Clinical Practice Procedures:
Respiratory/Bag valve mask – Mayo Healthcare

Policy code	CPP_RE_BVM_0822
Date	August, 2022
Purpose	To ensure a consistent procedural approach to bag valve mask – Mayo Healthcare
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
Source of funding	Internal – 100%
Author	Clinical Quality & Patient Safety Unit, QAS
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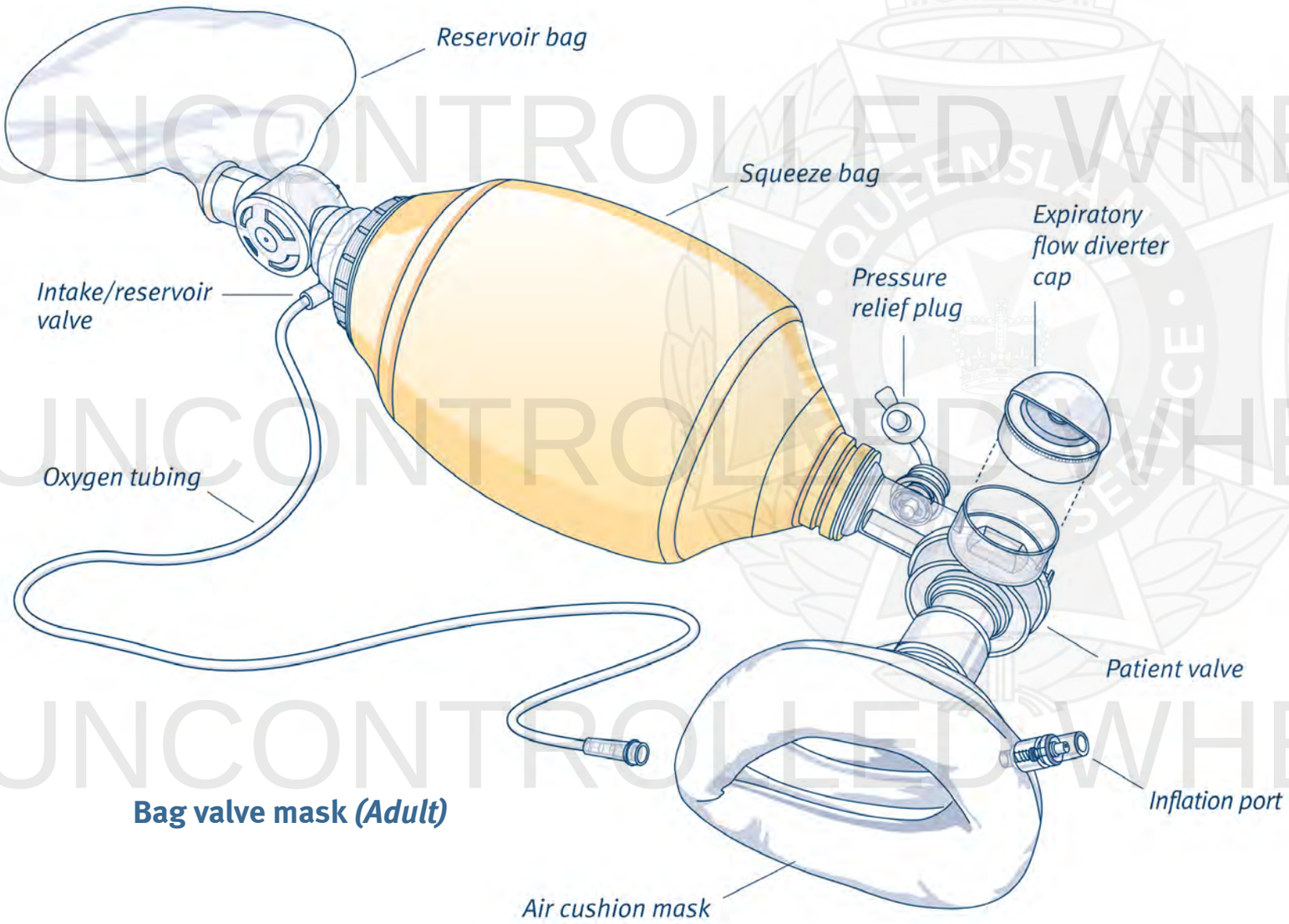
Bag valve mask – Mayo Healthcare

August, 2022

The ability to oxygenate and ventilate the critically ill patient with bag valve mask (BVM) ventilation is a life-saving skill. BVM ventilation assists in providing oxygenation and ventilation until a more advanced airway intervention can be established.

The terminology used to describe providing ventilation to an apnoeic patient is referred to as intermittent positive pressure ventilation (IPPV).



