

Harpham & Lowthorpe Village Hall

Guidance for Defibrillator Custodians

February 2021

Defibrillator Custodian Guide

Scope

This guide is intended for those who have volunteered to act as a custodian for one or more of our three Automated External Defibrillators (AEDs). It provides:

- A brief description of the AEDs, their storage cabinets and other supporting items, to help custodians become familiar with the range of the equipment in their care.
- Details of the regular checks that a custodian must do to confirm that the equipment remains fit for community use, and how to report its operational status to the Yorkshire Ambulance Service.
- Advice on what to do when an AED develops a fault.

Overview of the Equipment

All our AEDs are Powerheart, Model G5s, made by Cardiac Science (see opposite). Each AED is protected by a soft-sided carry case, and attached to this is a small detachable Ready Kit bag (Part No. UKIT001A) containing: Two pairs of non-latex nitrile gloves, one medium & one large set; A disposable razor; A pair of Para-med 5½ inch shears; A small paper towel; and a pocket resuscitator mask. On the back of the carry case is an integral zipped pouch containing a spare set of defibrillator pads.



The AEDs are possibly the best on the market, as they contain a comprehensive self-test system that automatically assesses the electronics, battery state, defibrillator pads, and high voltage circuitry. This self-test system is automatically invoked each day at 3:00am, and varies the tests it undertakes as follows:

- a) It always checks the battery, pads, the electronic components and the temperature of the AED;
- b) Once a week, it additionally partially charges the high voltage electronics;
- c) Once a month, it additionally fully charges the high voltage electronics.

Should any of these tests fail then the “Rescue Ready” indicator will change from a GREEN to a RED disk with a cross as shown below.



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Each AED is housed in the lockable, Defib Store, Model 1000 Defibrillator Cabinet shown in an open & closed state below. Each cabinet weighs around 11kg, and is made either from stainless-steel (Ruston Parva) or Mild Steel. The AED hangs by its handle from the hook on the back wall, so that its "Rescue Ready" indicator can be seen through the inspection window on the cabinet door. There is a 240V heater mounted on the left-hand side of the box, with an integral thermostat that calls for heat when the internal temperature of the box drops below 8°C; note that this setting cannot be changed. The heater is intended to protect the AED housed within from experiencing cold temperatures during winter, which if very low, can cause the gel in the AED pads to freeze, and the AED battery pack to prematurely lose charge.

Inside the box (although not visible in the photo) is also an LED light that can be attached to the inside roof of the cabinet via a magnetic strip on the back of the light. It can be detached for use as a torch should the need arise. The light is fitted with both motion and photocell sensors that switch it on for a set period, when nearby movement is detected after sunset. For example, when the cabinet door is opened at night. The light is independently powered by 4 replaceable AAA batteries.

The same access code **C0147X** grants enter to any of the three boxes.



The serial numbers and manufacturing dates of our three AEDs and Cabinets are provided for reference purposes in Table 1 below, these may need to be cited when ordering any replacement parts and/or repairs to be done by the respective manufacturers. Also provided in the Table 1 are the manufacturing dates of the batteries, and the expiry dates of the Pads presently installed in the AEDs. It should be noted that:

- a) the AEDs (Part No. G5A-02P0) are warranted to have an 8-year life from their date of manufacturer;
- b) the batteries (Part No. XBTAED001A) are warranted to have a 4-year life from their date of manufacture;
- c) the pads (Part No. XELAED001B) are warranted to have a 2-year life, in accordance with the expiry date printed on them;
- d) the cabinets carry a 2-year guarantee, but should have a life of at least 20 years;

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	HARPHAM	LOWTHORPE	RUSTON PARVA
AED Serial No.	D00000116540	D00000116572	D00000140745
AED Manufacture Date	21/12/2018	21/12/2018	03/07/2019
Battery Manufacture Date	23/10/2018	29/10/2018	10/06/2019
Pads Expiry Date (Installed)	28/06/2021	28/06/2021	28/12/2021
Pads Expiry date (Spare)	28/06/2021	28/06/2021	28/12/2021
Cabinet Model No.	DFS1K422LLE	DFS1K422LLE	DFS1K422LLE-SS
Cabinet Serial No	DFS-1K-2071	DFS-1K-2074	DFS-1K-4283-SS

Table 1 – Serial Numbers, Manufacturing & Expiry Dates

Use of the AED

An excellent video covering the use of a G5 AED can be found here:

[Powerheart G5 AED | Intellisense CPR Feedback Device Demo Video - US/Canada - YouTube](#)

It shows the various parts of the device, and the locations of the LED status indicators, function buttons etc. that are occasionally referred to within this documentation.

