


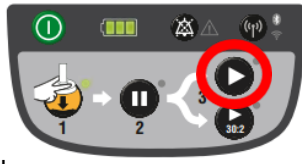


NWC EMSS Skill Performance Record

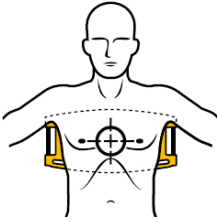
Application & Use LUCAS® CPR DEVICE

Name:	1 st attempt: <input type="checkbox"/> Pass <input type="checkbox"/> Repeat
Date:	2 nd attempt: <input type="checkbox"/> Pass <input type="checkbox"/> Repeat

The NWC EMSS requires that LUCAS® External Cardiac Compressor only be used by: EMS personnel who have received training and have been competencied in how to use LUCAS®.

Performance standard	Attempt 1 rating	Attempt 2 rating
0 Step omitted (or leave blank) 1 Not yet competent: Unsuccessful; required critical or excess prompting; marginal or inconsistent technique 2 Successful; competent with correct timing, sequence & technique , no prompting necessary		
*States indication: Intended for use as an adjunct to manual CPR on adult patients who have cardiac arrest in cases when effective manual CPR is not possible (e.g., during patient transport or extended CPR when fatigue may prohibit the delivery of effective/ consistent compressions to the victim, or when insufficient EMS personnel are available to provide effective CPR). Always follow local and/or international guidelines for CPR when you use the LUCAS Chest Compression System.		
*States CONTRAINDICATIONS: Do NOT use LUCAS® device in the following cases: <input type="checkbox"/> Impossible to position the LUCAS® device safely or correctly on patient's chest. <input type="checkbox"/> Patient too small: If LUCAS® alerts with 3 fast signals when lowering Suction Cup and you cannot enter the PAUSE or ACTIVE modes. <input type="checkbox"/> Patient too large: Cannot lock Upper Part to back plate without compressing pt's chest. <input type="checkbox"/> Patient is a child <input type="checkbox"/> Pregnant woman: Must lie 10-15° to side to prevent vena cava syndrome after 20 wks. <input type="checkbox"/> No indication that chest compressions are likely to help patient (Triple zero) <input type="checkbox"/> Valid POLST form with DNR marked		
States possible SIDE EFFECTS of using the device <input type="checkbox"/> Rib fractures and other injuries are common but acceptable consequences of CPR. Assess patients after resuscitation for resuscitation-related injuries. <input type="checkbox"/> Skin abrasions, bruising and chest soreness common after Lucas use		
*Explains meaning of all User Control Panel keys ON/OFF: Device will power up/ power down when this key is pushed for 1 second. When device powers 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. This takes ~3 seconds.		
ADJUST: Used to adjust position of the Suction Cup. When pushed, you can manually move Suction Cup up or down. <ul style="list-style-type: none"> To set Start Position, manually push Suction Cup down onto chest. To lift the Suction Cup, manually pull it up. Device can be set for manual or automatic movement of Suction Cup. 		
PAUSE: When PAUSE is pushed after adjusting Suction Cup to chest, the height position is fine-tuned and locked into Start Position. When pushed during compressions, the LUCAS® will stop compressions and lock the Suction Cup in its Start Position. <i>Setup options:</i> Device can be set up for different automatic height adjustments of Suction Cup.		
ACTIVE (continuous): When this key is pushed, LUCAS® performs continuous chest compressions. The green LED signal will blink 10 times/min to alert for ventilation during ongoing compressions. <i>Setup options:</i> Device can be setup for different numbers of ventilation alerts, audible alert signal on/off, ventilation pause duration, and automatic adjustment of Suction Cup. Rate and depth can be configured to different fixed values. Device can be configured to alter between rates by pushing the ACTIVE key (continuous or 30:2) during ongoing compressions.		

