



## 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