

## Glasgow Clinical Trials Unit Standard Operating Procedure

SOP number	<b>17.016</b>	Version	<b>4.0</b>
Title	<b>Ambulatory Electrocardiograph Monitoring</b>		

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Staff category	<b>Staff Category</b>	<b>R</b>	<b>A</b>	<b>C</b>	<b>I</b>
	Nursing	X			
	Administration	X			
	Principal Investigator	X			
	Clinical Research Fellow	X			
	GCRF Manager		X		
	GCRF Associate Director				X
	Senior R&I Manager				X

### 1. Scope

This procedure applies to all staff working within Glasgow Clinical Research Facility (GCRF).

### 2. Purpose

The purpose of this SOP is to describe the procedure for obtaining an ambulatory electrocardiograph on research participants within GCRF.

### 3. Procedures

#### 3.1. Equipment required

- ECG electrodes
- 90 Mb compact flashcard
- New single alkaline battery
- ECG recorder

#### 3.2. Preparation of equipment

- Initialise the flashcard. This allows the patients name and ID to be stored onto the card before recording is started. It also erases the previous recording on the card.
  - Insert the flashcard into the reader, ensuring that the logo faces downward.

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- In the CardioNavigator database, click on the Patient menu and select the New Patient option or click on the New Patient icon.
- Enter the details into the New Patient dialogue box and when complete click on OK.
- Highlight the patient in the Patient List and with the flashcard inserted into the reader, click on the Lifecard CF Configure icon. The patient details will then be transferred onto the card.
- Insert flashcard and battery into the recorder. Check display – which should read Delmar Reynolds followed by either Lifecard CF 7 day or Lifecard 12, 12 lead depending upon which cables are in use. This will be followed by the Main Menu.

### 3.3. Preparing the participant

- Explain the procedure to the participant.
- Prepare skin by wiping with an alcohol swab.
- It may be necessary to shave some chest hair. This is for two reasons:
  - It can reduce the contact between chest and the electrode and therefore prevent conduction of the electrical wave from the heart.
  - It would be painful for the participant when the electrodes were removed as hair would be pulled out.
- Abrade the skin (lightly reddening the skin with dry cotton swab is adequate)
- Place leads on chest area. These should be positioned in accordance with SOP 17.008 and as follows (although alternative positions may be more suitable on individual patients):

#### Three electrode patient cable

- Yellow - on right sternal border at level of 2<sup>nd</sup> rib
- Red - in left anterior axillary line and on the 6<sup>th</sup> rib
- Green - in the right anterior axillary line and on the 6<sup>th</sup> rib

### 3.4. Check the quality of ECG reading

The monitor displays the ECG during hook-up – the viewed channel can be changed by pressing the yellow up or down button. When finished reviewing the ECG, press the green select button.

### 3.5. Check the clock

Check the time and date on the display. If incorrect, change by moving the highlight and pressing the green select button. Adjust using the yellow up or down buttons and confirm by pressing the green select button.

### 3.6. Start the recording

Select start now by pressing the green select button. The recorder will enter recording mode – which displays the current time in large digits.

Please note – if the recorder is left uninterrupted in the hook-up display for 10 minutes, the recorder will automatically start recording.

The recorder will stop recording automatically and switch to a low power state.

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The participant will be free to attend to his/her usual daily routine (although when bathing or showering, the recorder should be detached from the electrodes) but will be asked to complete an activity diary in which meal times, sleep periods and unusual activity should be noted.

### 3.7. On return

- Remove recorder from patient.
- Open the recorder and separate the patient cable unit from the recorder unit.
- Remove the battery and flash card.
- Download the recording. You can either store the unanalysed recording in the database then load to the analyser later, or it can be immediately loaded into an analyser.
  - To download into the database, first ensure patient details have been entered into the CardioNavigator database. If they have not, you can enter them now using the steps described in the initializing flashcard section.
  - Highlight the correct patient details in the patient list then click on the Lifecard CF Download toolbar icon. A message Reading Data will appear on screen. When the download is complete, this recording will be highlighted in the recording list.
  - Double-click on the recording in the list to load the recording into the analyser.
  - To immediately load to the analyser, insert the flashcard into the reader, highlight the correct patient in the CardioNavigator patient list, then click the analyser's button on the toolbar.

Participant/Patient Information (Please ensure they are given a participant information leaflet) providing information on the recorder and a contact number for should they wish to seek advice.

- Carry out normal daily routine
- Do not open the recorder
- Do not pull on the leads or electrodes or scratch the electrodes
- Avoid electric blankets, microwave ovens and industrial machinery
- Use the recorder's time to record your activity/symptom diary
- If you experience symptoms, press either the green or yellow 'patient event' button on the front of the recorder and make a note in your patient diary
- After the required time period, the monitor and all accessories should be returned to the study centre, where the study medical staff will download the recordings.

## 4. Referenced documents

- Del Mar Reynolds Instruction and Technical Manual – Lifecard CF. Lifecard 12. Firmware version 7. Manual Part no. 18-6073

## 5. Related documents

- SOP 17.008 – Recording an Electrocardiograph
- British Heart Foundation website
- NHS GG&C Infection Control Policy
- NHS GG&C Hand Hygiene Policy

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### 6. Document history

Version	Date	Description
1.0	30/09/09	Release of Version 1
2.0	15/07/16	SOP restructure Updated to template version 1.4 Minor admin changes Change to approved and released by
3.0	26/08/2019	Minor admin corrections and removal of battery brand reference
4.0	18/08/2023	Update to SOP template v2.0 Addition of RACI matrix

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