Bag valve mask *(Adult)*

Indications

- Acute respiratory distress, hypoventilation (RR of less than 10/min) or respiratory arrest requiring positive pressure ventilation.

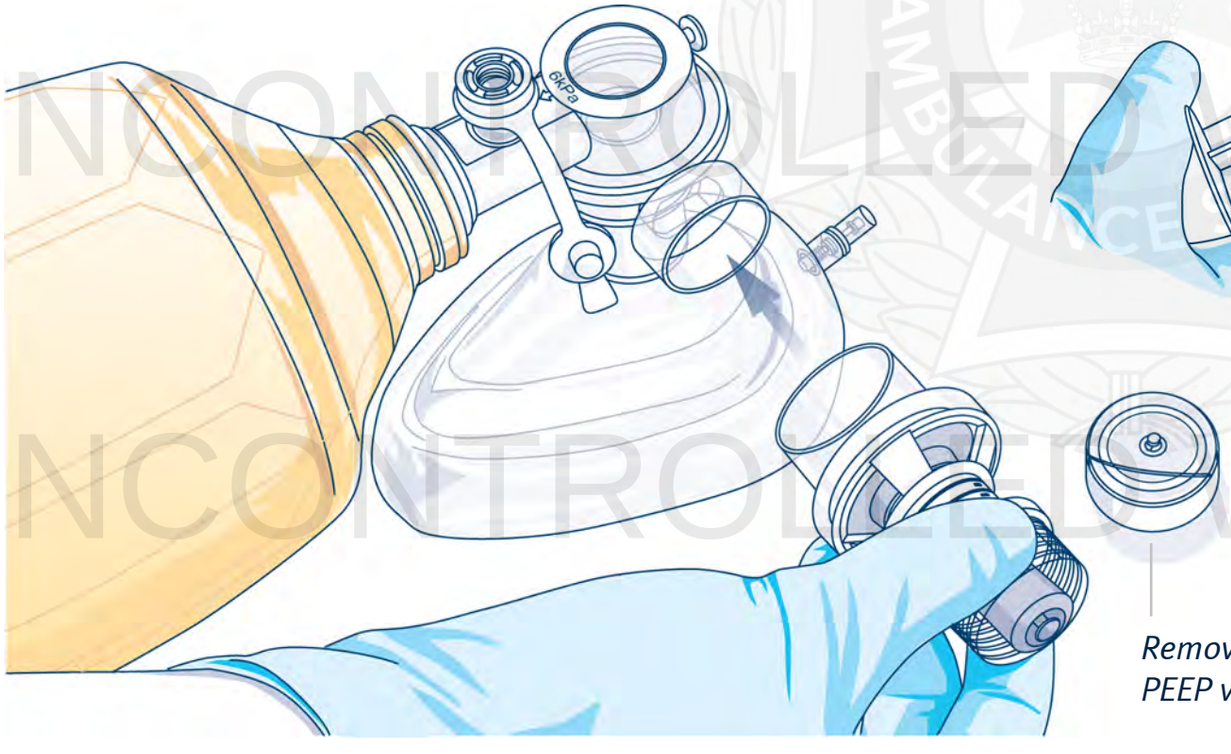
Contraindications

- Spontaneously breathing patients with adequate tidal volume and an appropriate respiratory rate (RR of 10/min or greater).

