Policy Directive

ROYAL PRINCE ALFRED HOSPITAL

TRACHEOSTOMY TUBE MANAGEMENT

Document No: RPAH_PD2011_029

Functional Sub-Group: Clinical Governance

Summary: This policy outlines all basic and advanced care and procedures associated with managing patient with temporary tracheostomies

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Replaces Existing Policy: Management of Patients with a Tracheostomy RPAH_PD2009_044
Tracheostomy Emergency Management RPAH_PD2008_006

Previous Review Dates: Nil

Note: Sydney Local Health District (LHD) and South Western Sydney LHD were established on 1 July 2011, with the dissolution of the former Sydney South West Area Health Service (SSWAHS) in January 2011. The former SSWAHS was established on 1 January 2005 with the amalgamation of the former Central Sydney Area Health Service (CSAHS) and the former South Western Sydney Area Health Service (SWSAHS).

In the interim period between 1 January 2011 and the release of specific LHN policies (dated after 1 January 2011) and SLHD (dated after July 2011), the former SSWAHS, CSAHS and SWSAHS policies are applicable to the LHDs as follows:

Where there is a relevant SSWAHS policy, that policy will apply

Where there is no relevant SSWAHS policy, relevant CSAHS policies will apply to Sydney LHD; and relevant SWSAHS policies will apply to South Western Sydney LHD.
TRACHEOSTOMY STOMAS AND RELATED CARE

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Introduction

Prior to the development of the Interdisciplinary Tracheostomy team (ITRACT), management of a patient with a tracheostomy was occurring with different approaches to care and weaning amongst specialists. The ITRACT team was formed to ensure that there was a specialised co-ordinated approach to management. One of the aims of this team was to develop hospital wide policies and procedures to address these issues. The policies and procedures have been developed for the inpatient acute setting.

The risks addressed by this policy:

Clinical Risk

The aims / expected outcome of this policy

- To ensure that patients with a tracheostomy whilst an inpatient at RPAH, are provided with high quality and safe care
- To ensure that care and management is co-ordinated across the hospital with a team approach
- To provide ongoing education to staff re tracheostomy management
- To collect and analyse data regarding patients with tracheostomies
- To ensure in the event of a cardiac/respiratory distress or arrest there is a rapid establishment of a patent airway and appropriate ventilation and oxygenation
- Although this document is called a policy, in an emergency situation staff are required to make judgements based on the clinical picture at that moment. Hence in that situation, the procedure in this document may not be followed exactly. The purpose of this document is to act as a guideline to consider in terms of informing practice
2. Principles / Guidelines

- All patients with a tracheostomy who are located in the Intensive Care Unit and wards will receive a co-ordinated, multidisciplinary approach to management.

- All patients will receive an assessment from Medical Officers, Nursing, Physiotherapy and Speech Pathology.

- All patients will have a documented care plan for safe management of the tracheostomy including decannulation plan.

- Clarification of roles and responsibilities of the multidisciplinary team managing patients with a tracheostomy.

- The decision to change or permanently remove a tracheostomy tube must be made by a senior member of the primary care team or an advanced practitioner (such as a member of ITRACT).

3. Performance Measures

- Reported incidents on Incident Information Management System (IIMS)

- Number of tracheostomy patients who have a documented multidisciplinary care plan

- Total number of tracheostomy patients in RPAH

4. Definitions

- Respiratory distress is defined as a respiratory rate < 8 or > 24bpm, new pulse oximeter readings of saturations < 90% for > 5min (unless chronically hypoxic) or new onset of difficulty in breathing.

5. References and links

- Tracheostomy Clinical Management (ADULT), NSW HEALTH, (PD2010_066) November 2010

- Management of Patients with a Tracheostomy Tube at Royal Prince Alfred Hospital (RPAH_PD2007_029)
6. **Patient Assessment and Clinical Handover**

All patients with a tracheostomy must have a documented plan for tracheostomy assessment, management and review.

Review of the tracheostomy plan needs to occur each 24 hours and any alterations documented and notified to the primary care team.

