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First Aid Box Manual

Instructions for first response for cryopreservation patients

The following steps and instructions have to be followed in the correct order and manner as soon as possible **AFTER** pronouncement of death has taken place.**DO NOT DO ANYTHING BEFORE PRONOUNCEMENT!** This will make high-quality cryopreservation impossible or significantly delayed, due to legal requirements.

A fast and orderly response will be of great help to the SST team and build the foundation for better preservation.

It includes three major steps: moving the patient to a body bag for external cooling, cardiopulmonary support, and respiratory support. Only when a Doctor is present, can medication be administered.

For any questions contact a professional standby team

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Contents of the First Aid Box

1. Heavy Duty Body Bag

2. LUCAS CPS System

3. Back Plate

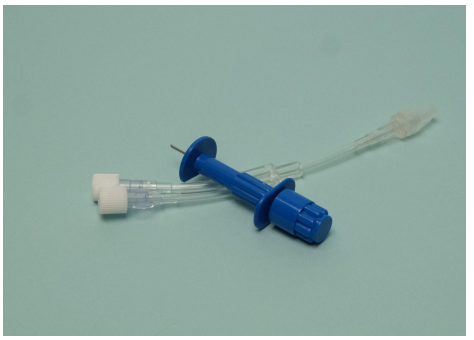
4. Charger

5. International Extension Block

6. Respiration Set

7. Oropharyngeal Airway

8. Bone Marrow Needle



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Part 1: Heavy duty body bag

1. Remove all clothes off of the patient.

2. Place the LUCAS backplate into the body bag.

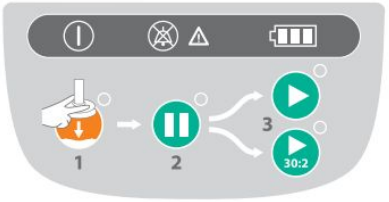
3. Move the patient into the body bag so that they are lying with their back to the floor. Place the patient so that the LUCAS backplate is under their upper back.

4. Add all available ice and water into the bag. Place the ice around the head first. The second priority for ice coverage are regions such as the axilla, groin, and neck.
   - **Amount of ice needed:** At least 40 kg ice (≈ 100 lbs), use more if available.
     - ➔ Use shaved or crushed ice. If only big ice blocks are available, break them into smaller size.
     - ➔ If no ice is available place any frozen item you have onto the patient.
     - ➔ You can get ice at almost every gas station.
   - **Amount of water needed:** At least 20 liters (≈ 5 gallons).
     - ➔ Increase amount based on patient size.
     - ➔ If possible use as much cold water as the body bag can hold.

5. Add more ice and replace water regularly throughout the rest of the first aid in order to keep external cooling as effective as possible.

Part 2: Cardiopulmonary Support

Once the patient is in the body bag with water and ice, the LUCAS device is required to provide cardiopulmonary support.




ON/OFF


ADJUST

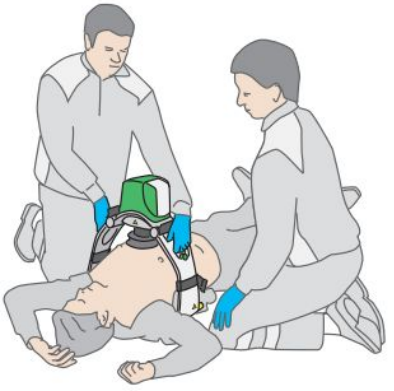

PAUSE


ACTIVE
(continuous)

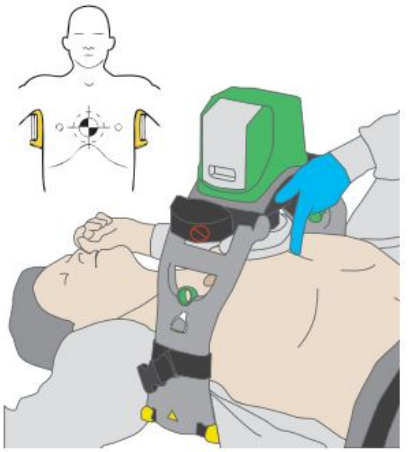
ACTIVE
(30:2)

1. Push ON/OFF for 1 second to start self-test and power up LUCAS.

2. Pull release rings once; claw locks open. Then let go of the release rings. Attach to Back Plate; listen for “click.” Pull up once to ensure attachment.



3. Center the Suction Cup over the chest. The lower edge of Suction Cup should be immediately above the end of the sternum.



