



Clinical Practice Procedures: Drug administration/Nebulisation

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Date	September, 2022
Purpose	To ensure a consistent procedural approach to nebulised drug administration.
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.
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Author	Clinical Quality & Patient Safety Unit, QAS
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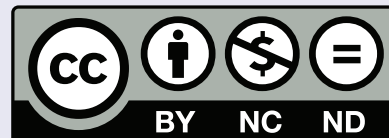
All feedback and suggestions are welcome. Please forward to: Clinical.Guidelines@ambulance.qld.gov.au

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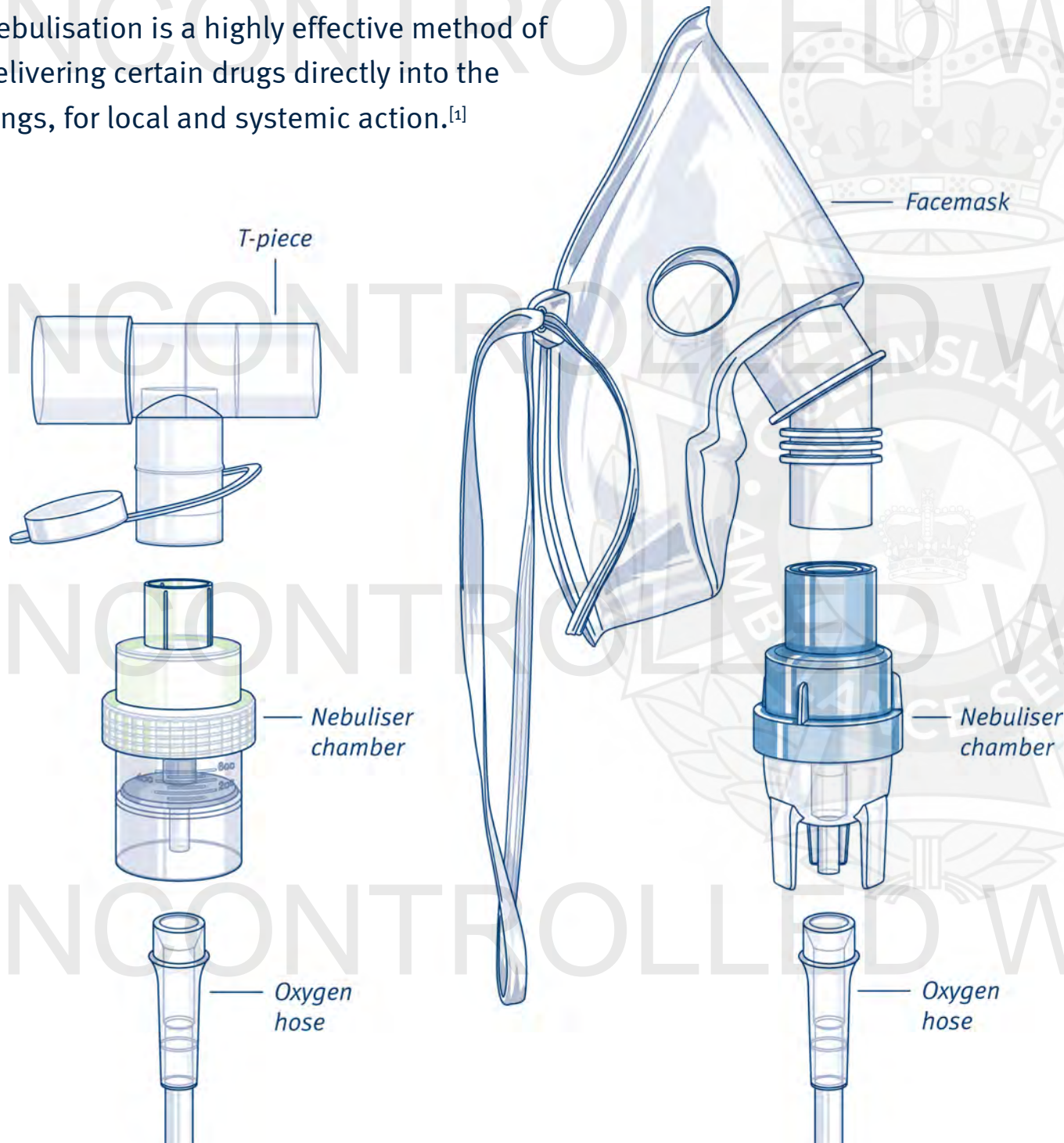
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Nebulisation

Nebulisation is a process by which oxygen (or air) is pumped through a liquid to create a vapour. The vapour is then inhaled directly into the lungs.

