LUCAS Chest Compression System

The LUCAS Chest Compression System is designed to perform external chest compressions on adult patients. It is a safe and efficient tool that standardizes chest compressions in accordance with the latest scientific guidelines.

» Indications

- Adult patients with medical cardiac arrest
- Cases where manual chest compression would be used

» Contraindications

Do NOT use LUCAS Chest Compression System in the following cases:

- **Adult patient too small**: The pad within the suction cup does not touch patient’s chest when it is lowered as far as possible.
- **Adult patient too large**: The support legs of the LUCAS cannot be locked to the back plate without compressing the patient.
- **Patient < 18 years old**
- **Traumatic arrest**
- **Pregnant patients**

» Equipment

- LUCAS Chest Compression System
- Air Tanks (2) with LUCAS regulator preattached

» Procedure

1) Arrival at the patient:
   a. Confirm cardiac arrest by determining level of consciousness, breathing and pulse.
   b. If the patient has suffered a cardiac arrest, establish a team leader and commence manual CPR.
      If CPR already being done when you arrive, assess patient and take over CPR from bystander(s).
2) CPR or Defibrillation
   a. For unwitnessed arrests or witnessed arrests with 5 minutes or more time elapsed without CPR before arrival of first responders, provide 2 minutes or 5 cycles of CPR.
   b. For all other witnessed arrest, provide CPR until defibrillator available.
   c. Prepare LUCAS device.
      **Minimize interruptions in CPR.**
3) Connecting the Air:
   a. Confirm that the ON/OFF knob is in the **Adjust (1)** position.
   b. If not already connected, attach the air hose to the connector.
   c. Attach the connector to a portable air cylinder.
d. If using a pressure regulator, open the air valve.

4) When initial CPR or Defibrillation is complete - Assemble the LUCAS:
   a. Take the back plate out of the bag
   b. At the direction of the team leader - Interrupt CPR
   c. Place the back plate under body below patient’s armpits – use two people to lift patient – supporting head.
   d. Resume manual CPR
   e. Attach compressor – extend legs with claw locks open

Connecting to back plate – listen for click
f. Pull up once to ensure attachment

   g. Position suction cup – the lower edge of the cup should be positioned immediately above the end of the sternum – the suction cup should be centered over the sternum
   h. Lower suction cup until the pressure pad inside the suction cup touches the patient’s chest without compressing the chest.

Adjust as needed - It is critical that the pad is correctly positioned to prevent unwarranted injuries.

Mark the chest at the edge of the suction cup using the permanent marker

5) Start Compressions using the LUCAS
   a. When the position of the suction cup is correct
   b. Turn the ON/OFF knob to Engage (3) (Active)
   c. Check that the device is working as it should
   d. Apply the stabilization strap
   e. Secure the patient’s arms with the straps on the support legs.

Turn ON/OFF knob to Lock (2) to pause compressions for:
   a. Ventilations when doing bag-mask ventilation
   b. Analysis using an AED and
   c. Rhythm check using a manual monitor defibrillator.

LUCAS may be used continuously with intubated patients.

NOTE: LUCAS is only intended for temporary use.

     LUCAS is only intended for use in the prehospital setting.
     LUCAS will be attended by a trained first responder at all times and the first responder will remain with the device until transfer of care to the emergency room personnel can be done.