



The Society for Cardiological Science and Technology

Award in Practical Electrocardiography

The Society gives this award to candidates who can demonstrate an ability to safely and accurately record a 12-lead resting electrocardiogram (ECG) under examination conditions. This is designed as an entry-level qualification for any practitioner wanting to demonstrate the skills needed to perform ECGs in a clinical environment.

Candidates will be expected to demonstrate the following outcomes in a practical examination. Supplemental questions will be used to check underpinning knowledge

- Check that the equipment is safe to use and know how to report faults
- Confirm the patient identity, explain the test using appropriate language and obtain verbal consent
- Correctly position chest and limb electrodes in accordance with SCST consensus guidelines
- Correctly attach recording wires to electrodes and obtain an accurate, artefact-free recording
- Recognise common recording errors
- Differentiate between common sources of artefact and take appropriate action to improve the recording quality
- Explain how to check calibration and standard recording settings
- Outline situations when recording settings may be altered
- Recognise the limits of operational responsibility and when to seek assistance

Candidates should ensure that their preparation for the examination considers all points in the following syllabus

Syllabus

(1) ANATOMY, PHYSIOLOGY AND PATHOPHYSIOLOGY

- Anatomy of the thorax including the rib cage, sternum, manubrium, clavicle, axilla
- The main indications for recording an electrocardiogram.

(2) PRACTICAL ELECTROCARDIOGRAPHY:

Standard recording settings and how to alter basic controls

- Paper speed
- Gain
- Filters

- Lead selector
- Manual/automatic operation

Care of the equipment

- Care of recording paper
- Battery maintenance
- Care of leads and cables

Electrodes

- Application of and connection to electrodes
- Care of electrodes
- Electrode positions
- Significance of right leg (neutral) electrode

Preparation of the patient

- Explanation of the procedure at a level appropriate to the patient and obtaining oral consent
- Positioning of the patient
- Encouraging the patient to relax
- Maintaining the privacy and dignity of the patient at all times.

Practical electrocardiography

- Choice of appropriate leads for a particular patient category
- Setting of controls as appropriate for the specific recording
- Preparation of electrode sites to give optimum electrode contact and to minimise artefact
- Correct application and positioning of limb and chest electrodes, in accordance with the Society for Cardiological Science and Technology guidelines.
- Recording of a resting electrocardiogram from patients of all ages using both manual and automatic mode
- Recording of the resting electrocardiogram from a patient who:
 - Is unconscious,
 - Has language or communication difficulty,
 - Is infectious or is in isolation,
 - Has a physical disability (including amputation)
- Evaluation of the recording, re-recording as appropriate
- Recognition and elimination or reduction of artefacts due to:
 - Muscle tension
 - Muscle tremor
 - Alternating current interference
 - Limb movement
 - Broken lead
 - Sweat
 - Respiratory chest movement
 - Right and left arm connection transposal
- Labelling of completed recordings as appropriate
- Cleaning, preparation and storage of equipment ready for subsequent recordings, including correct sterilisation and disposal procedures