

Coláiste Mhuire Co-Ed, Thurles

AUTOMATED EXTERNAL DEFIBRILLATION GUIDELINE

Date: January 2021

For review: January 2023



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Compiled by: Mary Ryan Maher RGN, RM, MSc (Hons).

Purpose: To ensure all who may need cardiopulmonary resuscitation in Coláiste Mhuire Co-Ed, Thurles including the use of an automated external defibrillator receive high quality treatment in accordance with the Cardiac First Response & First Aid Response programmes as recommended by the Pre-Hospital Emergency Care Council, Ireland.

Applicable to: All staff in Coláiste Mhuire Co-Ed, Thurles who have completed the appropriate training as outlined in this guideline.

	. ,
Signature:	_Date:
Approved by:	
Chairperson, Board of Management:	
Signature:	Date:
Principal:	
Signature:	Date:
Vice Principal:	

Signature: Date:

DEFINITIONS

Adult: From puberty upwards. When in doubt treat as an adult.

AED: Automated External Defibrillator. An AED is a computerised medical device that analyses

heart rhythm and will advise the operator if a shockable rhythm is detected. If a shockable

rhythm is detected, the AED will charge to the appropriate energy level and advice the

operator to deliver a shock. It is only to be applied to victims who are unresponsive and have

no normal breathing.

AHA: American Heart Foundation.

BLS: Basic Life Support

CAB: Compressions Airway Breathing.

Child: Someone who is older than one year but has not reached puberty.

CFR: Cardiac First Response.

CFRR: Cardiac First Response Report.

CPR: Cardiopulmonary Resuscitation.

ECC: Emergency Cardiovascular Care

ERN: Emergency response number 999 **or** 112.

EMS: Emergency Medical Service.

IHF: Irish Heart Foundation

PHECC: Pre-Hospital Emergency Care Council.

Puberty: Breast development in a girl, underarm hair in a boy.

SCA: Sudden cardiac arrest.

SOP: Standard Operating Procedure.

USE OF AUTOMATED EXTERNAL DEFIBRILLATOR (AED):

Within Coláiste Mhuire Co-Ed School the staff may use the Powerheart G 3 AED with serial number 9390E-1002 provided:

- The staff hold Cardiac First Response or First Aid Response as certified by PHECC.
- They follow the AED Operating Guideline as outlined in Appendix I.
- They follow the AED Algorithm as outlined in Appendix II.

It is recommended that members should recertify every 2 years. It is the responsibility of each individual who carries a current PHECC Adult CPR & AED card or equivalent to contact the Principal within Coláiste Mhuire Co-Ed and arrange re-certification as necessary. Following qualification revalidation is recommended twice yearly. This ensures CPR and AED skill competency.

AUTHORISED USERS:

- A list of certified users for Coláiste Mhuire Co-Ed School Thurles, can be found in Appendix II.
- Details of certification, revalidation and re-certification of certified users can be found in Appendix II.

RESPONSIBILITIES:

*	AED Operating Guidelines	Appendix I
*	AED Algorithm	Appendix II
*	AED List of authorised users	Appendix II
*	AED User Responsibilities	Appendix III
*	Designated Person Responsibilities	Appendix IV
*	Principal's Responsibilities	Appendix V
*	AED Operator's Check List & Maintenance	Appendix VI. VII.

Cardiac First Response Report form

Appendix VIII
Review of Guideline

Appendix IX

Audit Tool

Appendix X

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Appendix I

AED Operating Guideline for Powerheart G3

1. STORAGE

- 1.1. The Cardiac Science Powerheart G3 AED with serial number 9390E-1002 is stored at **RECEPTION** for easy accessibility.
- 1.2. One Laerdal Pocket mask with two valves is stored beside/near the AED.
- 1.3. One battery pack is fitted to the unit.
- 1.4. Two pairs of in-date adult External Defibrillator pads approved for use with Powerheart G3 AED (one set of in date pads to be attached to AED and spare in date set of pads available within AED Case).
- 1.5. One Paramedic shears stored in AED case.
- 1.6. One large absorbent pad for drying the chest stored in the AED case.
- 1.7. Two pairs of disposable gloves in AED case.
- 1.8. Barrier eye protection 1 pair of disposable goggles in AED case.
- 1.9. Clinical Waste bag stored in AED case.
- 1.10. Check list booklet beside AED.
- 1.11. Cardiac First Response Report Forms x 3
- 1.12. "Instructions for Use" Edition Manual beside AED.
- 1.13. **Operating** guideline beside/ near AED.

