

# BRAIDEN BABY

Compliant  
with 2021 ARC,  
AHA & ERC  
Guidelines

The first **infant CPR manikin**  
**with real-time visual feedback**  
using intuitive lights for good  
quality ventilations and chest  
compressions.



**INNOSONIAN**

## Infant CPR - Are we really as good as we think?

CPR for an infant is different to CPR performed on an older child or adult. A small mouth and airway, a small body with a relatively large tongue and occiput, delicate lungs and more fragile but flexible ribs compared to an adult; resuscitating an infant requires more nuanced CPR skills. Brayden Baby has been designed to teach these skills.

### 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 30ml to 50ml, 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 indicate 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 and double flash if air is delivered too quickly (less than 1 second).



### Jaw thrust

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



### Head-tilt and chin lift

The airway is only open when the head is positioned in the correct 'neutral' position.



### 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.



## Chest compressions for an infant

The real-time feedback from the lights of the Brayden Baby allow good quality chest compressions to be performed.

### 1 The CPR Quality Indication light

Gives real-time feedback of overall chest compression quality. The CPR Quality Indication light on the forehead of the Brayden Baby manikin illuminates if the key components of chest compressions are carried out correctly and according to the Guidelines (correct rate, depth, finger/thumb position and 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.

### 2 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.

### 3 Chest Compression Depth Indication light

Gives real time feedback of compression depth.

- 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.

- 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.



## 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' to protect the lung

## Product Specification

### Type:

Full body manikin made of non-toxic materials (RoHS, 100% silicone skin).

### Size:

22.4cm x 55cm x 11.5cm (W x H x D)

### Weight:

1.8kg (\*including batteries)

### Packed Weight:

4.5kg

### Operating temperature:

0°C ~ 40°C (32°F ~ 104°F)

### Storage temperature:

-20°C ~ 60°C (-4°F ~ 140°F)

### Humidity:

5% to 95% relative humidity (avoid getting wet)

### Power:

Uses 4 AA alkaline batteries (last up to 6 hours with continuous use).

### Firmware:

Brayden Baby manikin firmware can be updated via the App (DFU, Device Firmware Update)

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