



TRACHEOSTOMY REVIEW AND MANAGEMENT SERVICE (TRAMS) 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](#)

Purpose:

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

Key points:

- 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 (contact TRAMS on pager 1291 to arrange loan)
- Stethoscope

Procedure:

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](#)
- Attach a 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

Cuff inflation

- 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 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
- **Using the Minimal occlusive Volume (MOV) technique:**
 - 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

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Legislation/References/Supporting Documents:

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