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ACTIVE (30:2): When this key is pushed, the LUCAS® performs 30 chest compressions and then temporarily stops. During the stop, perform 2 ventilations. After the stop the cycle starts again. An intermittent LED in combination with an audible signal sequence alerts operator before each ventilation pause.		
BATTERY indicator: 3 green LEDs show Battery charge status: <ul style="list-style-type: none"> 3 green LEDs: Fully charged; 2 green LEDs: 2/3 charged; 1 green LED: 1/3 charged One intermittent yellow LED and alarm during operation: low battery, ~10 minutes of operating capacity remaining One intermittent red LED and alarm signal: Battery is empty and must be recharged, or Battery is too hot Note: When LED to the far right is yellow and not green, Battery has reached end of service life. Replace this Battery with a new one.		
MUTE: If this key is pushed when LUCAS® operates, alarm is muted for 60 seconds. If pushed when LUCAS is powered off, the Battery indicator shows Battery charge status.		
High priority alarms: One intermittent red LED and an alarm signal sequence indicate malfunction. A high priority alarm will take precedence over lower priority or information alarms.		
Transmit data: Push this key to send device data and receive new setup options. The device has to be in Power OFF mode to send and receive data.		
Application and use		
Follows manufacturer's recommendations regarding preparation of device, applications of straps to unit and charging battery		
Arrival at patient: <input type="checkbox"/> *Confirm cardiac arrest and need for resuscitation. Start high quality, high perfusion, manual CPR for at least 3 rounds of 2-minute CPR cycles (first 6 min of resuscitation) BEFORE device application: <input type="checkbox"/> *ETCO₂ reading within 90 sec of first cardiac compression and again every 2 minutes <input type="checkbox"/> *Place ECG defib pads and use real-time CPR feedback technology. <input type="checkbox"/> *Check rhythm every 2 min and defibrillate per SOP (if indicated) at least 3 times before placing pt into LUCAS® device. <input type="checkbox"/> Find pulse while compressions in place prior to rhythm check. When CPR paused, should know in 3 sec if present or absent. No pulse, resume CPR <input type="checkbox"/> Once resuscitation started, use same monitor UNLESS an older unit w/out feedback capabilities <input type="checkbox"/> *Zoll CPR feedback device stays in place throughout resuscitation regardless of CPR method <input type="checkbox"/> *Use Physio Control CODE-STAT® sensor up to point of LUCAS® application. Turn on monitor metronome to ensure correct compression rate while device being applied. <input type="checkbox"/> Obtain vascular access, give epinephrine and amiodarone (if VF/PVT) before placing LUCAS® <input type="checkbox"/> Witnessed arrest: BLS airways + O ₂ 15 L/NRM for 6 min (apneic oxygenation) w/ CPR in progress <input type="checkbox"/> Unwitnessed arrest: BLS airways + O ₂ 15L/BVM (30:2 ratio) for first 6 minutes <input type="checkbox"/> If arrest persists after 6 minutes, assume a prolonged period of CPR may be needed, and use of an automated device may be warranted unless contraindicated.		
Prepare patient & equipment for device application <input type="checkbox"/> Mark chest with Sharpie to assess for migration of device		
Deploy device		