Complications

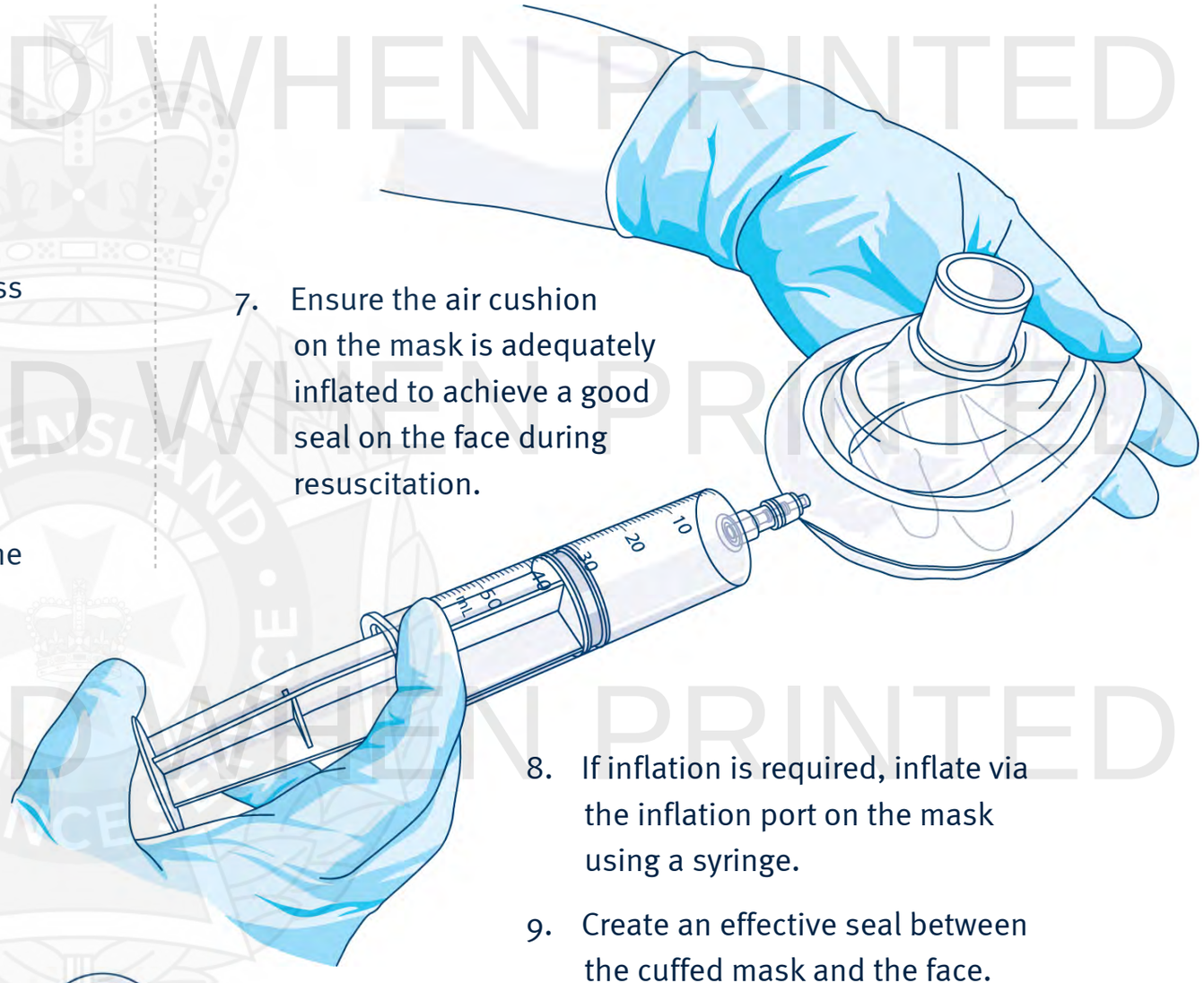
- Gastric inflation
- Pulmonary barotrauma
- Undesirable cardiovascular effects such as hypotension, secondary to caval compression.

1. Determine the need for IPPV.
2. Continually assess the patient to ensure a patent airway, apply basic airway management procedures and progress to advanced airway techniques when appropriate.
3. Ensure appropriate posturing of the patient.
4. Test that the resuscitator functions properly:
   - With no fresh gas flowing into the self-expanding squeeze bag and with the patient port (mask) completely occluded, compress the squeeze bag and feel for resistance.
   - With the patient port open, compress the squeeze bag and visually inspect for opening of the patient valve.
5. If Positive End Expiratory Pressure (PEEP) is required, remove the expiratory flow diverter cap and connect the PEEP valve firmly to the expiratory flow diverter.