Nebulisation is a highly effective method of delivering certain drugs directly into the lungs, for local and systemic action.^[1]



Indications

- **Nebuliser mask:**
 - The administration of medications via the NEB route
- **T-piece nebuliser:**
 - The administration of medications via the NEB route in patients requiring positive pressure ventilation via a BVM
 - The administration of medications via the NEB route in patients receiving o_two® CPAP.

Contraindications

- Nil in this setting

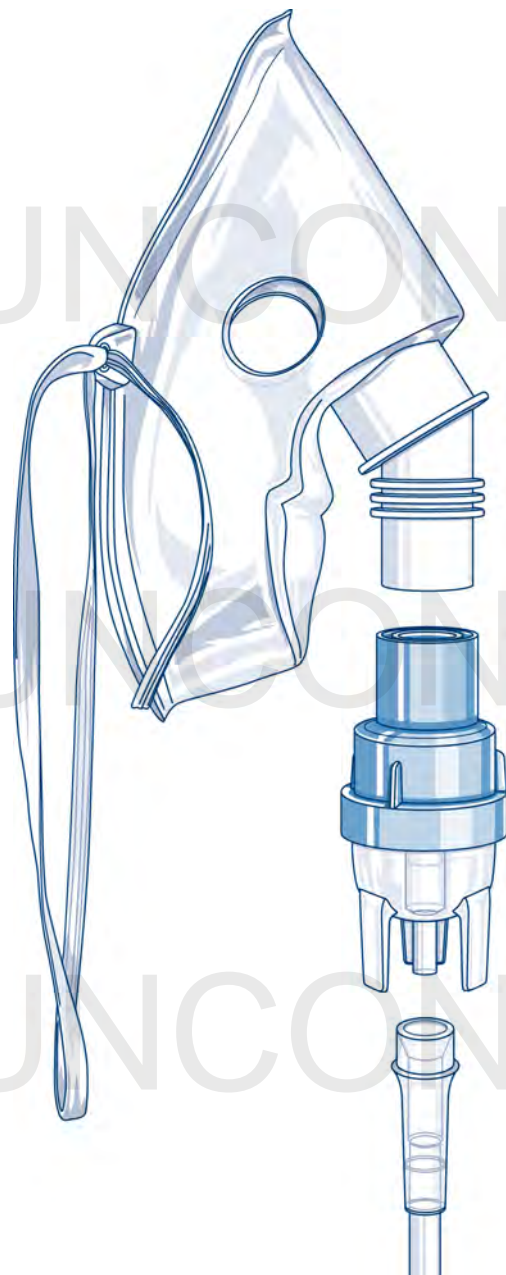
Complications

- Nil in this setting

Procedure – Nebulisation

NOTE:

- A metered dose inhaler used with a disposable spacer is the preferred method for delivering all inhaled aerosolised medications.
- Nebulised delivery of medications should whenever clinically appropriate be restricted to inhaled medications that are not available in a metered dose inhaler form.



