

Training module

Performing ECG and interpretation

Module Description

This two-day training module provides hands-on instruction and guided practice in performing electrocardiograms (ECG/EKG) and accurate interpretation of findings. The course is designed for healthcare practitioners who wish to enhance their ECG assessment skills, understand cardiac physiology, and master rhythm interpretation for clinical intervention. The training covers basic technical knowledge, systematic analysis, and clinical context interpretation for both routine and emergency cases.

Academic Contents

- Fundamentals of ECG: Cardiac electrophysiology and the electrical conduction system.
- Technical aspects: Correct lead placement and machine operation.
- Stepwise approach to ECG interpretation:
 - Rate, rhythm, axis, intervals, waveform assessment.
- Identification of normal and abnormal ECG findings:
 - Physiological adaptations, arrhythmias, conduction disturbances, and acute changes.
- Interpretation in clinical scenarios:
 - Cardiac emergencies, myocardial infarction, arrhythmias, genetic and metabolic conditions.
- Common pitfalls and advanced techniques.
- Case studies with real clinical ECGs for practical analysis.

Learning Outcomes: Participants will be able to:

- Demonstrate correct ECG performance technique and accurate lead placement.
- Systematically analyze and interpret 12-lead ECGs for rate, rhythm, axis and key waveforms.
- Identify major pathological conditions on ECG (e.g., myocardial infarction, arrhythmias, conduction blocks, hypertrophy).
- Recognize commonly encountered and life-threatening ECG findings.
- Apply interpretation skills in the context of actual clinical cases for timely and effective patient management.

Teaching Aids

- ECG machines and simulators.
- Printed handouts and digital guides, including systematic interpretation checklists.
- Case-based learning materials and real patient ECG strips.
- Video tutorials and instructor-led demonstrations.
- Interactive quizzes and post-session evaluation tools.

Time Schedule (Two-Day Format)

Time	Day 1: Performing ECG	Day 2: ECG Interpretation
09:00 – 09:30	Introduction & Objectives	Review of Day 1 & Q&A
09:30 – 10:30	Cardiac Electrophysiology	Stepwise Interpretation Method
10:30 – 11:30	ECG Lead Placement Demonstration	Arrhythmias & Abnormal Rhythms
11:30 – 12:00	Hands-on Practice	Waveform Analysis & Axis Detection
12:00 – 13:00	Lunch	Lunch
13:00 – 14:00	Troubleshooting Equipment	Case Studies Group Work
14:00 – 15:30	Patient Scenarios: ECG Performance	Pitfalls & Advanced Techniques
15:30 – 16:30	Post-test & Feedback	Post-test, Assessment, Wrap-up

Final remarks and future contact and feedback, certificates.

Venue and delivery mode: Qimam foundation KSB- MED Center halls

- Physical: Clinical skills simulation center equipped with examination couches, anatomical models, and AV facilities.
- Online: Virtual classroom with video demonstrations, interactive case discussions, and breakout rooms for role-play.