Managing the Consumables

You will be expected to track the expiry dates of the pads and the AED Batteries for which you are the custodian, and notify the Treasurer in advance of any replacements that are required. We recommend giving the Treasurer around 4-weeks warning in respect of wanting new pads, and around 12-weeks warning in respect of wanting new batteries.

Also, should an AED be used by either a member of the public, or by the Yorkshire Ambulance Service (YAS), then you will be expected to recover the unit and notify the Treasurer of any pads and parts of the Ready Kit that have been used and need to be replaced.

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Periodic Checks

The frequency and content of the checks described below have been derived following dialogue with the manufacturers of the AED and the cabinet. Some of the checks refer to the buttons and indicators shown below. Note that it is completely safe to put your trust in the efficacy of the AED's comprehensive self-test system.



Weekly

- 1) Look through the inspection window of the cabinet to confirm that the "Rescue Ready" indicator of the AED is GREEN.

Monthly (also provided as a convenient Check List in Annex 2)

- 1) Open the cabinet. Spray the lock mechanisms with WD40, or equivalent, if the push button keys and/or lock catches are not operating smoothly.
- 2) During winter, and if the outdoor temperature is below 8°C, place your hand on or near the heater to check that it is warm and therefore likely to be working.
- 3) Remove the AED from the cabinet and from its carry case, and after checking that its "Rescue Ready" indicator is showing GREEN, open the lid and check that the display works and the automated voice commands begin.
- 4) Whilst the lid of the AED is open, note the number of battery level LEDs that are showing GREEN. This indicates roughly how many remaining years the battery will be able to power the AED in its standby state. For example, two GREEN bars mean that the battery should be able to power the AED in its standby state for another two years.
- 5) Close the lid of the AED (the "Rescue Ready" will temporarily turn RED), and wait for the "Rescue Ready" indicator to again turn GREEN. Place the AED back in its carry case and place inside the cabinet.
- 6) Remove the detachable LED light, and cover the photocell sensor with your hand to check it switches on, and reattach it to the inside roof of the cabinet. Replace the 4-off AAA batteries as and when required.
- 7) Finally, check that none of these ancillary items are missing from the cabinet:

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- a. The plastic folder containing a G5 AED User Guide; and the leaflet covering Performing a Rescue; and
- b. The small Ready Kit bag and its contents; and
- c. The spare set of pads contained in the pouch on the rear of the AED carry case.

Every 6 Months

- 1) Clean the outside of the cabinet, using a damp cloth.

Reporting AED Status to the Yorkshire Ambulance Service

The operational status of the AEDs should be reported to YAS as soon as practicable after having completing the above weekly and monthly checks using this web link:

<https://survey.yas.nhs.uk/s/CPAD-Audit/>

To complete the CPAD Audit Form you will need to enter your contact details, the information in the table below appropriate to the location of the defibrillator cabinet, the number of Pads present, and the expiry date of the Pads connected to the AED. After you have submitted the form you will receive an automatic email reply containing a pdf copy of the information that you submitted, which can be retained for your records.

An example of a completed CPAD Audit Form is shown in Annex 3.

	HARPHAM	LOWTHORPE	RUSTON PARVA
CPAD Callsign	NCPAD1034	NCPAD1166	NCPAD1155
Location	Harpham & Lowthorpe Village Hall, Station Road, Harpham, YO25 4QZ	Bath Close Farm, Lowthorpe, YO25 4AS	Alongside Street Light Column No.5 Main Street YO25 4DG
What3Words	steady.laminated.counts	food.tools.interlude	landowner.grower.google

What if the “Service” Indicator is RED

You will need to refer to Section 5 of the User Guide for the G5 AED, a copy of which should be in a plastic folder inside the cabinet. Note that a copy of these instructions can also be downloaded from the Trustees Area of the village hall website. What follows is only a brief overview.

A fault condition detected by the AED’s self-test system will change the “Rescue Ready” indicator to RED, and whilst the lid is closed, cause the unit to emit a beep every 30 seconds, which if not addressed will eventually drain the battery.

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The first step is to remove the AED from the cabinet, open the lid and check to see if the “Service” indicator is showing RED, and if so, then there is nothing you can do to retrieve the situation, for the unit will need to be returned to the manufacturer for repair.

