

# RESUSCITATION BAGS: DISPOSABLE - SCH

## PROCEDURE <sup>®</sup>

### DOCUMENT SUMMARY/KEY POINTS

- Guidelines for the use of single patient use self-inflating bag/mask devices for manual ventilation
- The Self-inflating Bag can be used on one patient only, but can be more than one episode of use.
- Self-inflating bags are used for manual ventilation in patients who are apnoeic or hypoventilating.
- They should not be used to provide supplemental oxygen to patients who are spontaneously breathing with an adequate respiratory rate.

### CHANGE SUMMARY

- Document due for mandatory review.
- Replaces SCH document C.2.B.2 of same title.
- Minor changes only, no change in practice

### READ ACKNOWLEDGEMENT

- All SCH clinical nurses and nursing ward/unit managers must read and acknowledge this document.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

<b>Approved by:</b>	SCHN Policy, Procedure and Guideline Committee	SCH CERS Committee
<b>Date Effective:</b>	1 <sup>st</sup> October 2015	<b>Review Period:</b> 3 years
<b>Team Leader:</b>	Staff Specialist	<b>Area/Dept:</b> Emergency Department

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## Purpose and Scope

This guideline aims to inform staff in the use, care and disposal of single patient use disposable self-inflating bag/mask devices.

### Responsibilities:

Only clinical staff that have received education and have attained competency in bag-valve-mask ventilation should operate this product.

### Definition of terms:

**Manual ventilation:** A method of assisted or controlled ventilation in which a hand held device is used to generate airway pressures.

**Self-inflating Bag:** (Sometimes called: resuscitator) A hand held device that is used to provide positive pressure to inflate the lungs of an unconscious person who is not breathing or a person who is breathing inadequately.

**Single patient use:** More than one episode of use of a medical device on one patient only. (See: [PD2007\\_036](#))

## Introduction

Manual ventilation devices are used to provide positive pressure ventilation either by a bag-valve-mask unit or via bag-valve-artificial airway (endotracheal tube, tracheostomy tube or laryngeal mask airway).

Manual ventilation may be initiated in the following circumstances:

- Periods of hypoventilation
- Periods of prolonged apnoea and bradycardia which has not responded to external stimuli
- Confirmed respiratory or cardiac arrest
- During planned transition periods between mechanical ventilation e.g. transport. ([Internal transport of ventilated CICU Patients - SCH](#))
- In the event of mechanical ventilator failure

Please refer to the [Paediatric Basic Life Support \(BLS\) - SCH](#) for directions on techniques and potential complications associated with their use.

**Note:** The self-inflating bag is intended to be used for manual ventilation in apnoeic/hypoventilating patients. If the patient is spontaneously breathing, inspiration through the mechanism of the self-inflating resuscitator bag can occur but involves increased inspiratory effort by the patient to open the inspiratory valve close to the patient. At times this can be a significant problem for a sick patient. Therefore the bag should not be used in this way in patients who are breathing spontaneously.

Use of self-inflating bag/mask devices involves repetitive movements with force. Good posture is essential to prevent injury. If the task continues for a long period, then task should be assumed by another person periodically.

The type of disposable self-inflating bag/mask devices used at SCH is the Endovations™ - Headstar disposable resuscitators:

## Selection of appropriate sized bag

These are available in 2 sizes and should be used on the following sized patients- <sup>(1)</sup>

- Paediatric sized bag (volume 550mL) for patients up to 30kg
- Adult sized bag (volume 1800mL) for patients over 30kg



**Figure 1:** Adult and Paediatric sized disposable self-inflating bag/mask devices

## Single Patient Use

Each disposable self-inflating bag/mask device is single patient use only, but can be used a number of times by that patient. Once the self-inflating bag/mask device has been used or storage bag seal is broken the device should be labelled with the patients name and medical record number using a patient identification label on the oxygen tubing.

Do not use the device if the storage bag seal has been broken and there is no identification label on the product, this product should be discarded <sup>(1)</sup>.

Disposable facemasks are available with the self-inflating bag/mask device. Other mask sizes are available if required. Staff should ensure that an appropriate sized mask is available for each patient; non-disposable face masks may be used.

## Pressure relief (Paediatric size bags)

The paediatric bag has a special pressure relief (pop-off) valve fitted. This valve prevents the delivery of excess pressures to the child's lungs and decreases the risk of a pneumothorax or stomach distension. In the Endovations™ -Headstar disposable resuscitators this is set to be triggered at a pressure of 40 cm H<sub>2</sub>O +/- 5cm H<sub>2</sub>O. This product should not be disassembled. <sup>(1)</sup>

There may be occasions where higher pressures are required; if so the pressure relief valve can be overridden. This can temporarily be achieved by pressing and holding the button (labelled 40cm H<sub>2</sub>O) during ventilation. If permanent use of higher pressures is required this button should be pushed and twisted either clockwise or anticlockwise ¼ of one turn. The

overriding of the pressure relief valve should only be done under the direction and supervision of a senior medical officer, as extremely high ventilation pressures are attainable which can lead to barotrauma and can reduce cardiac output. The bag should be checked to ensure the button has been returned to a central position <sup>(1)</sup>

There may be occasions where a Positive End Expiratory Pressure (PEEP) valve may be required to maintain an end expiratory pressure at a predetermined value. PEEP valves should be available for all ICU inpatients ([Admission \(Standard\) to CICU](#)) and also located on the resuscitation trolleys in the following SCH wards/departments ED, C2W and C3W.