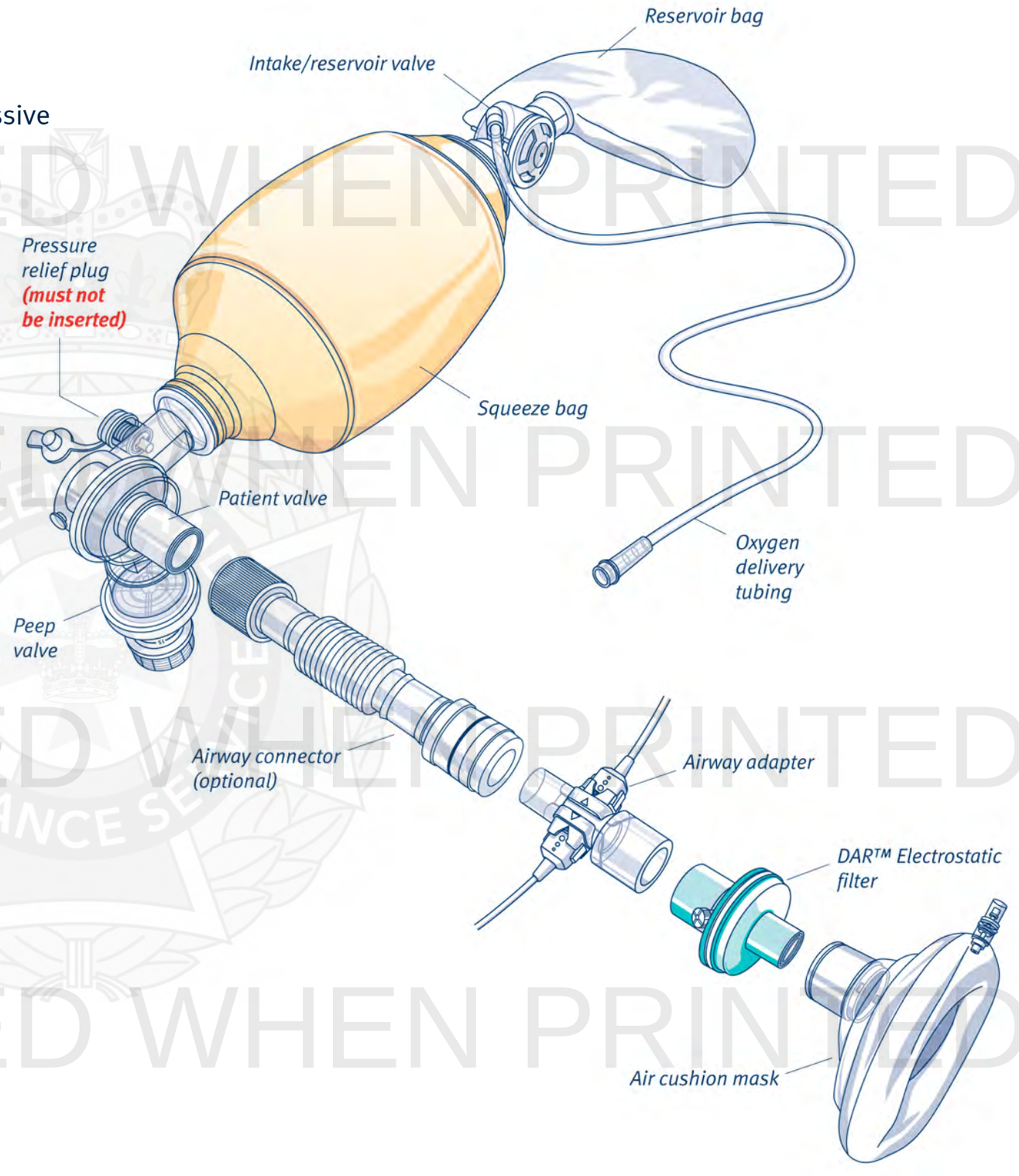
Remove expiratory flow diverter cap and connect PEEP valve to expiratory flow diverter

6. Connect the oxygen supply tubing to an oxygen source and adjust the oxygen flow to 15 L/min.
7. Ensure the air cushion on the mask is adequately inflated to achieve a good seal on the face during resuscitation.



8. If inflation is required, inflate via the inflation port on the mask using a syringe.
9. Create an effective seal between the cuffed mask and the face.

10. Gently compress the squeeze bag to deliver an appropriate tidal volume and observe the chest rise to confirm ventilation.
11. Release the pressure on the squeeze bag completely to allow passive exhalation and re-expansion of the bag.
12. During ventilation, check for:
    - signs of cyanosis
    - adequacy of ventilation
    - airway pressure
    - correct functioning of all valves and tubing
    - continuous supply of oxygen to the resuscitator and inflation of the reservoir bag.



Additional information

- The pressure release valve plug must not be inserted under any circumstances.
- The expiratory flow diverter cap is only to be removed when a PEEP valve is required to be connected.
- Use extreme caution if ventilating asthmatics or neonates to ensure over-ventilation is avoided.[1,2]
- Creating an effective seal between the mask and face is a skill requiring practice and revision to ensure competency.[3]
- For patients not requiring positive pressure ventilation, however requiring oxygen, the application of an appropriate oxygen mask is required.

Additional information *(cont.)*

- The QAS supplies **three** sizes of Mayo Healthcare disposable *(single use only)* resuscitators.

SPECIFICATIONS			
	Body mass range	**Volume (bag/stroke)**	**Delivery Pressure Limit**
Adult	> 23 kg	1500/1200 mL	60 (± 10) cmH_2O
Paediatric	6.5 – 23 kg	550/330 mL	40 (± 5) cmH_2O
Neonatal	< 6.5 kg	300/160 mL	40 (± 5) cmH_2O

- Mayo Healthcare disposable resuscitators *(all sizes)* are individually packaged in a resealable zip-lock bag and contain the following:
  - Air cushion mask
  - Expiratory flow diverter with removable cap (for application of PEEP)
  - Squeeze bag
  - Intake/reservoir valve
  - Oxygen tubing