If the “Service” LED is not lit, then:

- 1) Check to see if the “Pads” LED is lit, and if so, disconnect and reconnect the pads to ensure the connection is secure;
- 2) Check to see if the “Battery Level” indicator is showing Red, and if so, you’ll need to replace the battery (hopefully with one that you’ve had the foresight to order from the manufacturer in advance);
- 3) If neither of the above simple steps fix the issue, then simultaneously press both “Function” buttons on the AED display panel for at least 3 seconds to manually activate the AED’s diagnostic mode, and thereafter respond to the displayed messages. Note that if the diagnostic mode indicates that the AED has become too cold, or too hot, then take it home. Once the AED has adjusted to room temperature, then you will be able to stop the beeping and return it to operational use by following the simple procedure set-out in Annex 2 herein. You’ll then need to assess whether the unit should be returned to its cabinet based on the prevailing weather conditions. For example, we may be experiencing a heat wave that is causing the inside of the cabinet to overheat, or it may be so cold that the cabinet’s internal heater cannot keep the AED warm enough.

Should you be unable to restore the operational status of the unit, then report the situation to YAS using their web based CPAD Audit Form, as described earlier, and contact either another Custodian, or the Cardiac Science UK technical help-line, 0162 926 0011 for advice.

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ANNEX 1 Monthly Check List

Cabinet

- Door lock & catch working freely
- If winter – Internal heater feels warm
- Detachable LED light works
- G5 AED is present & in its Carry Case
- Spare set of Pads are present in rear pouch of Carry Case & are in life
- Ready Kit bag is present & attached to Carry Case
- G5 AED User Guide & Performing a Rescue Sheet are present in folder

Ready Kit Contents

- Large Nitrile Gloves
- Medium Nitrile Gloves
- Disposable Razor
- Para-med 5½ inch shears
- Small Paper Towel
- Pocket Resuscitator Mask

G5 AED

- Pads are in life
- “Rescue Ready” indicator is GREEN before opening lid
- The display works & automated voice prompts begin when lid opened
- One or more Battery Level indicator LEDs are GREEN when lid opened
- “Rescue Ready” indicator returns to GREEN when lid closed

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ANNEX 2

Clearing Cold / Warm Weather Errors

Either error will self-clear at the next self-test, as long as the AED battery temperature is brought back to within 0 and 50 degrees centigrade prior to 3:03am the next morning. However, the instructions below will return the G5 AED back to being "Rescue Ready" before this test.

The "Rescue Ready" indicator will remain RED & the audible alarm 'beeping'. Open the lid of the G5 AED. When the lid is opened, the voice/text prompt will indicate "maintenance required".

To manually clear the error, the G5 AED and the pads will need to be at room temperature. Allow at least 30 minutes at room temperature before attempting to access the diagnostic mode. In order to clear the error:

When the G5 AED is at room temperature proceed to Diagnostic Mode -

- 1) To access the Diagnostic Mode open the lid of the G5 AED. After the timer passes the 3 second mark on the display, press and hold both Function keys (see below) on the AED's display panel until the AED gives the voice prompt "Diagnostic Mode"



- 2) Once in diagnostic mode, the display will read: "Temp too cold/warm- Adjust storage temp"
- 3) Hold the left Function key "under the word clear" for 3 -5 seconds, or until the word 'Clear', and the error is gone from the display. You may then close the lid, and the Rescue Ready indicator should revert back to GREEN.

If when the lid is opened, the voice prompts immediately indicate "analysing rhythm", and to "continue CPR", this means the pads are frozen as well, and will also need to come to room temperature before being able to access the diagnostic mode of the AED. Once the pads come to room temperature (allow 30 min), and you are able to access the diagnostic mode, please follow the above procedure to manually clear the error code.

Should you have any questions then please call the Cardiac Science, UK Technical Department on 0161 926 0000 selecting Option 2

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ANNEX 3 Example of Completed CPAD Audit Form

CPAD Audit Form

Q1. Date of Check:
28/02/2021
Q2. First Name:
Stephen
Q3. Last Name:
Harrison
Q4. Contact Number:
07562310676
Q5. E-mail:
steve.r.harrison@outlook.com
Q6. CPAD Callsign: E.g. NCPAD052
NCPAD1166
Q7. Exact Location of Cabinet: I.e. Next to main entrance, wall facing car park.
Bath Close Farm, Lowthorpe, YO25 4AS
Q8. What3Words: If possible please also give What3Words location
food.tools.interlude
Q9. Is the AED showing ready for use?
Yes
Q10. How many Pads are present?
2 Set

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Q11. Expiry Date of Pads First to Expire

28/06/2021

Q12. Does the condition of the cabinet give you cause for concerns?

No

Q14. Any Further Information Any Information that you think may be useful.

None