On transfer of patient care it is essential that a verbal and documented handover of tracheostomy care include:

- Tracheostomy tube insertion date, reason for insertion, type and method of insertion, size and method anchored.
- Secretions (amount, colour and consistency), humidification and suction requirements.
- Relevant clinical history including baseline respiratory rate, work of breathing, chest sounds, tube patency, cough/swallow reflex, oxygenation and O2 administered.
- A use of a care plan and the tracheostomy form is recommended to guide the handover process.
• The clinical handover process must include a physical check to ensure that the tracheostomy tube is patent, aligned and secure.
• The handover should also include the stage of weaning the patient is at – cuff deflation tolerance, speaking valve, fenestrated inner tube etc.

7. Bedside Equipment
• Tracheal dilators
• Tracheostomy tubes – same size & one size smaller (these may reside outside the room in the case of an infectious patient, must be clearly visible)
• Spare inner cannula of same size (Portex only)
• Spare temporary red inner cannula (Shiley only)
• Cuff pressure manometer
• Stethoscope
• 10ml non-Luer lock syringe
• Suction equipment
  ▪ Appropriate sized catheters – closed system or Y suction catheters
  ▪ Suction tubing
  ▪ Yankauer suction tube
• Bottle of normal saline for cleaning inner cannula
• Oxygenation / humidification equipment
  ▪ Swedish nose or wet circuit with tracheostomy mask
  ▪ Oxygen tubing
• Kidney dish
• Split drainage dressing
• Spare tracheostomy tie
• Protective eye wear
• Disposable gloves
- Plastic aprons
- Bedside tracheostomy chart
- Tracheostomy box checklist
- ITRACT contact list

**N.B.** The following equipment must be clearly visible and within reach at all times at the bedside of a patient with a tracheostomy tube insitu.

8. Routine Procedures

8.1 Cuff Pressure Measurement

**Rationale:**
- Monitoring the cuff pressure of the tracheostomy tube every eight hours to maintain the cuff pressure between 22 – 30cmH₂O.
- High pressures can result in a decrease in capillary blood flow, which may lead to tracheal stenosis and other complications.
- Low pressures can cause an insufficient seal resulting in aspiration or ineffective ventilation.

**Equipment:**
- Non-sterile gloves
- Cuff pressure manometer
- 10mL syringe

![Image of cuff pressure manometer]

**Procedure:**

1. Observe the 5 moments of hand hygiene
2. Explain the procedure to the patient.
3. Obtain cuff pressure manometer
4. Attach the manometer to the port on the pilot tube; the pressure should register between 22 – 30cmH₂O. If the **pressure is higher** use the release valve on the side of the manometer to release air until the pressure falls to below 30cmH₂O. If the **pressure is lower** squeeze the bulb on the manometer to inflate the cuff to greater than 22cmH₂O. Alternatively air can be added or removed using a 10ml syringe, and the cuff pressure rechecked.
5. If a “bubbling or gurgling” noise or voice is detected with a normal cuff pressure there may be an air leak present. Inflate the cuff until the noise is no longer heard and immediately inform the RMO.

8.2 Cleaning the Inner Tube

**Rationale:**

- The inner tube is cleaned and replaced **at least every four hours or more frequently if required** to maintain a patent airway and to ensure that the tube is not blocked. More frequent checks will depend on viscosity and volume of secretions.

**Equipment:**
• Clean gloves
• Sterile saline
• Kidney dish
• Spare inner tube

**Procedure for cleaning the Portex inner tube:**
1. Observe the 5 moments of hand hygiene
2. Explain the procedure to the patient.
3. Put clean gloves on both hands.
4. Position the patient comfortably; preferably with the head of the bed elevated 30 degrees and the neck in slight extension so that the stoma area is clearly accessible.
5. Secure the tracheostomy tube with one hand and pull the ring until the inner tube is removed

![Portex Inner Tube](image)

**Non fenestrated cuffed tube and non fenestrated inner tube**
6. Insert the spare inner tube and clean the existing tube.
7. To clean the inner tube, hold under cold running tap water to loosen secretions, rinse well with sterile normal saline. Allow to dry naturally in kidney dish.

**Procedure for cleaning the Shiley inner tube:**
1. Observe the 5 moments of Hand Hygiene.
2. Explain the procedure to the patient.
3. Put clean gloves on both hands.
4. Position the patient comfortably; preferably with the head of the bed elevated 30 degrees and the neck in slight extension so that the stoma area is clearly accessible.

5. