



Manikin Requirements

As the leader in first aid, CPR and AED training, the American Red Cross believes a standard of minimum requirements for training manikins is necessary to ensure the quality and consistency of the training given by the American Red Cross and its authorized providers. The minimum features adult, child and infant CPR manikins require are listed below:

Adult CPR Manikin Minimum Features

Lung Capacity

- Capacity of 700-100 ml
- Chest should begin to rise only when 700 ml of air is ventilated into the manikin or should indicate when this amount is used.
- *Ability for gastric distension for incorrect head placement or volumes (preferred – exceeds minimum requirements).*

Airway

- Must allow the course participants to correct an anatomical airway obstruction by appropriately performing:
 - Head Tilt – Chin Lift
 - Jaw Thrust Maneuver

Breathing

- Must allow the course participants to appropriately perform:
 - Mouth-to-mouth breathing (with or without breathing barrier)
 - Nostrils must be able to be pinched *closed (preferred – exceeds minimum requirements).*
 - *Mouth-to-nose breathing (preferred exceeds minimum requirements)*

Circulation

- Must allow the course participants to demonstrate a pulse check (*applies to programs for professional responders such as Basic Life Support for Healthcare Providers, CPR/AED for the Professional Rescuer, Lifeguarding and EMR*).

Compressions

- Must have realistic simulated anatomical landmarks (nipples, sternum, ribs) which allow for proper hand positioning; and
- Chest must be flexible enough to allow participants to compress at least 2 inches.

Defibrillation

- Must allow proper placement of AED training pads.

Decontamination

- All materials and reusable airway parts must be capable of being cleaned and decontaminated per CDC and manufacturer's guidelines; and
- All manikins must have written cleaning, decontamination and maintenance guidelines provided by the manufacturer.

Materials

- Must be of durable construction and able to withstand a minimum of 125 student uses (12 uses would equal 328,125 compressions and 21,875 ventilations) and normal transport use; and
- Must contain no latex on, or in any part, component or subcomponent in which participants may come into contact; and
- Must realistically represent the size and shape of an adult.

Child CPR Manikin Minimum Features

Lung Capacity

- Capacity of 8-12 ml/kg
- Chest should begin to rise only when the amount of air which is consistent with the tidal volume of a child of the age and weight represented by the manikin based on 8-12 ml/kg is ventilated into the manikin or should indicate when this amount is used.
- *Ability for gastric distension for incorrect head placement or volumes (preferred – exceeds minimum requirements).*

Airway

- Must allow the course participants to correct an anatomical airway obstruction by appropriately performing:
 - Head Tilt – Chin Lift
 - Jaw Thrust Maneuver
 - Must have anatomically correct large occiput requiring padding under torso for correct airway position if child manikin is designed to represent a child of less than 2 years of age.

Breathing

- Must allow the course participants to appropriately perform:
 - Mouth-to-mouth breathing (with or without breathing barrier)
 - Nostrils must be able to be pinched *closed (preferred – exceeds minimum requirements).*
 - *Mouth-to-nose breathing (preferred exceeds minimum requirements)*

Circulation

- Must allow the course participants to demonstrate a pulse check (*applies to programs for professional responders such as Basic Life Support for Healthcare Providers, CPR/AED for the Professional Rescuer, Lifeguarding and EMR).*

Compressions

- Must have realistic simulated anatomical landmarks (nipples, sternum, ribs) which allow for proper hand positioning; and
- Chest must be flexible enough to allow participants to compress about 2 inches.

Defibrillation

- Must allow proper placement of AED training pads in both the Apical-Sternal (upper right chest and lower left chest) and Anterior-Posterior (front and back if the pads are too large to both fit on the front) placement.

Decontamination

- All materials and reusable airway parts must be capable of being cleaned and decontaminated per CDC and manufacturer's guidelines; and
- All manikins must have written cleaning, decontamination and maintenance guidelines provided by the manufacturer.

Materials

- Must be of durable construction and able to withstand a minimum of 125 student uses (125 uses would equal 328,125 compressions and 21,875 ventilations) and normal transport use; and
- Must contain no latex on, or in any part, component or subcomponent in which participants may come into contact; and
- Must realistically represent the size and shape of a child.

Infant CPR Manikin Minimum Features

Lung Capacity

- Capacity of 8-12 ml/kg
- Chest should begin to rise only when the amount of air which is consistent with the tidal volume of an infant of the age and weight represented by the manikin based on 8-12 ml/kg is ventilated into the manikin or should indicate when this amount is used.
- *Ability for gastric distension for incorrect head placement or volumes (preferred – exceeds minimum requirements).*

Airway

- Must allow the course participants to correct an anatomical airway obstruction by appropriately performing:
 - Head Tilt – Chin Lift
 - Jaw Thrust Maneuver
 - Must have anatomically correct large occiput requiring padding under torso for correct airway position if child manikin is designed to represent a child of less than 2 years of age.

Breathing

- Must allow the course participants to appropriately perform:
 - Mouth-to-mouth breathing (with or without breathing barrier)

- Nostrils must be able to be pinched *closed (preferred – exceeds minimum requirements)*.
- *Mouth-to-nose breathing (preferred exceeds minimum requirements)*

Circulation

- Must allow the course participants to demonstrate a pulse check (*applies to programs for professional responders such as Basic Life Support for Healthcare Providers, CPR/AED for the Professional Rescuer, Lifeguarding and EMR*).

Compressions

- Must have realistic simulated anatomical landmarks (nipples, sternum, ribs, shoulder blades) which allow for proper hand positioning; and
- Chest must be flexible enough to allow participants to compress about 1 1/2 inches.

Defibrillation

- Must allow proper placement of AED training pads in Anterior-Posterior (front and back if the pads are too large to both fit on the front) placement.

Decontamination

- All materials and reusable airway parts must be capable of being cleaned and decontaminated per CDC and manufacturer's guidelines; and
- All manikins must have written cleaning, decontamination and maintenance guidelines provided by the manufacturer.

Materials

- Must be of durable construction and able to withstand a minimum of 125 student uses (125 uses would equal 328,125 compressions and 21,875 ventilations) and normal transport use; and
- Must contain no latex on, or in any part, component or subcomponent in which participants may come into contact; and
- Must realistically represent the size and shape of an infant; and
- Must have arms and legs.