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<input type="checkbox"/> *DO NOT interrupt CPR for longer than 5-10 seconds from last manual compression to first mechanical compression. Application time will be monitored and documented. <input type="checkbox"/> *Unpack device and Push ON/OFF on the User Control Panel for 1 sec to power up and start self-test. Green LED adjacent to ADJUST key illuminates when device is ready for use. <input type="checkbox"/> If LUCAS left in ADJUST mode, it will power off automatically after 5 minutes.		
<p>*Option #1 placing back plate – must do one correctly</p> <input type="checkbox"/> With manual CPR continuing - Position LUCAS back plate at head of pt. <input type="checkbox"/> Temporarily stop CPR. One member supports head and shoulders while another steps in front of pt, holds arms and both lift pt's upper body enough for a 3 rd member to slide back plate into position. Return pt to supine position, immediately resume manual CPR with < 10 sec of CPR interruption. <p>*Option #2 placing back plate</p> <input type="checkbox"/> Position back plate perpendicular to side of pt. <input type="checkbox"/> Temporarily stop CPR. One member supports head while another positions self at patient's side and coordinates a log roll maneuver while a 3 rd member slides back plate into position. Return pt to supine position, immediately resume CPR with < 10 sec of CPR interruption. <input type="checkbox"/> *For both options; ensure back plate is below armpits and pt's arms are outside back plate. 		
<p>*Attach upper part (Hood)</p> <input type="checkbox"/> During ongoing manual CPR , attach support leg nearest to compressor to the back plate. <input type="checkbox"/> Slide other support leg through arms of manual compressor and attach to Back Plate so both support legs are securely locked into the Back Plate		
<p>Adjust Suction Cup</p> <input type="checkbox"/> *Set device to ADJUST mode <input type="checkbox"/> *Correctly position suction cup on patient's chest. Compression point should be at same spot as for manual CPR and according to guidelines. <input type="checkbox"/> *Stop manual compressions - Lower suction cup until pressure pad inside suction cup touches pt's chest without compressing chest. When pressure pad is in correct position, the lower edge of the Suction Cup is immediately above end of sternum. <input type="checkbox"/> *If not correctly positioned in relation to pt, adjust position by pulling on the support legs. Person assembling device ensures correct position. If the Suction Cup is pushed down too hard or too loose to the chest, LUCAS® will adjust Suction Cup to correct Start Position. <input type="checkbox"/> *Push PAUSE to lock the Start Position.		
<p>*Initiating mechanical compressions</p> <input type="checkbox"/> Push ACTIVE (continuous) OR ACTIVE (30:2) to start compressions <input type="checkbox"/> Do not leave the patient or device unattended while LUCAS® is active <input type="checkbox"/> Check that device is working as it should – compression frequency and depth <input type="checkbox"/> To stop chest compressions, push PAUSE		
<p>*Apply stabilization strap while LUCAS® is active</p> <input type="checkbox"/> Remove neck strap (part of Stabilization Strap) from Carrying Case (support legs straps should already be attached to support legs) <input type="checkbox"/> Extend neck strap fully at the buckles. <input type="checkbox"/> Lift head and put cushion behind neck as near to shoulders as possible. <input type="checkbox"/> Connect buckles on support leg straps with buckles on neck strap. Ensure straps not twisted. <input type="checkbox"/> Hold LUCAS® support legs stable and tighten neck strap. <input type="checkbox"/> Make sure Suction Cup position remains correct on patient's chest.		
<p>*Defibrillation</p> <input type="checkbox"/> Pause compression for < 5 sec to check rhythm. Resume compressions. <input type="checkbox"/> If shockable: Perform defibrillation per usual procedure while LUCAS® is operational. <input type="checkbox"/> Ensure that no defib pads or wires are under Suction Cup. <input type="checkbox"/> After defibrillation, ensure correct position of Suction Cup. Readjust prn.		
<p>Advanced airways</p> <input type="checkbox"/> Intubation using King Vision® is possible while LUCAS® is operating. Attempt ETI first. <input type="checkbox"/> If unsuccessful after 2 attempts – insert extraglottic airway		

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2	Successful; competent with correct timing, sequence & technique , no prompting necessary			
Moving patient: Secure arms to device <input type="checkbox"/> *When ready to move pt, secure arms at the wrist with Patient Straps to LUCAS® hood. <input type="checkbox"/> *Do not use straps for lifting. They are only to fixate patient to device. <input type="checkbox"/> Caution - skin burns: Temps of hood and battery may rise above 118 °F / 48 °C. If hot, avoid prolonged contact to prevent skin burns. Remove patient hands from patient straps.				
Lifting patient while device operates: Follow manufacturer's instructions regarding use of handholds below claw locks and moving patient to stretcher.				
Transporting patient The LUCAS® can deliver compressions while patient is moved and/or transported if: <input type="checkbox"/> The device and patient are safely positioned on the transportation device <input type="checkbox"/> The device stays in the correct position and angle on the patient's chest				
Changing battery <input type="checkbox"/> Must always have a charged spare LUCAS Battery in the Carrying Case. <input type="checkbox"/> Follow manufacturer's instructions for battery change. <input type="checkbox"/> If battery changed in <60 seconds, device remembers Suction Cup Start Position. Quickly resume compressions by pushing ACTIVE (continuous or 30:2) key. If it takes >60 seconds, device performs a self-test and you must set the Start Position again.				
*Can verbalize major manufacturer's cautions and warnings relative to device operation.				
Documentation <input type="checkbox"/> Standard cardiac arrest documentation plus <input type="checkbox"/> *Time of device application <input type="checkbox"/> *Any evidence of patient adverse effects (skin breakdown, suggested fracture or chest deformity must be reported to the EMS MD as soon as patient safety and welfare has been addressed.				
Competency Check:				
*Actual time in minutes from last manual compression to first mechanical compression (must be <10 sec)		1 st attempt	2 nd attempt	
Critical Criteria - Check if occurred during an attempt – must automatically redo station <input type="checkbox"/> Exhibited unacceptable affect with patient, family, bystanders, or other personnel <input type="checkbox"/> Failed to do 6 minutes of quality manual CPR prior to deploying device <input type="checkbox"/> Failed to activate CPR feedback device prior to deploying LUCAS <input type="checkbox"/> Failed to obtain ETCO ₂ within 90 sec of first compression <input type="checkbox"/> Applied device in a dangerous or inappropriate manner <input type="checkbox"/> Interrupted compressions for longer than 10 seconds at any time. <input type="checkbox"/> Could not appropriately troubleshoot alarms				

