



TRACHEOSTOMY REVIEW AND MANAGEMENT SERVICE CLINICAL PROCEDURE

TRACHEOSTOMY CUFF MANAGEMENT

Staff this document applies to:

- Nurses, Speech Pathologists, Physiotherapists and Medical staff on all campuses including ICU

Related Austin Health policies, procedures or guidelines:

- [Recognising & Clearing a Blocked Tracheostomy Tube](#)
- [Suctioning via the Tracheostomy](#)
- [Use of the Suctionaid Tracheostomy Tube](#)
- [Mandatory Equipment & Emergency Tracheostomy Management Poster](#)
- [Passy Muir \(PMV\) Use in Spontaneously Breathing Patients](#)
- [Scheduled Use of the Passy Muir Valve \(PMV\) in Line with the Ventilator](#)

Key Points:

- [The minimal occlusive volume method](#)
- [Using the Tracoe ® Smart Cuff Manager](#)

Definition:

- An inflated tracheostomy cuff separates the upper airway from the lower airway and lungs. This provides a degree of airway protection against the aspiration of oral secretions and prevents air leaks in the invasively ventilated patient.
- Cuff deflation is performed for a variety of reasons including:
 - To remove secretions from above the cuff
 - To ascertain if the upper airway is patent.
 - To enable assessment of voice in spontaneously breathing or ventilated patients.
 - To assist in the assessment of swallowing

- Initial cuff deflation trials are performed by Speech Pathologists with a Physiotherapist or bedside nurse
- Routine cuff deflation can be performed by Nurses, Physiotherapists, Speech Pathologist (with the assistance of bedside nurse or physiotherapist) and medical staff trained in this procedure
- Cuff deflation is the withdrawal of air from the pilot line attached to the tracheostomy tube cuff, or water in the case of a Bivona Tight-To-Shaft (TTS) tracheostomy tube cuff.
- Deflating the cuff restores airflow through the upper airway and provides the opportunity to assess the patient's voice, cough and swallow.
- Cuff over-inflation can damage tracheal mucosa and under inflation can lead to aspiration of oral secretions, respiratory distress and aspiration pneumonia
- Invasively ventilated patients who have their cuffs deflated for the purpose of Ventilator Adjusted Leak Speech must have their ventilation parameters changed by staff trained in this practice
- For air filled tracheostomy cuffs, inflation pressure should be measured between 20-30cmH₂O (15-22mmHg) using a manometer. With a water filled Bivona TTS tracheostomy tube, use the minimal occlusive volume (MOV) technique.

Equipment:

- 10ml syringe
- Suction catheters, standard size 12Fs (size 14F may be requested at the discretion of the physiotherapist)
- Suction unit
- Clean disposable gloves
- Cuff manometer, if an air-filled cuff is present (contact TRAMS on pager 1291 to arrange loan)
- Stethoscope

Procedure:

Tracheostomy cuff deflation:

- This is a two-person procedure
- Ensure the patient is comfortable and observations are stable
- Explain the procedure to the patient and note that it may cause them to cough
- Suction the patient via the tracheostomy tube
- If the patient has a Portex Suctionaid tracheostomy tube, aspirate above cuff secretions from the Suctionaid line using a 10ml syringe. See [Use of the Suctionaid Tracheostomy Tube](#).
Discard this syringe.
- Attach a new 10ml syringe to the valve of the pilot cuff and slowly withdraw the plunger to deflate the cuff, whilst a second staff member simultaneously suctions via the tracheostomy tube

Tracheostomy cuff inflation:

For air-filled cuffs:

- Reinflate the cuff using a 10ml syringe introducing air slowly so as not to cause discomfort
- Check with a manometer that cuff is between 20-30cmH₂O

For water-filled Bivona TTS cuffs:

- For a water filled Bivona TTS cuff use the **MOV** technique (see text box below) to establish the amount of water required to achieve a cuff seal. Do not attach a manometer, as the water will damage it

The minimal occlusive volume (MOV) technique:

- **Invasively ventilated patient:** inflate the cuff until there is no audible air leak in the upper airway using a stethoscope (listen on side of the thyroid cartilage)
- **Non-ventilated patient:** inflate cuff until no voice sounds are audible or use a stethoscope to listen to breath sounds

The Tracoe® Smart Cuff Manager:

- The TRACOE® Smart Cuff Manager is a tracheostomy cuff management device that can be used for patients who may have suspected cuff leak
- This device allows for air flow between the tracheostomy cuff and the balloon chamber which continually maintains the correct internal cuff pressure.
- There is **no need to use a manometer** to check cuff pressure when this device is in place.

Using the Tracoe® Tracheostomy Smart Cuff Manager:

- Attach the device to the tracheostomy pilot line. Using a syringe, inflate the balloon in the chamber with air until it is 2/3 to 3/4 full (figure 1)
- If the device is detached, the chamber balloon will deflate. The tracheostomy cuff will remain inflated.
- To deflate the cuff, you must still use a 10ml syringe to deflate the cuff. This is especially important prior to placing a Passy Muir Valve.
- Figure 2 and Figure 3 demonstrate examples of an under-inflated and an over-inflated chamber balloon.



Figure 1: Balloon chamber 2/3- 3/4



Figure 2: under-inflated



Figure 3: over-inflated

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Legislation/References/Supporting Documents:

- Tracoe ® Smart Cuff Manager product information:
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Endorsed by:

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