



Standard Operating Procedure

SITE: Southern Illinois Healthcare	EFFECTIVE DATE: 4/22/2020
SUBJECT: LUCAS 3 application and usage	REVISION DATE:
DOCUMENT NUMBER:	LOCATION OF TEMPLATE:
AUTHORIZED BY: Tressa Furlow MSN,RN	DATE: 4/22/2020
SOP OWNER: Garrett Burton, System Director of Emergency	

PURPOSE: The LUCAS 3 device is intended for use and an adjunct to manual CPR on adult patients who develop cardiac arrest where effective manual CPR is compromised.

SCOPE:

ASSOCIATED DOCUMENTS & PROCEDURES:

DEFINITIONS:

PROCEDURE: LUCAS 3 Application and Usage

Activity / Task	
1	<p>Contraindications:</p> <ul style="list-style-type: none"> ➤ Patient is too small ➤ Patient is too large ➤ Patient is a child ➤ Patient is pregnant ➤ Visible traumatic injury to the chest
2	<p>Side Effects or Complications of use:</p> <ul style="list-style-type: none"> ➤ Rib fractures ➤ Skin abrasions, bruising and chest soreness and possible injury to other organs
3	<p>Benefits:</p> <ul style="list-style-type: none"> ➤ LUCAS works by pressing down very quickly on the rib cage and holding it down for 50% of the period/ cycle. ➤ The device maintains consistent chest compression over a long period of time. ➤ One person becomes free to provide other care
4	<p>Control Panel Keys:</p> <ol style="list-style-type: none"> 1. POWER Key; green circle- when pushed for one second. The device will power up, an audible signal sequence is heard and device automatically does a self-test. When self-test is complete, the audible signal stops and a green LED light beside the ADJUST key illuminates. The self-test takes 3 seconds. 2. ADJUST key; use to adjust position of the suction cup. When pushed you can manually move the suction cup up or down. <ul style="list-style-type: none"> • To set Start position, manually push the suction cup down onto the patient's chest. • To remove, manually lift the suction cup and pull it up. 3. PAUSE key; When pause is pushed after adjusting the Suction Cup to the chest, the height position is fine-tuned and locked into the START position. When pushed during compressions, the LUCAS will stop compressions and lock the suction cup in its start position. 4. ACTIVE key; (Continuous) When this key is pushed, LUCAS performs continuous chest compressions. The green LED signal will blink 10times/min to alert for ventilation during ongoing compressions. The second ACTIVE key is the (30:2 when this key is pushed, the LUCAS performs 30 chest compressions and then temporarily stops to allow for 2 ventilations. An intermittent LED combination with an audible signal alerts the operator before each ventilation pause.
5	<p>Arrival at the Patient:</p> <ul style="list-style-type: none"> ✓ Confirm Cardiac Arrest and need for resuscitation. START high quality manual CPR. ✓ Apply ECG Defibrillator pads using real time CPR feedback technology; pay special attention not to place the pads where the LUCAS Suction cup will be placed. ✓ Check rhythm every 2 minutes and defibrillate per AHA/ ACLS standards ✓ Zoll CPR feedback device stays in place throughout resuscitation regardless of CPR method.



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6 ❖ **Remember DO NOT interrupt CPR for longer than 10 seconds from last manual compression to first mechanical compression.**

7 **Unpacking LUCAS device:** Unpack the LUCAS device and Push ON/OFF on the user control panel for 1 sec to allow for self- test. Green LED adjacent to ADJUST key illuminates when device is ready for use.

8 **Back Plate:** With manual CPR continuing, position the LUCAS back plate at the head of the patient. Temporarily stopping CPR, one member supports the patients head and shoulders and either roll patient from side to side or gently lift the patient forward and another team member slide back plate behind patient's shoulders. For both options ensure back plate is in correct position below armpits and patients arms are outside back plate.

Upper Part (Hood): During manual CPR, attach support leg nearest to compressor to the back plate. Slide other support leg through the arms of the manual compressor and attach to back plate so both support legs are securely locked into back plate.

Suction Cup: Set device to ADJUST mode. Correctly position suction cup on patient's chest. Compression point should be the same landmark as in manual CPR. Stop manual compressions-Lower Suction Cup to pressure pad and is in correct position, the lower edge of the Suction cup should be placed immediately above the end of the sternum

The landmark at the lower end of the suction cup should be marked with permanent marker or skin marker

If not correctly positioned in relation to the patient, ADJUST position by pulling on the support legs. Person assembling the device ensures correct position.

If the Suction Cup is pushed down to hard or too loose to the chest, LUCAS will adjust the Suction Cup to the correct START position.

Initiating Mechanical Compressions: Push ACTIVE (continuous) or ACTIVE (30:2) to start compressions

- Do not leave patient or device unattended while LUCAS is active
- Check that device is working as should- compression vs. frequency and depth
- To stop compressions, push PAUSE

Stabilization Strap:

- Remove neck strap from carrying case, extend neck strap fully at the buckles
- Lift head and put cushion behind neck as near to shoulders as possible
- Connect buckles on support leg straps with buckles on neck strap. Ensure not twisted.
- Hold LUCAS support legs stable while tightening neck strap.
- Make sure Suction Cup position remains correct on patient's chest.

9 **Defibrillation:**

Pause compression for < 5 second to check rhythm. **RESUME COMPRESSIONS PER LUCAS**

If shockable rhythm; perform defibrillation per ACLS protocol. **You do not need to PAUSE to defibrillate with the LUCAS device.**



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10	<p>Transporting or Moving the Patient: The LUCAS can deliver compressions while the patient is being moved and/or transported. When ready to move patient, secure arms at the wrist with the PATIENT STRAPS to LUCAS hood. Do not use straps for lifting. They are only to fixate patient's arms to the device.</p> <p>Caution: Skin burns can occur if the temperature of the LUCAS hood and battery arise above 118 F / 48C. Avoid prolonged contact to prevent skin burns. Remove patient hands from straps.</p>
11	<p>Documentation: Document using the CODE/CAT narrator in EPIC. When documenting on the Rhythm analysis you should mark that an automatic compression device was used. You should note the time of the application, any evidence of patient adverse effects (skin breakdown, suggested fracture or chest deformity must be reported immediately for patient safety and welfare.</p> <p>*****Please Remind Staff to submit data to the Zoll Cloud after each Code Blue*****</p>