AED OPERATING GUIDELINE:

2. REQUESTING THE AED IN THE EVENT OF AN EMERGENCY

2.1 The AED should be requested and taken to the side of the unresponsive adult or student.

3. THE SAFETY OF THE AREA, THE RESCUERS AND THE VICTIM

- 3.1 Before opening the AED, the rescuer must ensure it is a safe area to use the AED.
- 3.2 The victim **must not** be in, or near standing water e.g., very wet pitches, swimming pool.
- 3.3 The victim who is in free standing water **must be** removed from the wet area and have their chest quickly but **thoroughly dried** before powering the unit on and attaching the electrodes.
- 3.4 The immediate surrounding area **must be** completely free of petrol, petrol vapours and solvents.
- 3.5 The AED should only be used on those who are unresponsive and not breathing or are displaying agonal breathing (40% agonal breathing).
- 3.6 The AED must not be used in explosive or volatile atmosphere.

4. LOCATING, TURNING ON AND ATTACHING THE AED TO THE VICTIM

- 4.1 The victim **must be** on his/her back, and on a firm unyielding surface.
- 4.2 The AED **should be** located next to but not touching the victim's side.
- 4.3 The AED must only be turned on and attached to a victim who is unresponsive, not breathing, or is displaying agonal breathing.

5. Pad Placement

- 5.1 Power the AED on before attempting pad placement.
- 5.2 CPR is continued while pads are applied:

Right pad – Mid clavicle line to the right of the breastbone - below the collar bone and above the right nipple.

Left pad - Mid Axillary Line, lateral to the nipple, upper edge of the pad several inches below the left armpit.

- 5.3 For a casualty who is wearing pendants etc. remove them from the area of pad placement before applying the pads. If the pendants are not easily removable (e.g., a nipple stud) place the electrode pads at least one inch away from the object.
- 5.4 For a casualty wearing medication patches, remove the patch and wipe the area clean and dry before applying pads. **Use gloves** dispose safely.
- 5.5 Place AED electrode pads a least one inch away from any device such as an implanted pacemaker or an implanted defibrillator.
- 5.6 If the chest is wet or sweaty wipe it dry before powering on the AED and applying the pads.
- 5.7 If the casualty has excessive hair on the chest, clip or shave prior to pad placement. If the machine advises poor pad contact then press them firmly down on the chest. If machine again advises poor pad contact-remove pads, wipe chest dry and apply second set of pads.
- 5.8 Cut the bra of female casualties.
- 5.9 <u>Paediatrics</u>: Adult pads to be applied for anyone greater than 8 years of age. If child is less than 8 years of age and there is no paediatric AED pads then the adult pads may be used. Make sure the pads do not touch each other. If a child is very small, you may need to put 1 pad on the child's chest and the other on the child's back.

6. ANALYSING THE RHYTHM AND DELIVERING A SHOCK

- 6.1 Follow the Powerheart G3 AED voice prompts, and request of everybody **"Do not touch The Patient"** while the Powerheart G3 AED automatically analyses the rhythm.
- 6.2 Assertively ensure that everybody will "stand clear" of the victim while the AED is charging.
- 6.3 Before delivering a shock, loudly and clearly state while visually checking "I'm clear, you are clear, everybody is clear" or similar words and only when satisfied press the shock button.
- 6.4 If you do not consider it safe to deliver a shock do not deliver it. Powerheart G3 AED will dump the energy safely into its own capacitor after it is armed for approximately 30 seconds.

7. POST SHOCK PROCEDURES

- 7.1 Follow the Powerheart G3 AED voice prompts.
- 7.2 Following the delivery of a shock immediately resume compressions.
- 7.3 If the AED indicates "No Shock Advised" continue CPR until the AED prompts you to stop for analysis or until victim moves or the Emergency Medical Services takes over. If victim resumes normal breathing place the victim in the Recovery Position. Reassess victim every 2 mins.
- 7.4 Once the electrode pads were correctly placed and continue to make good contact they **should not be removed** until a higher level of care takes over.

8. RETURNING THE AED TO SERVICE

- 8.1 As soon as possible following an arrest, the data card stored in internal memory to be downloaded by the company **Fleming Medical** and all the relevant details of the arrest to be made available for audit and record purposes.
- 8.2 Before the AED is returned to its normal location in order to stand by for further use, the unit and all accessories must be inspected. The unit should be clean and dry and all consumable parts that were used replaced. Complete the Operator's checklist as outlined in **Appendix VIIB.**
- 8.3 Verify that the status indicator is green as indicated in Appendix VIIB.