Factually document below your rationale for checking any of the above critical criteria.

Scoring: All steps must be independently performed in correct sequence with appropriate timing and all starred (*) items must be explained/ performed correctly in order for the person to demonstrate competency. Any errors or omissions of these items will require additional practice and a repeat assessment of skill proficiency.

Rating: (Select 1)

- ☐ **Proficient:** The paramedic can sequence, perform and complete the performance standards independently, with expertise and to high quality without critical error, assistance or instruction.
- ☐ **Competent:** Satisfactory performance without critical error; minimal coaching needed.
- ☐ **Practice evolving/not yet competent:** Did not perform in correct sequence, timing, and/or without prompts, reliance on procedure manual, and/or critical error; recommend additional practice

Preceptor (Printed Name & Signature)

2.6 Device components



1. Head
2. User Control Panel
3. Battery
4. DC input
5. Bellows
6. Suction Cup*
7. Patient wrist strap*
8. Release ring
9. Support leg
10. Support leg strap
(part of the Stabilization Strap)
11. Neck strap*
(part of the Stabilization Strap)
12. Back Plate*
13. Claw locks

14. Car Power Cable
15. Power Supply cord
16. Power Supply
17. External Battery Charger
18. Carrying Case
19. Charger port access
20. Transparent top window

21. Upper Part
22. Pressure pad*
23. Vent holes

* Applied part according to IEC 60601-1



3.5 Symbols on the device



Symbol	Meaning
	Caution - keep your fingers away Do not put your hands on or below the Suction Cup when the LUCAS device operates. Keep your fingers away from the claw locks when attaching the Upper Part or lifting the patient.
	Caution - do not lift by the straps Do not use the straps for lifting. The straps are only to fixate the patient to the LUCAS device.
	Place the lower edge of the Suction Cup immediately above the end of the sternum, as indicated in the figure. The Suction Cup should be centered over the chest.
	Pull the release rings to remove the Upper Part from the Back Plate.
	Do not reuse - Single use only.
	DC input.

Symbols on type labels

Symbol	Meaning
	Follow instructions for use All operators must read the complete Instructions for Use before operating the LUCAS Chest Compression System.
	Year of manufacture and manufacturer.
	Battery and/or electronics may not be disposed in the normal waste stream.
IPXX	Enclosure ingress protection*
	DC voltage
	Defibrillation protected type BF patient connection.
S/N	Serial number
TYPE	Variant
LOT	Batch code/lot number
	Non-ionizing electromagnetic radiation
	Class II equipment
	Complies with (USA) Federal Communications Commission regulations
	Indicates device is certified to applicable Japanese wireless requirements

IPXX	Mechanical (1 st number)	Water (2 nd number)
IP03 (Carrying Case)	Non-protected	Water spraying from above up to 30° from the vertical direction
IP40 (Power Supply)	Imm objects	Non-protected
IP43 (Device)	Imm objects	Water spraying from above up to 30° from the vertical direction
IP44 (Battery)	Imm objects	Water spraying from all directions