

1. Introduction

This guideline provides clear instructions for staff on the use of the LUCAS Chest Compression System which automates external chest compressions. It maintains uninterrupted chest compressions in a cardiac arrest situation, ensures consistency in the quality of the chest compressions and reduces staff fatigue from providing manual chest compressions.



2. Scope

- 2.1 This guideline applies to all healthcare professionals employed by the University Hospitals of Leicester (UHL) NHS Trust trained to use LUCAS who work within Critical Care areas, ED, Cath Labs and the Outreach Team.
- 2.2 This guideline applies to adult patients who fit the machine

3. Recommendations, Standards and Procedural Statements

Indication for use	Cardiac arrests likely to need prolonged CPR.
Contra indications	<ul style="list-style-type: none"> • Patients who are too small, causing the warning alarm to sound. • Patients who you are unable to fit into Lucas due to obesity/ chest size. • Paediatric patients. <p>These patients will require manual chest compressions</p>
Criteria for use	<p>Cardiac arrest except for the above contra-indications.</p> <p>Safe to use on-</p> <ul style="list-style-type: none"> • Post thoracotomy patients • Trauma patients • Flail chest • 3rd Trimester pregnancy – tilt & wedge patient on left side as per ALS guidelines • Non secure airway, 30:2 compression ratio and Intubated continuous compressions as per ALS guidelines.
Optimal fitting time	<p>From bag to patient – 40-60 seconds</p> <p>Interruption in manual CPR for fitting should take no longer than 20 seconds</p>
Cleaning / decontamination (infection prevention)	<p>Single patient use contact suction cup</p> <ul style="list-style-type: none"> • Distel wipes to clean backboard after ever use. • Distel wipes to clean main unit. • Keep LUCAS within dust proof bag when not in use.
Servicing & Maintenance	<p>Machine undertakes a self test upon each time it is turned on.</p> <p>Medical physics yearly electrical test</p> <p>Medical physics trained in ongoing maintenance of Lucas</p>
Transfer	<p>Transfer (e.g. to cathlab, ITU, CT) is possible with Lucas, neck restraint must be used for all transfers & is strongly encouraged to be used during all other normal use.</p>

4. Education and Training

- 4.1 All staff working in Critical Care areas, ED and Outreach must complete the e-learning training and be assessed as competent to be able to use the Lucas machine by the local area cascade trainer / or company representative. Training is to be arranged through the Line Manager
- 4.2 The training takes approximately 20 minutes within small groups.
- 4.3 Manufacture online based training aid questionnaire must be completed yearly to ensure that users remain competent.
- 4.4 E-UHL equipment competencies must be completed.

5. Monitoring and Audit Criteria

Element to be Monitored	Lead	Method	Frequency	Reporting arrangements
Training records of Staff are completed	Line Manager	Discussed at Appraisal Use Team builder to identify staff	Annual review of training records	Concerns to be raised to next line manager
Number of times LUCUS Machine is used	Sister, CCU, GH	Copy of the Record of LUCUS Unit being used to be sent to the UHL Resuscitation Lead for information and cross reference to Datix as necessary	Every Six Months	Concerns regarding use raised from Datix reports to be shared at the UHL Resuscitation Committee

6. Legal Liability Guideline Statement

Guidelines or Procedures issued and approved by the Trust are considered to represent best practice. Staff may only exceptionally depart from any relevant Trust guidelines or Procedures and always only providing that such departure is confined to the specific needs of individual circumstances. In healthcare delivery such departure shall only be undertaken where, in the judgement of the responsible healthcare professional' it is fully appropriate and justifiable - such decision to be fully recorded in the patient's notes

7. Supporting Documents and Key References

Resuscitation Policy Trust ref – A14/2001

8. Key Words

LUCAS, automated chest compressions

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