

HEALTHEAST MEDICAL TRANSPORTATION
MEDICAL OPERATIONS MANUAL

7G2 LUCAS DEVICE APPLICATION

PATIENT CARE GOALS

- Provide high quality, minimally interrupted, mechanical chest compressions for patients in confirmed cardiac arrest.^{1,2,3}
- Apply LUCAS device in multiple stages with minimal interruption in chest compressions.

EMT

1. Confirm patient is in cardiac arrest.
2. Remove clothing from patient's chest, if not already done.
3. Initiate manual CPR, if not already started.

STAGE ONE

4. Remove yellow back plate from LUCAS case and place under patient, minimizing interruptions in CPR (less than 10 seconds). The top of the back plate should be positioned just below the patient's armpits (see Figure 1, right).
5. Continue CPR for 2 minutes

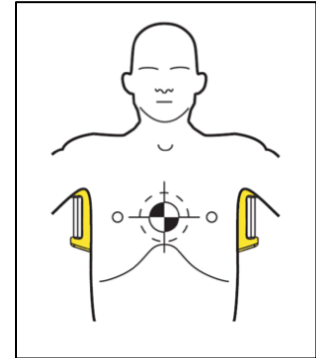


Figure 1: Proper back plate placement

STAGE TWO

6. Attach the closest black claw hook to the yellow back plate. Repeat with the opposite side.
7. Continue manual CPR while attaching LUCAS, if feasible (see Figure 2, right). Limit any interruptions in manual CPR to less than 10 seconds.
8. Pull up on the LUCAS device to ensure it is secured to the back plate.
9. Turn LUCAS on.

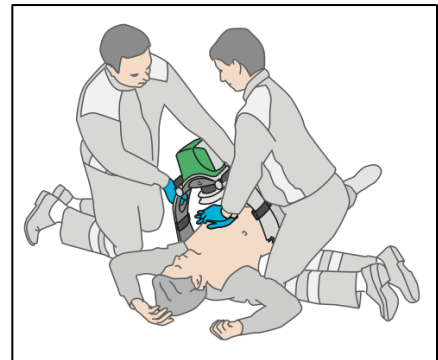


Figure 2: Continue CPR while attaching LUCAS

STAGE THREE⁴

10. Press 1 on the user control panel (see Figure 3, right), then manually push down with one hand on the top part of the clear suction pad, until the hard pressure pad comes in contact with the sternum, just above the xiphoid process (same location as manual compressions).
11. Press 2 on the user control panel to lock in depth.
12. Double check placement of suction pad and adjust if necessary.
13. Press the top button for continuous compressions regardless of the type of airway in place.

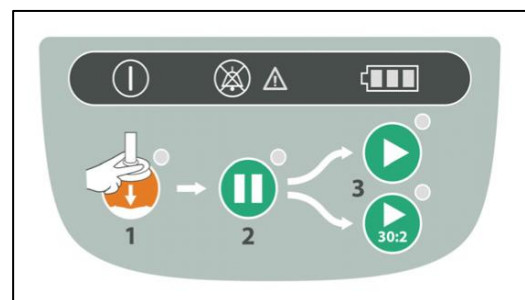


Figure 3: User Control Panel

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14. Place yellow neck strap under patient neck and secure to LUCAS to prevent movement of the pressure pad during compressions. Readjust as necessary.
15. Secure the patient's upper extremities to the LUCAS using the appropriate straps (see Figure 4, right). This should be performed for all patients with uninjured upper extremities.
16. Ventilate per protocol.
17. Defibrillate per protocol. The LUCAS does not have to be paused during defibrillation. However, ensure that defibrillation pads are not underneath the LUCAS pressure pad.
18. To pause LUCAS compressions (i.e., readjustment, rhythm analysis, or ROSC), Press 2 on the user control panel.
19. In the event of ROSC, pause but do not remove the LUCAS. Treat patient as per **2F Post-Arrest Management**.

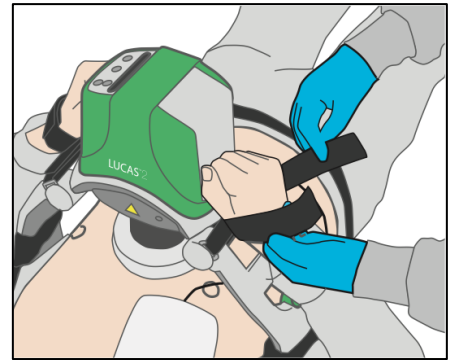


Figure 4: Secure patient's upper extremities

DOCUMENTATION KEY POINTS

- Presence of cardiac arrest
- Complications, if any, encountered during application

NOTES

- ¹ Due to quality of compressions, patients may regain partial to full consciousness while the LUCAS is cycling, yet still show a non-perfusing rhythm. If this occurs, sedate the patient per **1D Anxiety and Sedation Management**. Be prepared to explain to family members why CPR is being continued, even though the patient is showing signs of consciousness.
- ² Use of the LUCAS device is **contraindicated** under the following circumstances:
 - Traumatic cardiac arrest
 - Patient does not physically fit the device
 - If the patient is too small for the device, it will not enter PAUSE or ACTIVE mode when the pressure pad touches the patient's chest. The device will alarm with 3 fast signals.
 - If the patient is too large for the device, the upper part of the LUCAS will not lock properly with the back plate. If it does lock, the patient's chest will already be compressed when the device is paused.
- ³ The device may be used in pediatric patients if the plunger rests on the chest and device does not alarm as above. If there is doubt as to whether a pediatric patient is large enough for the LUCAS do not apply the device.
- ⁴ If at any time the LUCAS fails to operate or an error alert occurs immediately begin chest compressions. This may require the removal of the device from the back plate.