

Lineboro Volunteer  
Carroll County



Fire Department  
Maryland

## LUCAS 3 Mechanical CPR



# Indications



- Augment manual compressions
- Maryland Medical Protocols:
  - *“Mechanical methods of compressions are not indicated for infants or children who have not reached their 13<sup>th</sup> birthday”*



# Contraindications

- Do not apply to patients who are:
  - Too young
    - Under 13 years old
  - Too small
    - Three beeps heard repeatedly after piston is extended
  - Too large
    - Device does not securely latch to back plate without compressing patient's chest.

# Application



- Step 1- Manual Compressions
  - Start manual compressions, perform one cycle of manual compressions prior to applying LUCAS.
- Step 2- Open LUCAS case
  - Open the LUCAS case and power on the device, leaving the device in the case while the patient is prepped for the application of the device by removing clothing and applying defib pads.

# Application



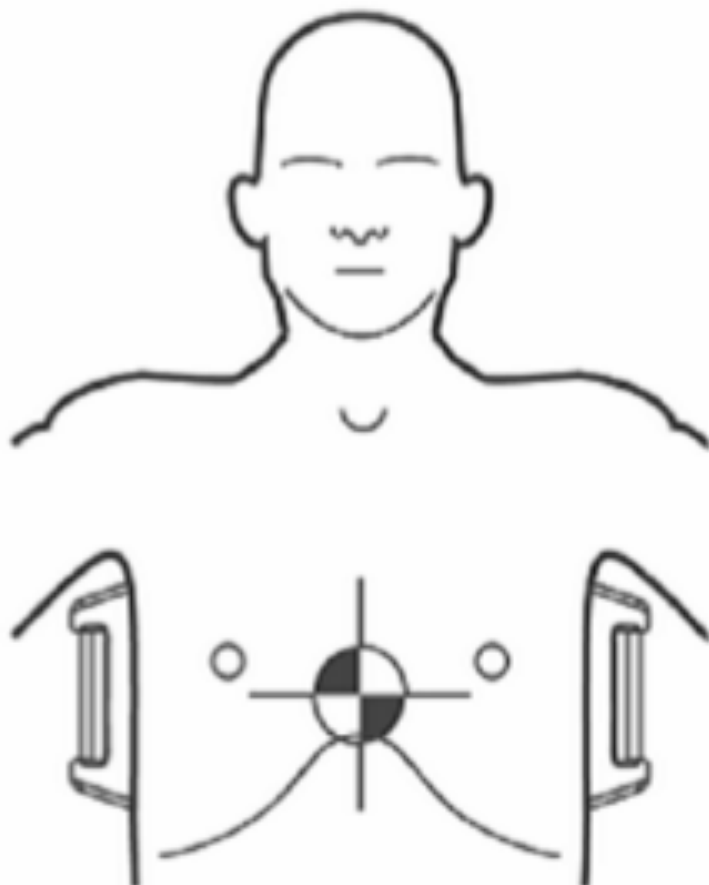
- Step 3- Prep Back Plate
  - Remove the back plate from the case and place it under the patient's head. Also, remove the LUCAS from the case, pulling up on the claw locks to ensure they're released, prior to application.
- Step 4- Place Back Plate
  - Pause compressions momentarily to slide the back plate into place. Try to do this on a pulse check. Resume compressions immediately after placement.

# Application




- Step 5- Apply LUCAS
  - Clip the first set of claw locks onto the back plate. Then, clip the second set of claw locks into place. Ensure that claw locks latch securely. Do not interrupt compressions to do this.
- Step 6- Set LUCAS
  - Pause compressions, position the suction cup depth, and verify placement. The piston should be located roughly centered over the nipple line.

# Application



# Application



- Step 7- Start LUCAS
  - Once applied, start the LUCAS by pressing the button: 
- Step 8- Secure LUCAS
  - Secure the stabilization strap, and place the patient's wrists in the wrist straps.



# Battery



- To Remove:
  - Pull out slightly, then up
- To Install:
  - Slide into place until secured.
- Must be installed for LUCAS to operate, even on AC Power.
- Once removed, a new battery must be installed within 30 seconds to maintain originally set position.



# Battery Charger

- Red Light
  - Battery Charging
- Yellow Light
  - Charging, ~80% Charged
- Green Light
  - Fully Charged



# Device Readiness



- Daily Check:
  - Open case and ensure all components are inside
  - Press the button with an “X” over a bell
  - Observe the lights for battery status
    - Do not power the device on
  - Document findings accordingly in FireManager

# Troubleshooting



- Failure has occurred if any of the following happen:
  - Device will not power on
  - Device will not operate
  - Total, catastrophic failure of device
  - Less than 104 compressions/minute
- IF A FAILURE OCCURS, REMOVE THE DEVICE FROM SERVICE AND PERFORM MANUAL COMPRESSIONS. Report all failures to an EMS Officer at the conclusion of the incident.

# For More Information:



- <https://www.youtube.com/watch?v=vIDJk3fA3sU&feature=youtu.be>

# Questions



- See an EMS Officer for questions.

