

## General Product Characteristics

The Brayden Baby's accurate physical and anatomical appearance helps create realistic infant CPR training which is very different from adult and child CPR training.



The non-toxic materials are soft and smooth to represent an infant's skin.



The Brayden Baby has an open and interconnected mouth and nose which adds realism when ventilating.



The Brayden Baby has a realistically large occiput so the Baby lies with its head in the correct position (in flexion). The head needs to be moved to open the airway in the neutral position.



A realistic 'Jaw Thrust/Lift' manoeuvre is possible to practice opening the infant airway using this technique.



Correct positioning of the head into the neutral position to open the airway.



Realistic occlusion of the airway for an infant when the head is hyper-extended.



Brayden Baby allows the correct compression of a 1/3 of the depth (AP distance) of manikin (4cm).



Brayden Baby has an easy to change 'double filter' connected to the lung when required.

## Product Specification

### BRAYDEN BABY CPR MANIKIN

<b>Type</b>	Full body manikin made of non-toxic materials. (RoHS, 100% silicone skin)
<b>Airway training</b>	Able to position head to the correct neutral position to open airway and practice correct 'Jaw Thrust/Lift' technique.
<b>Ventilation</b>	Correct infant ventilation training via an open and interconnected mouth and nose with real-time visual feedback of ventilation quality (chest rise and CPR Quality Indication light and chest ventilation lights).
<b>Chest compressions</b>	Correct chest compression training with accurate chest compliance and with real-time visual feedback from the carotid 'Compression light' (rate), the chest 'Compression Depth light' (depth) and the head 'CPR Quality Indication light' which illuminate with correct fingers/thumbs position, rate, depth and recoil.
<b>Size</b>	22.4 cm x 55 cm x 11.5 cm (W x H x D)
<b>Weight</b>	1.72 kg (*excluding batteries)
<b>Operating temperature</b>	0°C ~ 40°C (32°F ~ 104°F)
<b>Storage temperature</b>	-20°C ~ 60°C (-4°F ~ 140°F)
<b>Humidity</b>	5% to 95% relative humidity (avoid getting wet)
<b>Power supply</b>	Uses 4 AA alkaline batteries (last up to 6 hours with continuous use)
<b>Firmware</b>	Brayden Baby manikin firmware can be updated via the App. (DFU, Device Firmware Update)

## Components

Main manikin unit (1), Bag (1), Ventilation double filter (5), Face shield (10), Bodysuit (1), Quick guide (1), Instructions for use (1), AA Alkaline battery (4)

## BRAYDEN BABY

The Brayden Baby is the first infant CPR manikin that provides real time visual feedback using intuitive lights to allow good quality ventilations and chest compressions.

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## “ Infant CPR, Are we really as good as we think? ”

An infant has a small mouth and airway and a small body with a relatively large tongue and occiput. An infant also has more delicate but flexible ribs compared to an adult. An infant can choke more easily than an adult as they often put objects in their mouth that can cause an obstruction of their airway. An infant's lungs are also more delicate compared to an adult so over ventilation should be avoided.

Due to the differences in their anatomy, infants face different dangers compared to adults. CPR for an infant is different to CPR performed on an older child or adult. Infants are also less robust than older children and adults so more care is needed when CPR is performed on them.

By learning infant CPR, you could potentially save a life.



## “ Why Brayden Baby? ”

*“ The Brayden Baby is a very useful manikin for teaching good quality infant CPR according to current Guidelines. It has evidently been designed with help from experts! The lights on the manikin give excellent intuitive real-time CPR feedback and help guide the student to perform correct ventilation technique for an infant and also help guide the student to perform good quality chest compressions. It is essential that both these key component parts of infant CPR are performed to the highest level in real life to help optimise survival. The Brayden Baby manikin, in my opinion, is unique in its ability to do this. ”*

- Prof. Patrick Van de Voorde

( Paediatrician and Clinical Head of Emergency Medicine, University Hospital Ghent, Belgium )

## Infant Ventilation

The most common cause of cardiac arrest in infants is due to respiratory arrest leading to cardiac arrest. It is extremely important to commence good quality CPR as quickly as possible according to infant Resuscitation Guidelines. Ventilating an infant correctly involves the correct airway position (neutral) and the appropriate delivered ventilation volume. The Brayden Baby provides real time feedback of performance to ensure good quality ventilation.

