4O – MECHANICAL CHEST COMPRESSION - ADULT

EMERGENCY MEDICAL RESPONDER

EMT

EMT-INTERMEDIATE 85

ADVANCED EMT

PARAMEDIC

Agencies must obtain approval from the Office of the Medical Director prior to purchase and/or implementation of mechanical chest compression devices.

Mechanical chest compression devices have not been consistently validated to improve survival over high-quality manual CPR as described per Protocols 4A and 4B.

Indication: Non-traumatic cardiopulmonary arrest in the adult

Contraindications: Patient size not compatible with device.
Traumatic cardiopulmonary arrest.
Delay in manual chest compressions to utilize mechanical device.

Technique (LUCAS™3 System – see protocol Special Note):

Arrival at the patient
After confirming the patient is in cardiac arrest, manual CPR should be started immediately until the LUCAS device is ready.

Unpack the LUCAS device
The LUCAS carrying case was designed to be quick and easy to deploy.

- Using the large zipper handles, unzip the case.

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- While the device is still in the bag, push the ON/OFF button for one second to power on the device. You will hear a few tones while the device does its self-test to make sure it's ready to operate before applying to the patient.

Apply the LUCAS device to the patient

Always apply the device with minimal interruptions in compressions. This can be done in two brief pauses.

- Remove the back plate from the carrying case.

- Temporarily stop manual CPR while placing the back plate under the patient, immediately below the armpits. You can use several procedures to do this: either lift the patient' torso and slide the back plate under from the head, or log roll the patient and slide the back plate in from the side.

Protocol 4O: Mechanical Chest Compression – Adult, cont.

- Start manual CPR again.
- Hold the handles on the support legs to remove the LUCAS device upper part from the case. Pull the release rings once to make surge that the claw locks are open, then let go of the rings.

- Attach the support leg that is nearest you to the back plate.

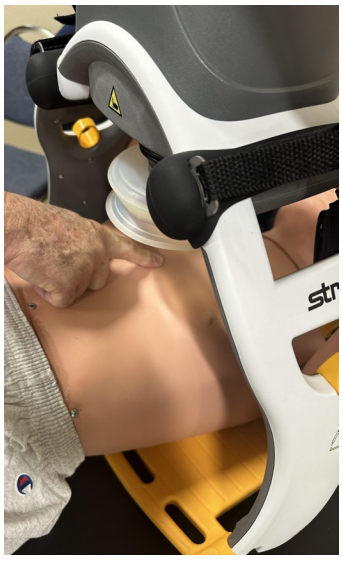
Protocol 4O: Mechanical Chest Compression – Adult, cont.

- Move the other support leg through the arms of the responder doing manual CPR and stop manual CPR while you attach the support leg to the back plate. Ask your partner to assist with attaching the second support leg if needed. Listen for a click.
- Pull up once to make sure the parts are correctly.

Adjustment and operation

Remember, the compression point should be at the same spot for manual CPR according to the guidelines. When the pressure pad in the suction cup is in the correct position, the lower edge of the suction cup is immediately above the end of the xiphoid process.

- Use your finger to make sure the suction cup is immediately above the end of the sternum. If necessary, move the device by pulling the support legs to adjust the position.



Protocol 4O: Mechanical Chest Compression – Adult, cont.

- Adjust the height of the suction cup to set the start position. This is the position where the LUCAS device will start it two-inch compressions, and the point where it will return the chest for full recoil.

- Make sure the LUCAS device is in **ADJUST** mode.
- Push the cup down with two fingers until the pressure pad touches the patient's chest without compressing it.
- Push **PAUSE** to lock the start position.
- Check for proper position. If you need to reposition:
    - Push **ADJUST**, pull the suction cup up, move the device by pulling the support legs, push the suction cup down until the pressure pad touches the chest, then push **PAUSE** once back in place.
- Push either **ACTIVE (continuous)** or **ACTIVE (30:2).**

Protocol 4O: Mechanical Chest Compression – Adult, cont.

Notes:

- The LUCAS device has a "quick fit" feature so if the pressure pad is pushed down too hard, or not touching the chest fully, the device will adjust the pressure pad by up to 30mm/1.2 inches in either direction to the correct start position.
- Some users will use a marker to draw a line on the chest around the top and/or bottom of the suction cup to help monitor placement during operation.

The stabilization strap helps secure the correct position during operation, apply it while the LUCAS device is active to keep interruptions to a minimum. Delay the application if it delays any medical treatment of the patient. The stabilization strap is not a neck stabilization strap but a device stabilization strap. The stabilization strap can fit and be put on the outside of a c-collar.