Nebuliser mask

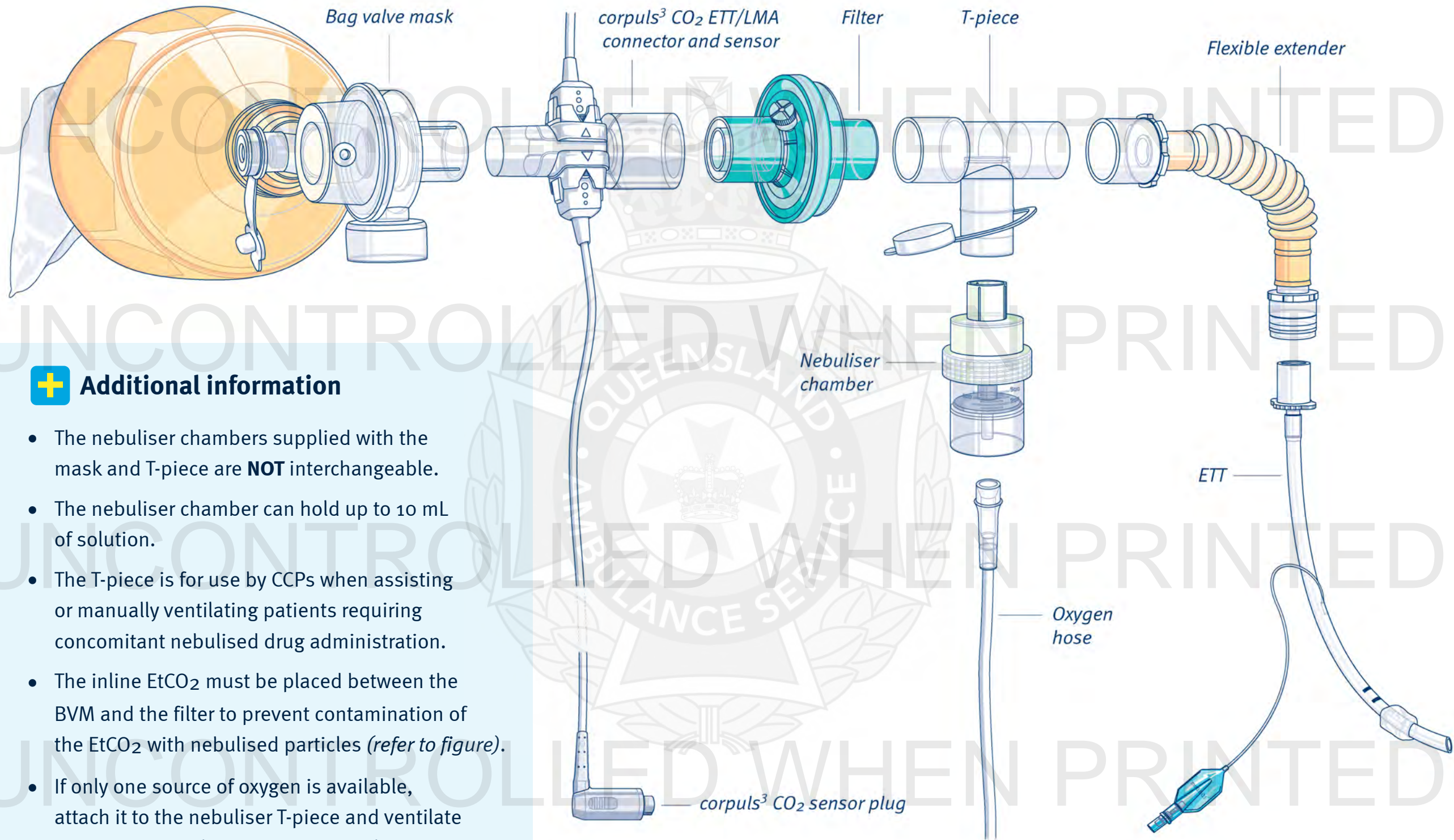
1. Position patient appropriately.
2. Unscrew the top of nebuliser chamber.
3. Place the appropriate drug in its correct presentation into the chamber.
4. Screw the top back on, ensuring chamber is kept upright.
5. Attach the oxygen hose to the base of the nebuliser and connect to an oxygen source.
6. Place the nebuliser face mask on the patient and set the oxygen flow rate at 6–8 litres per minute. (6 litres per minute for COPD)
7. Nebulise the drug until vapour stops.



