

T Piece Circuit Guide for Set Up

A T Piece delivers heated humidified oxygen to a self-ventilating patient via a tracheostomy.

It is a large bore non-rebreathing circuit that attaches to the tracheostomy. Humidified oxygen is delivered through one end and exhaled gases leave the other.

Indications for use

- Patients with difficulty weaning from mechanical ventilation. (Periods of self-ventilation via the T piece circuit facilitates weaning, by increasing the muscle workload of the intercostal muscles and diaphragm – for short periods).
- Patients with sticky tracheal secretions
- Assessment for the suitability for weaning.

The resistance, when breathing through a T Piece circuit is lower than other circuits. Daily T Piece trials help shorten the time to extubation by aiding early identification of patients suitable for weaning.

Contraindications

- Patients requiring high levels of ventilatory support

Equipment required (see appendix 1)

- Fisher Paykel heated humidification circuit
- Green Oxygen tubing and adjustable flow oxygen meter
- T piece
- 54 cms length of elephant tubing (approx. four sections)

Further Information

- Humidified oxygen is connected to the tracheostomy tube by a T Piece, which allows the administration of a constant FiO₂ rather than a variable FiO₂ / air mix
- Oxygen flow should be high enough^{*}, and extension tubing long enough, to prevent interruption of the stream of mist that exists, even during inspiration.

*** Suggested flow rate – at least 10 litres/min (to prevent entrainment of room air)**

- The expiratory limb length should roughly equal the patient's tidal volume.

There is no need to cut side holes into the exhalation tubing.

NB. four lengths of elephant tubing (approx. 54cms) holds a volume of 220 mls

This patient group should be closely monitored. If there is any concern regarding a decrease in PaO₂ please consult medical staff. Ensure that the expiratory end of the tubing is exposed at all times.

Appendix 1 – Equipment required

- Fisher Paykel heated humidification circuit
- Green Oxygen tubing and adjustable flow oxygen meter
- T piece
- 54 cms length of elephant tubing (approx. four sections)