Appendix II

AED Algorithm (Puberty onwards)

Cardiac First response CPR & AED OPERATOR

- Check if the scene is SAFE.
- Check is the patient responsive, open the patient's airway, check for breathing (less than 10 seconds). If not breathing or only agonal breaths
- Call for HELP/call emergency number 999 or 112 and retrieve the AED.
- Give 30 chest compressions: Push: Hard: at least 5cm. FAST 100-120 per minute.
- Combine compressions and ventilations Ratio of 30 compressions to 2 breaths. 1 second per breath. Maximum hands-off time 10 seconds
- Perform CPR until AED arrives and is ready to attach.

Attempt Defibrillation (AED on scene):



Power on the AED first and follow voice prompts.

- Attach AED electrode pads.
- Analyse ("Clear everybody")!
- IF SHOCK Advised: "clear everybody" Ensure no one touches patient while delivering SHOCK



After 1st shock perform CPR for 2 minutes (5 cycles of 30 compressions and 2 breaths) until AED analysis again/EMS takes over care of patient or patient moves.

If No Shock indicated

-Perform CPR until EMS takes over or AED advises analysis or patient begins to move.

-if Patient begins to move or starts breathing normally place in recovery position. Leave pads in position and leave AED ON.

Appendix II continued AED CERTIFIED USERS

THE FOLLOWING ARE CERTIFIED USERS OF THE AED AND ACKNOWLEDGE COMPETENCY IN USING THE AED:

Copy to be given to Reception.

Names-PRINT NAME	Signature	Occupation	Telephone	Date of
				recertification
Denis Quinn		Principal	0504-21734	01/10/2019
Josephine Cahill		Teacher	0504-21734	01/10/2019
Deirdre Ryan		Teacher	0504-21734	01/10/2019
Sean Craddock		Teacher	0504-21734	01/10/2019
Regina Dorney		Teacher	0504-21734	01/10/2019
Dara Fahy		Teacher	0504-21734	01/10/2019
Mary Catherine Ryan		Teacher	0504-21734	01/10/2019
Lorna Byrne		Teacher	0504-21734	01/10/2019
Emma Carey		Teacher	0504-21734	01/10/2019
Jack Spillane		Teacher	0504-21734	01/10/2019
J P Butler		Teacher	0504-21734	01/10/2019
Kevin Gleeson		Teacher	0504-21734	01/10/2019
Geraldine Cahill		Teacher	0504-21734	01/10/2019
Simone Strapp		Teacher	0504-21734	01/10/2019
Geraldine Hennessey		Special Needs Assistant	0504-21734	
Louise Reidy		Special Needs Assistant	0504-21734	27/09/2019
Mary Coffey		Special Needs Assistant	0504-21734	27/09/2019

Appendix II continued AED CERTIFIED USERS

THE FOLLOWING ARE CERTIFIED USERS OF THE AED AND ACKNOWLEDGE COMPETENCY IN USING THE AED:

Copy to be given to Reception.

Names-PRINT NAME	Signature	Occupation	Telephone	Date of
				recertification
Clare Wallace		Vice Principal	0504-21734	23/11/2020
Karen Stakelum		Teacher	0504-21734	23/11/2020
Julie Delaney		Teacher	0504-21734	23/11/2020
Patricia Hickey		Teacher	0504-21734	23/11/2020
Paddy Stapleton		Teacher	0504-21734	23/11/2020
Michael Power		Teacher	0504-21734	23/11/2020
Elaine Molumby		Teacher	0504-21734	
Clare Kearney		Special Needs Assistant	0504-21734	23/11/2020
Kathleen Cleary		Special Needs Assistant	0504-21734	23/11/2020
Ann Marie Cullen		Special Needs Assistant	0504-21734	23/11/2020
Margaret Manning		Special Needs Assistant	0504-21734	
Una Fogarty		Secretary	0504-21734	23/11/2020
Mary Ryan Maher		Teacher	0504-21734	23/11/2020