T-piece nebuliser

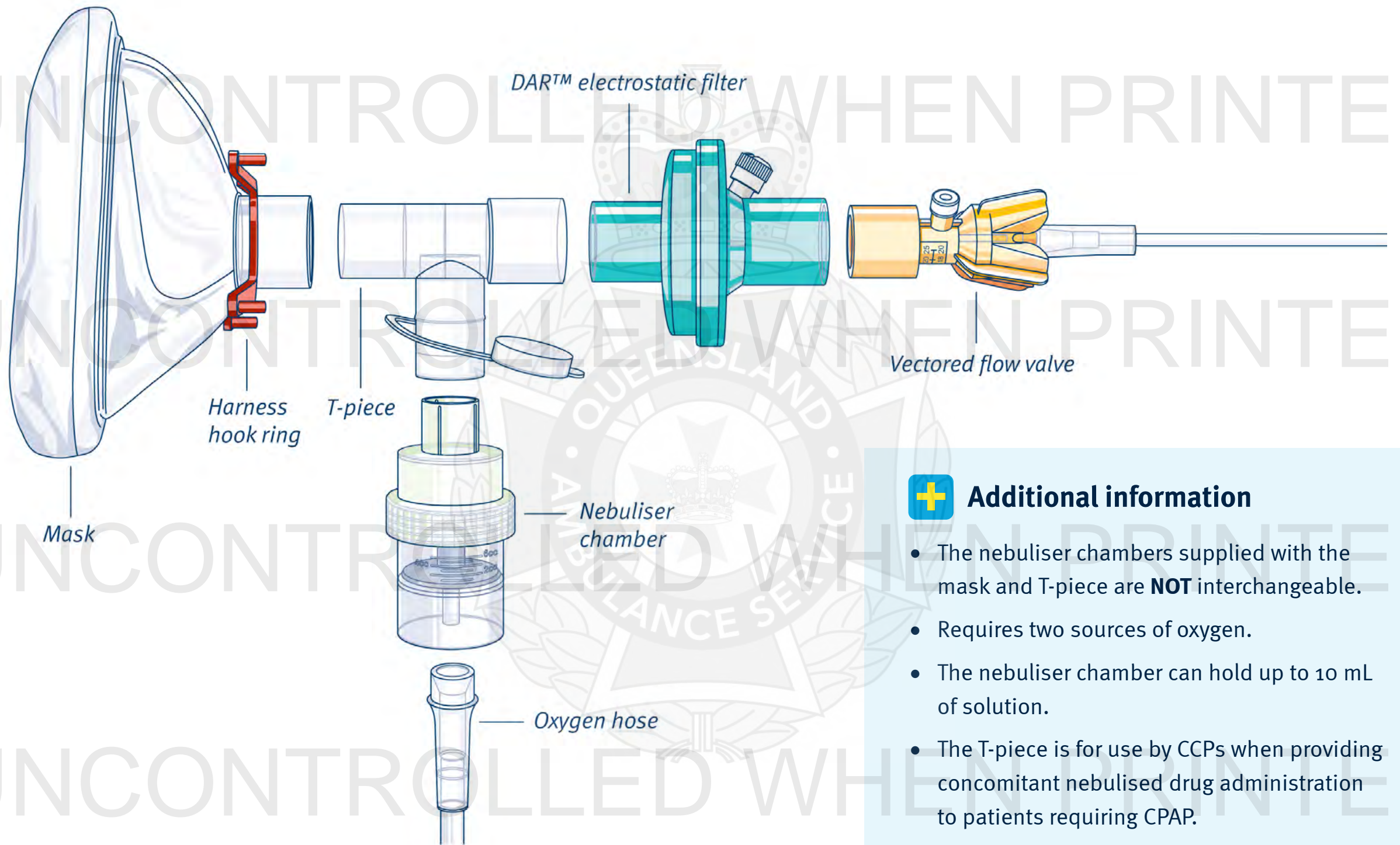
1. Posture patient appropriately and commence/continue positive pressure ventilation.
2. Unscrew the top of nebuliser chamber.
3. Place the appropriate drug in its correct presentation into the chamber.
4. Screw the top back on, ensuring chamber is kept upright.
5. Attach the oxygen hose to the base of the nebuliser and connect to an oxygen source.
6. Place the T-piece inline.
7. Set the oxygen flow rate to the minimum litres per minute required for nebulisation to occur.
8. Nebulise the drug until vapour stops while continuing to ventilate the patient at an appropriate rate.

Procedure – Nebulisation



+ Additional information

- The nebuliser chambers supplied with the mask and T-piece are **NOT** interchangeable.
- The nebuliser chamber can hold up to 10 mL of solution.
- The T-piece is for use by CCPs when assisting or manually ventilating patients requiring concomitant nebulised drug administration.
- The inline EtCO₂ must be placed between the BVM and the filter to prevent contamination of the EtCO₂ with nebulised particles (*refer to figure*).
- If only one source of oxygen is available, attach it to the nebuliser T-piece and ventilate using the bag valve on room air until another oxygen source is available.



+ Additional information

- The nebuliser chambers supplied with the mask and T-piece are **NOT** interchangeable.
- Requires two sources of oxygen.
- The nebuliser chamber can hold up to 10 mL of solution.
- The T-piece is for use by CCPs when providing concomitant nebulised drug administration to patients requiring CPAP.