Heart Disease Evaluation on echocardiography
14. Pericardial Heart Disease
15. Disease related to the Aorta
16. Congenital Heart Disease
17. Interpretation of holter tests and its importance
18. Interpretation of 24 hours BP Ambulatory and its importance

Trimester II

Objectives:

At the end of the course the candidate will be having practical knowledge of

1. Be able to prepare the patient for the tests.
2. Applications of ECG, ECHO, Stress Test, Holter Study and 24 hour BP Ambulatory Study

Syllabus:

1. Basics ECG

- Techniques of preparation of patient and performing ECG
 - Electrocardiography lead systems.
 - Standard limb leads
 - Chest leads
 - Augmented limb leads
 - The hex axial reference frame and electrical axis
 - Recording adult and pediatric ECGs
 - The normal electrocardiogram
 - Details of ECG waves
 - Atrioventricular node conduction and the PR segment
 - Ventricular activation and the QRS complex
 - Rate and rhythm

2. Basic Echocardiography

- Handling of echo machines and preparation of patients
- Basic Views (PLAX, SAX, A4C, Subcostal and suprasternal)
- LV Systolic and Diastolic dysfunction

3. Holter Study

- Its applications and
- Its functions

4. 24 hours BP Ambulatory study

- Its applications

- Its functions

5. Stress Test

- Protocols of Stress Test

- Preparation of patient

- Indications and contraindications.

Trimester III

Objectives:

At the end of the course the candidate will have the practical knowledge on

1. ECG techniques
2. ECHO techniques
3. Stress Test techniques
4. Holter Monitor techniques
5. BP Ambulatory techniques

Syllabus:

1. Independently performing ECG and Stress test under supervision
2. Assisting in echo and stress echo.
3. Independently applying holter monitor and interpretation
4. Practical knowledge on Quality assurance Monitoring system
5. Record maintenance for references
6. System of documentation
7. Inventory management of consumables

8. Maintaining Log Books.

Reference Books:

1. Braunwald – Heart Disease Volume I
2. Feigenbaum's echocardiography- 7th Edition by William F Armstrong.
3. Evidence of Basic Cardiology- 3rd Edition by Wiley Blackwell.
4. Practical Medicine – P.J.Mehta.
5. ECG – Clinical electrocardiography – 7th Edition by Ary L Goldberger.
6. Reference by PGDCC – IGNOU Handbooks for ECG, ECHO and Stress Test.
7. Tajik Jamil for echocardiography.
8. Harrison Text Book Of Medicine.
9. Topol Handbook for Cardiology.