Appendix III

AED User Responsibilities

- To activate the external response system-by dialling 999 or 112
- To provide prompt BLS including AED
- To maintain a skill level commensurate with the safe and effective use of the AED
- To contact the Principal re. 2 year recertification
- To attend twice yearly revalidation
- To understand and comply with the requirements of this guideline.
- It is the responsibility of the AED operator who uses the AED to verify the operation status of the AED (status indicator is green) Before each use: In accordance with the "Operator's Check list" as outlined in Appendix VI
- After using the AED, It is the responsibility of the AED operator to:
 - verify the 'operation status' of the AED
 - perform a maintenance test and
 - replace any items used from the supplemental equipment that is stored with the AED in accordance with the 'Operator's Check List' as outlined in Appendix VIIB
- It is the responsibility of the trained AED member of staff who is delegated by the Principal to verify
 the 'operation status' of the AED on a <u>weekly basis</u> (during school term) in accordance with the
 'Operator's Check List' as in Appendix VI and VIIA.
- It is the responsibility of the trained AED member of staff who is delegated by the Principal to perform a monthly maintenance test see Appendix VI and VIIC.
- It is the responsibility of the trained AED member of staff who is delegated by the Principal to perform an annual maintenance test see Appendix VI and VIID.
- It is the responsibility of each AED operator who performs a check to sign and complete the checklist booklet Appendix VIIA/VIIB/VIIC/VIID.

Appendix IV

Designated Person: Responsibilities

- All documentation pertaining to proof of qualification, revalidation and recertification will be
 responsibility of the Basic life Support Instructor/Designated Person within Coláiste Mhuire Co Ed.
 In the absence of a Basic Life Support Instructor the Principal will appoint a designated person to
 be responsible for all training documentation.
- Patient report form and downloaded data from AED following an event to be stored in locked filing cabinet stored by Principal / Basic Life Instructor / Medical Director/Designated Person (as per clinical record management guidelines set out by PHECC).
- Arrange/Provide debriefing session if required.

Appendix v

Principal Responsibilities

APPOINT A DESIGNATED PERSON:

- to verify the 'operation status' of the AED on a weekly basis as per Appendix VI and VIIA
- to check the supplemental equipment that is stored with the AED on a weekly basis in accordance with the 'Operator's Check List' as in Appendix VI and VIIA
- to perform a monthly maintenance test see Appendix VI and VIIC.
- to perform an annual maintenance test see Appendix VI and VIID.

Appendix VI

AED - Operator's Check List and Scheduled Maintenance

Weekly – during school	Check the status indicator of the AED. When the indicator is GREEN, the AED		
term – (*Monday to	is Rescue Ready. This means the AED self-tests have verified the following:		
Friday) and after use	Battery has an adequate charge.		
* if Monday is a Bank	Pads are properly connected to the AED and functioning.		
Holiday then it must be	Integrity of the internal circuitry is good.		
done on the following day	Check 'instructions for Use' booklet for further instruction if status indicator		
i.e., Tuesday	not working		
Weekly Check &	Ensure the exterior of the G3 and the connector socket is free of		
After each use	cracks and signs of damage.		
	Check that in date defibrillator pads are connected to the G3 plug		
	when not in use.		
	One set of in date defibrillation pads, sealed & undamaged stored in		
	AED case.		
	One paramedic shears stored in AED case.		
	2 pairs of disposable gloves in AED case		
	One large absorbent pad for drying the chest, stored in AED case		
	(example: a face cloth)		
	One Laerdal pocket mask		
	Two valves for pocket mask		
	Barrier eye protection x 1		
	Clinical waste bag.		
	Instruction manual beside /near AED		
	Operating Guideline in place beside/near AED		
	Patient Report forms x3.		
	After each use: Perform maintenance check -see Appendix VIIB for details of		
	same.		