### Ventilation volumes for infants

The appropriate ventilation volume for an infant of similar size to Brayden Baby is 20ml to 40ml, considerably less than for an older child/adult. It is important that each ventilation delivered to an infant is done gently and not with excessive force as their lungs are more fragile than an adult.

#### The ‘Ventilation Indication lights’ on the Brayden Baby indicates the volume of air delivered.

- The real time feedback is indicated via lung shaped lights on the chest of the manikin.
- The lung shaped ‘Ventilation Indication light’ illuminates when a correct ventilation volume is delivered.
- These lights will flash repeatedly if excessive ventilation volume is delivered.

### Correct head and airway position for ventilating an infant

The Brayden Baby has the ability for trainees to practice the ‘jaw thrust/lift’ manoeuvre which can be useful when it is difficult to secure an airway in the normal manner for an infant (due to injury etc). For normal ventilation of an infant it is important that the head is positioned in the ‘neutral’ position to open the airway. Hyper-extension of the head (tilting head back) is inappropriate for infant ventilation as is flexion (head tilted forwards). The neutral position (head straight) is the correct position for infant ventilation. The Brayden Baby head realistically positions itself in flexion due to the large occiput so the student needs to actively move the head into the correct neutral position to open the airway.

#### Jaw thrust

The jaw mechanism of the Brayden Baby has been designed to mimic the action of a real Baby for an accurate jaw thrust/lift manoeuvre.



#### Head-tilt and chin lift

The Brayden Baby airway is only open when the head is positioned in the correct ‘neutral’ position.



## Chest compressions for an infant

Chest compressions can be performed on an infant using 2 fingers (or 2 thumbs using the encircling technique) positioned just below the ‘nipple line’. The correct compression depth is 1/3 (4cm) of the depth of the chest (Anterior, Posterior) at a rate of 100 to 120 a minute. The frequency (number) depends on the Guidelines used. The real-time feedback from the lights of the Brayden Baby allow good quality chest compressions to be performed.

### CPR Quality Indication light gives real-time feedback of overall chest compression quality.

The CPR Quality Indication light is on the forehead of the Brayden Baby manikin and it illuminates if the key components of chest compressions are carried out correctly and according to the Guidelines (correct rate, correct depth, correct finger/thumb position and correct full release/recoil between compressions)

- The light on the forehead is on when all of the key components of chest compressions are performed properly.
- The light illuminates continuously when good quality chest compressions are performed.
- However, if one of the key components is performed incorrectly, then the light does not illuminate.

### Chest Compression Rate Indication light gives real-time feedback of compression rate.

The feedback via the carotid lights indicates flow of blood to the brain dependent on compression rate.

- Correct compression rate is indicated when carotid lights show blood flowing/pulsing to the brain of Brayden Baby.
- When the compression rate is too rapid, the carotid lights flash.
- When the compression rate is too slow, the carotid lights show blood flowing/pulsing more slowly.

### Chest Compression Depth Indication light gives real-time feedback of compression depth.

The feedback via the chest lights indicates whether compression depth is correct or not.

- When the correct depth has been achieved, all the chest lights come on.
- When the chest compressions are too deep, the chest lights flash repeatedly.
- When the chest compressions are too shallow, only part of the chest lights illuminate.

### Correct fingers/thumbs position detection for chest compressions.

This allows the manikin to detect whether the fingers/thumbs position is correct.

- When the correct fingers/thumbs position is detected, then the CPR Quality Indication light will illuminate (assuming the other chest compression parameters are correct).
- When compression position is incorrect, the CPR Quality Indication light will not illuminate. When used with the App a red color ‘dot’ will be displayed on the screen.

### CPR Scenario Mode

Special mode to allow training via a Infant cardiac arrest scenario.