## Oxygen supply

At least 10 to 15 L/min of oxygen flow is required to maintain an adequate oxygen volume in the reservoir of a paediatric self-inflating bag/mask manual ventilation device, and this should be considered the minimum flow rate. The larger adult sized self-inflating bag/mask manual ventilation device requires  $\geq 15$  L/min of oxygen flow to reliably deliver high oxygen concentrations.

During compression of the bag staff should ensure that the reservoir remains inflated throughout the cycle and the bag re-expands after each ventilation, if this does not occur then the gas flow should be checked for the appropriate flow rate or the bag should be discarded and a new bag used. In the event of such an incident a replacement self-inflating bag/mask device is available on the resuscitation trolley of each ward.

## Cleaning

After each use the single patient use self-inflating bag/mask device should be inspected for signs of secretions entering into the device. If this is observed the bag should be disposed or cleaned. It is recommended that this should be done using lukewarm water, a clean non-fluff /non-abrasive cloth and a neutral non-abrasive detergent <sup>(2)</sup>

If the surface is dirty it is recommend to rinse the surface first by lightly swabbing a saturated cloth over the surface and allowing material to drain away. Use only light pressure when cleaning, avoid rubbing dirt into the surfaces. <sup>(2)</sup>

The manufacturer advises that the body of the device and re-breathing bag can also be cleaned with alcohol wipes <sup>(2)</sup>

## Storage

The manufacturer advises that during prolonged storage of these items to avoid direct sunlight <sup>(1)</sup>.

## Use

Once the self-inflating bag/mask device has been used on a patient it can be transferred **with that patient** to any ward within SCH.

The manufacturer recommends that the disposable self-inflating bag/mask devices can be used for up to 10 times for that single patient. In areas like ICU, where use may be frequent, the manufacturer recommends that this may be interpreted as 10 days. Occasionally in the wards this may also be the requirement, when a child needs constant intervention. For other patients the device should be discarded following 10 major interactions of manual ventilation interventions where there is a potential for body fluids to enter the chamber of the device.

There may be also be occasions where the device may be discarded after one use, according to infection control policies.

## Disposal

Self-inflating bag/mask devices that have been used or which have a broken seal, are to be disposed of as clinical waste at the end of the patient's admission.

## Supply

The Endovations™ -Headstar disposable resuscitators are a stock item, which is available through MRD. (See [Appendix 1](#))

## Related documents

- Paediatric Basic Life Support (BLS) for Healthcare Rescuers – SCH  
<http://chw.schn.health.nsw.gov.au/o/documents/policies/guidelines/2012-7000.pdf>
- Internal Transport: Ventilated CICU Patients to Medical Imaging, Operating Theatres and Other Areas – SCH  
<http://chw.schn.health.nsw.gov.au/o/documents/policies/guidelines/2013-1023.pdf>
- Admission (Standard) to Children's Intensive Care Unit (CICU) - SCH.  
<http://chw.schn.health.nsw.gov.au/o/documents/policies/guidelines/2013-1015.pdf>
- Infection Control – NSW Health  
<http://chw.schn.health.nsw.gov.au/o/documents/policies/policies/2013-9042.pdf>

## References:

1. Endovations: Resus-EZY Product Information Sheet.[http://www.endovations.com.au/get\\_document.php?doc\\_id=82](http://www.endovations.com.au/get_document.php?doc_id=82)
2. Endovations: Schell Medical Corporation Product website  
<http://www.endovations.com.au/products.php?id=1147>.
3. POWH guideline: 17.E Manual ventilation and adjunct therapy .Manual Ventilation and Adjunctive Airways.pdf
4. NSW Ministry of Health PD2007\_036 *Infection Control* Section "Single Use Medical Devices"  
[http://www0.health.nsw.gov.au/policies/pd/2007/pdf/PD2007\\_036.pdf](http://www0.health.nsw.gov.au/policies/pd/2007/pdf/PD2007_036.pdf)

## Diagram:

[Figure1](#): Adult and Paediatric sized disposable self-inflating bag/mask devices. © Sydney Children's Hospital, 2011.

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## Appendix 1: MRD Stock Codes

<b>505727</b>	
<b>DESCRIPTION</b>	RESUSCITATOR, PAEDIATRIC, POP OFF SAFETY VALVE, MASK, OXYGEN TUBING, AND RESERVOIR, SINGLE PATIENT USE, (ASSEMBLED)
<b>HIMF DESCRIPTION</b>	RESUSCITATOR, PULMONARY, MANUALLY-OPERATED, PAEDIATRIC, SINGLE USE
<b>VENDOR NAME</b>	ENDO VATIONS PTY LTD
<b>COST EACH</b>	\$20.00
<b>VENDOR PRODUCT NUM</b>	HP9833A
<b>UNIT OF ISSUE</b>	EACH

<b>506051</b>	
<b>DESCRIPTION</b>	RESUSCITATOR, ADULT, MASK, OXYGEN TUBING, AND RESERVOIR, (ASSEMBLED)
<b>HIMF DESCRIPTION</b>	RESUSCITATOR, PULMONARY, MANUALLY-OPERATED, ADULT, SINGLE USE
<b>VENDOR NAME</b>	ENDO VATIONS PTY LTD
<b>COST EACH</b>	\$20.00
<b>VENDOR PRODUCT NUM</b>	HP9511A
<b>UNIT OF ISSUE</b>	EACH