Appendix VI continued

AED - Operator's Check List and Scheduled Maintenance

Monthly Maintenance of	1. Open the AED lid.
AED (except during	Waiting for the AED to indicate status: Observe the change of the
holidays) and after each	STATUS INDICATOR to RED. After approximately 5 seconds, verify
use	that the STATUS INDICATOR returns to GREEN.
use	3. Listen for the voice prompts.
	4. Close the lid and observe the change of the STATUS INDICATOR to
	RED After approximately 5 seconds, verify that the STATUS
	INDICATOR returns to GREEN.
Aggregati	
Annual	1. Open the AED lid.
Maintenance of	2. Remove Pads.
AED	3. Close the lid.
	4. Confirm the STATUS INDICATOR turns red.
Perform the following	5. Open the lid and confirm that the Pad indicator is lit.
tests annually to confirm	6. Reconnect the pads and close the lid.
that the diagnostics are	7. Make sure the expiration date is visible through the clear window of
functioning properly and	the lid.
to verify the integrity of	8. Check to make sure that the STATUS INDICATOR is GREEN. If the pads
the case, the integrity of	are not installed properly, the PAD indicator will illuminate; call
the pads and circuitry.	Customer Service for assistance.
	9. Open the lid and confirm that no diagnostic indicators are lit.
	10. Check the expiration date of the pads; if expired replace them.
	11. Check the pads packaging integrity.
	12. Close the lid.
	Check the integrity of the Service Indicator (LED) and Circuitry:
	1. Immediately after opening the AED lid, press and hold the Shock
	button and confirm that the Service LED is lit.
	2. Release the Shock/Continue button.
	3. Close the lid.
	4. Verify that the STATUS INDICATOR remains red.
	5. Open the lid and confirm that no diagnostic indicators are lit.
	6. Close the lid.
	7. Verify that the status indicator turns green.
	<u> </u>

Appendix VIIA Sample Copy of Check Lists

SAMPLE COPY OF WEEKLY/AFTER USE CHECKLIST ①

Date	AED	Event that	Supplemental	Event that	Comments	Signature
	Status	Prompted	Equipment	Prompted		
	indicator: Tick√ if green Insert X if	Check weekly/before use/after use	Stored with AED	check: weekly/after use Tick ✓ if supplemental		
	red			equipment is present and in date. Replace any missing items or items out of date		

In the event of any problem, which renders the AED non-Operational then the status must be reported to: Principal Denis Quinn.

Appendix VIIB continued

AFTER USE MAINTENANCE CHECK:

- 1. OPEN THE AED LID.
- 2. Waiting for the AED to indicate status: Observe the change of the STATUS INDICATOR to RED. After approximately 5 seconds, verify that the STATUS INDICATOR returns to GREEN.
- 3. Listen for the voice prompts.
- 4. Close the lid and observe the change of the STATUS INDICATOR to RED. After approximately 5 seconds, verify that the

STATUS INDICATOR returns to GREEN

Sample copy of After use Maintenance check

Year:	Tick ✓ if 1,2, 3 and 4	Comments	Signature
Month	are performed as		
	above		
Date:			
Day:			
Date:			
Day:			
Date:			
Day:			
Date:			
Day:			

In the event of any problem, which renders the AED non-Operational then the status must be reported to: Principal Denis Quinn.

Appendix VIIC continued:

Copy of Check Lists continued

	Cop	y of Check Lists continued
Monthly	5.	Open the AED lid.
Maintenance check of	6.	Waiting for the AED to indicate status: Observe the change of the STATUS
AED (except during		${\small \textbf{INDICATOR}}\ \textbf{to}\ \textbf{RED}.\ \ \textbf{After}\ \textbf{approximately}\ \textbf{5}\ \textbf{seconds}, \textbf{verify}\ \textbf{that}\ \textbf{the}\ \textbf{STATUS}$
holidays) and after each		INDICATOR returns to GREEN.
<u>use</u>	7.	Listen for the voice prompts.
	8.	Close the lid and observe the change of the STATUS INDICATOR to RED
		After approximately 5 seconds, verify that the STATUS INDICATOR returns
		to GREEN.
Annual	9.	Open the AED lid.
Maintenance of AED	10.	Remove Pads.
Perform the following tests	11.	Close the lid.
annually to confirm that	12.	Confirm the STATUS INDICATOR turns red.
the diagnostics are functioning properly and to	13.	Open the lid and confirm that the Pad indicator is lit.
verify the integrity of the	14.	Reconnect the pads and close the lid.
case, the integrity of the pads and circuitry.	15.	Make sure the expiration date is visible through the clear window of the lid.
,	16.	Check to make sure that the STATUS INDICATOR is GREEN. If the pads are
		not installed properly, the PAD indicator will illuminate; call Customer Service for assistance.
	17.	Open the lid and confirm that no diagnostic indicators are lit.
	18.	Check the expiration date of the pads; if expired replace them.
	19.	Check the pads packaging integrity.
	20.	Close the lid.
	Che	ck the integrity of the Service Indicator (LED) and Circuitry:
		Immediately after opening the AED lid, press and hold the Shock button and
		confirm that the Service LED is lit.

