



LIFECAST TODDLER CHEST TRAUMA MANIKIN

USER MANUAL

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LIFECAST TODDLER CHEST TRAUMA MANIKIN

The Toddler Chest Trauma Manikin is based on the standard toddler manikin, with an added 3-way tab and tubing system extending into the lung space to enable realistic chest trauma simulation. This addition allows for more advanced training scenarios, such as lung bleeding, pulmonary hemorrhage, or drowning, in which simulated fluids like blood, water, or foam may exit the mouth during ventilation.

➤ INSTRUCTIONS FOR USE

This guide provides step-by-step instructions for setting up the Lifecast Toddler Chest Trauma Manikin for effective use in medical simulation training. Please follow these instructions carefully to ensure optimal performance and durability of the manikin.

➤ 1. SAFETY PRECAUTIONS

Observe the following precautions to maintain the safety and functionality of the manikin:

- Handle with care:
The manikin contains delicate materials that can be damaged if mishandled.
- Use in a controlled environment:
Set up the manikin in a designated simulation area, free of distractions and environmental hazards.
- Avoid contamination:
Only use food grade or manufacturer approved products to prevent damage to the manikin.
- Always follow the guidelines given in the Patient Care Plan.

➤ 2. REQUIRED EQUIPMENT & ACCESSORIES

Before setup, ensure the following items are available and ready for use:

- **Lifecast Toddler Chest Trauma Manikin**
- **Bag-Valve-Mask (BVM)** or compatible ventilation equipment (not provided)
- **Tablet/colorants for simulated fluids** (provided)
(e.g., Berocca for simulating blood and Steradent tablets for foam — combined with water)
- **Syringe** for injecting simulated fluids (provided)
- **Cleaning materials** as recommended by the manufacturer (e.g., Milton solution)

➤ 3. INITIAL SETUP & MANIKIN PREPARATION

3.1 Positioning the Manikin

- Place the manikin in the desired position for the simulation scenario.
- **Important:** The manikin must not be placed in an upright sitting position. Do not elevate the torso more than 35 degrees.

3.2 Simulation Fluid

Simulation fluid is administered into the chest cavity via the 3-way tap/port using the provided syringe. The chest cavity has a maximum capacity of 130 mL. Do not attempt to force in more fluid beyond this volume.

Clear Fluid (e.g. Drowning Scenario)

- Using the provided syringe, carefully fill the internal cavity of the manikin with clean water.
- To simulate foaming, place a Steradent tablet (or similar effervescent product) in the back of the throat of the manikin.
- When ventilation is initiated using a Bag-Valve-Mask (BVM), water and foam will expel from the mouth.

Bloody fluid (e.g. Chest Trauma Scenario)

- Mix 1 tablet of Berocca (or equivalent effervescent colorant) with water.
- Adjust the mixture by adding more water or Berocca to achieve the desired color and volume.
- If foaming is desired, place a Steradent tablet (or similar) in the back of the manikin's throat, or add it directly to the fluid mixture. Adjust until the desired foaming consistency is achieved.
- Use the syringe to carefully administer the prepared fluid into the chest cavity.



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> 4. RUN SIMULATION SCENARIO

4.1 Connecting Airway and Ventilation Systems

- Use a compatible Bag-Valve-Mask (BVM) or other airway management devices.
- Verify airway patency by observing visible signs of ventilation, such as chest rise or simulated lung inflation.
- Confirm that all tubing and connections are securely fastened and properly aligned.

4.2 Simulating Chest Trauma Scenarios

- Attach trauma simulation components (e.g., lacerations, bruises, or open chest wounds) to designated areas using adhesive or magnetic attachment systems.
- Trauma simulation components such as wounds, lacerations etc. are not part of the deliverables for this product

> 5. TESTING AND TROUBLESHOOTING

5.1 System Check

Perform a full system check to verify that the manikin's features are functioning as intended:

- Confirm proper chest rise during ventilation.
- Ensure that foam and simulated blood are visibly expelled through the airway during ventilation scenarios.

5.2 Troubleshoot Common Issues

- If simulated blood or foam does not appear during ventilation, verify that the fluid mixture has been properly injected into the chest cavity and that the airway is free from obstructions.
- Check that all accessories and tubing are correctly attached to the manikin and securely in place.

> 6. STORAGE AND MAINTENANCE

6.1 After Use

1. Disconnect all external components.
2. Flush and clean the airway and lung compartments thoroughly to remove any food-grade substances.
 - Use warm water and manufacturer-recommended cleaning agents (e.g., Milton solution).
 - Ensure no residue remains on any surfaces, as it may cause damage to the manikin over time.
3. Allow the manikin to air-dry completely before storing.

6.2 Storage

- Store the manikin in a clean, dry environment, away from direct sunlight and extreme temperatures.
- Keep all accessories organized and stored together to prevent damage or loss.

6.3 Periodic Maintenance

- Inspect the manikin regularly for signs of wear, tear, or component damage.
- Replace any damaged or worn parts as needed.
- Follow the manufacturer's guidelines for proper care and maintenance to ensure long-term functionality.

> ADDITIONAL NOTES

Following this guide ensures the smooth and effective setup of the Lifecast Toddler Chest Trauma Manikin, enabling realistic simulation of airway bleeding, foaming, and trauma scenarios.

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