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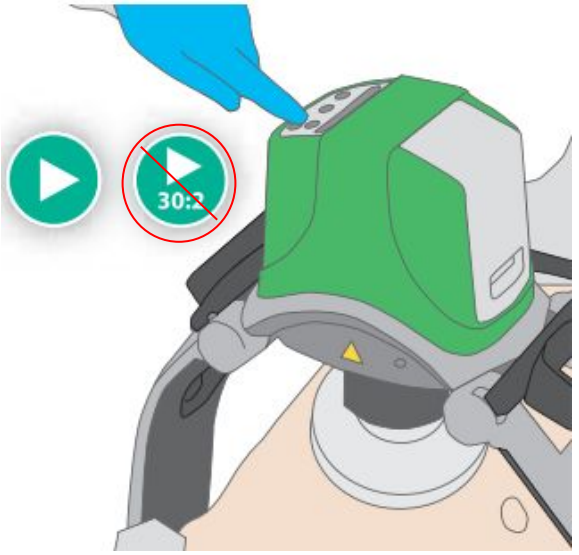
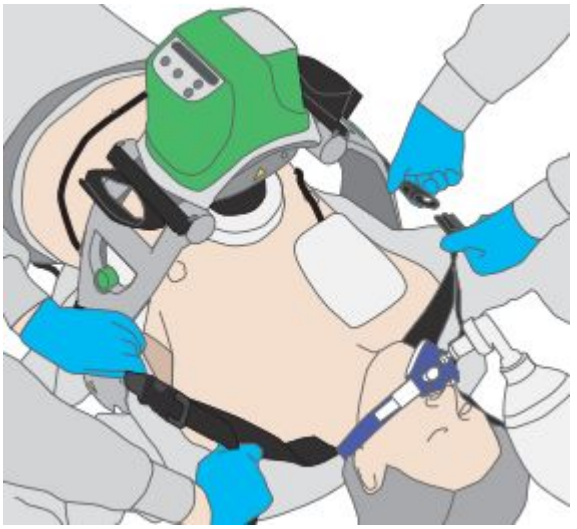
4. Push the Suction Cup down with two fingers (make sure it is in the ADJUST mode). Pressure pad inside Suction Cup should touch patient's chest. If the pad does not touch or fit properly, continue manual compressions. Push PAUSE to lock Start Position – then remove your fingers from the Suction Cup.

5. Check for proper position. Adjust if necessary. Push ACTIVE (continuous). LUCAS provides chest compressions according to guidelines.



6. Attach the LUCAS Stabilization Strap.



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Part 3: Respiratory support

The patient's airway needs to be secured with an oropharyngeal airway

1. For oropharyngeal airway insertion, first measure. An airway of the correct size will extend from the corner of the mouth to the earlobe or the angle of the mandible (jaw line).

2. Open the patient's mouth with your thumb and index finger, then insert the airway in an inverted position along the patient's hard palate (roof of the mouth).

3. When the airway is well into the mouth, rotate it 180°, with the back end of the airway lying in the back of the throat. It may help to pull the jaw forward during passage.

4. Alternatively, open the mouth widely and use a tongue blade to push the tongue down, and advance the airay intro the oropharynx. No rotation is required with this method.

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Once the airway is secured, use the provided bad and valve to provide respiration.

One-handed technique

1. The ”C-e” clamp technique provides the most effective seal. Use your thumb and index finger to form a letter “C” and provide pressure on the mask.

2. Use your third, fourth, and fifth fingers to lift the mandible up into the mask. It may be possible to place the fifth finger behind the mandible and perform a jaw thrust.

Two-handed technique

1. The traditional technique is the “double C-E” method. Use the thumb and index fingers of both hands to encircle the top of the mask.

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Two-handed technique continued

2. Use the third, fourth, and fifth fingers of each hand to lift both sides of the mandible to meet the mask. It is difficult to do a good jaw lift with this method.

3. A better two-handed method is to hold the mask in place with the thenar eminences of both hands.

4. Use the long fingers under the mandible to do a jaw lift while also pressing the mask firmly against the face. This allows the operator to do a good jaw lift and create a good seal with the strongest muscles of the hands.

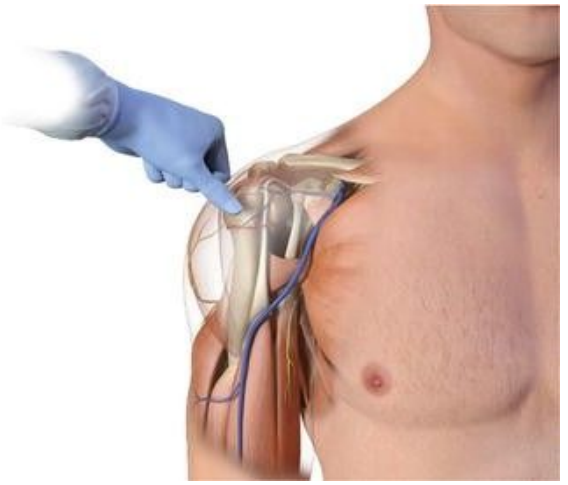
If oxygen is available, connect it to the bag and valve. 10-12 respirations per minute should be given for an adult.

Part 4: Medication

Should be performed only by a Doctor. If the pronouncement happens at home then the procedure can be done by the doctor present .

The bone marrow needle provided must be used to gain intraosseous access. The preferred location for bone access is the head of the humerus.

1. Place the patient's arm on the back of the patient.



2. Palpate the protrusion of the bone felt at the shoulder below the joint. This is the ideal insertion site.

3. Aim the needle at a 45° angle towards the opposite hip.

4. Insert the needle through the skin and soft tissues until you hit the bone. Then use a twisting motion to insert the needle into place.

5. If a doctor is present after pronouncement of death, they should administer the following drugs:
    a. Sodium citrate (10 grams for patients < 40 kg, 20 grams for patients > 40 kg).
    b. Heparin (50,000 IU – fixed dosage).

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