22. Release the Shock/Continue button.

23. Close the lid.
24. Verify that the STATUS INDICATOR remains red.
25. Open the lid and confirm that no diagnostic indicators are lit.
26. Close the lid.
27. Verify that the status indicator turns green.

Sample copy of Monthly Maintenance check of AED

Year:	Tick ✓ if 5,6,7 and 8	Comments	Signature
	as above performed		

Appendix VIID continued: Copy of Check Lists continued

SAMPLE COPY OF ANNUAL MAINTENANCE CHECK OF **AED**

Year:	Tick ✓ if steps 9-27 on	Comments	Signature
	previous pages are		
	performed		

In the event of any problem, which renders the AED non-Operational then the status must be reported to: Principal Denis Quinn.

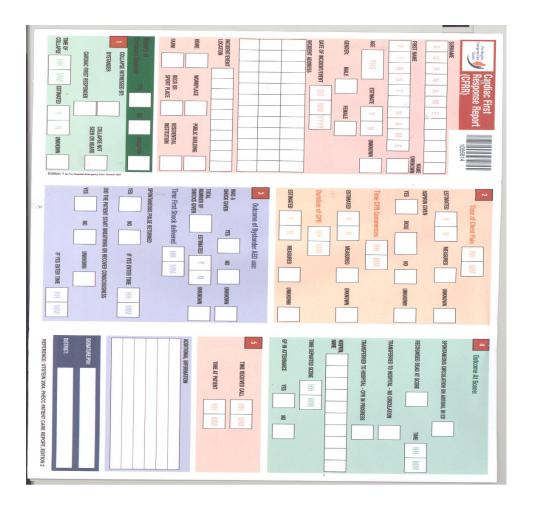
Appendix VIII

Cardiac Arrest Data Sheet AED Responder

The Cardiac Report Form is a **two-part** document.

Part 1 or top copy to go with patient to hospital/destination facility. The Responder should give the completed copy to the practitioner who is transporting the patient.

Part 2 or second copy to remain as a record with the Responder Organisation i.e., Coláiste Mhuire Co-Ed.



Appendix IX

Review of guideline

This guideline will be reviewed every two years or more frequently if required to reflect changes in regional or national policies as well as in accordance with changes in legislation.

Additions to CPR AED Guideline January 2021- Due to COVID 19 Restrictions

Please note:

No breaths to be administered during the COVID-19 pandemic.

First aider should have appropriate PPE, gown, gloves, goggles, and a mask.

Spare masks in AED case for victim.

Appendix X

Audit Tool

	Status	Comment
		Action
Does Coláiste Mhuire Co-Ed have a written plan for the AED?		
Does the plan accurately reflect current practice?		
Is the AED located in an environment as per manufacturer's		
instructions?		
Is the AED visible and accessible where provided?		
Is the AED being inspected weekly/monthly, yearly?		
Is the inspection process documented?		
Are the expiration dates on the pads and batteries being		
tracked?		
Have staff been trained in CPR and AED use?		
Has the training been documented and is it in date?		
Are AED operators revalidated twice yearly?		
Post Cardiac Arrest audit		
Patient Condition upon your arrival: (circle)		
Conscious Breathing Pulse		
Unconscious Not Breathing No Pulse		
What action did you take?		
Was shock needed? Yes No Was shock delivered? Yes No		
Did pulse return? Yes No Did breathing return? Yes No		
Was CPR performed? Yes No By whom?		
Did patient become conscious? Yes No		
Condition on arrival of EMS?		
Outcome (if known)?		
Names of all AED Responders		

Audit conducted by:	Date:	
Audit Colludeted DV.	Dale.	

Appendix XI

References

- American Heart Association Guidelines CPR ECC 2015: Highlights of the 2015 American Heart Association Guidelines for CPR and ECC.
- American Heart Association Guidelines CPR ECC 2010: Highlights of the 2010 American Heart Association Guidelines for CPR and ECC.
- ❖ OPERATOR AND SERVICE MANUAL: Cardiac Science Powerheart G 3 AED serial number 9390E-1002.
- ❖ Perkins, G D, Handley, A J, Koster, R W, Castren, M, Smyth, M A et al (2015) European Resuscitation Council Guidelines for Resuscitation Section 2 − Adult basic life support and automated external defibrillation, *Resuscitation*, Vol.95, pp81-89.
- ❖ Pre –Hospital Emergency Care Council, Training Manual, Cardiac First Response 2016.
- PHECC website for clinical record management guidelines for storage of printed documentation (www.phecc.ie).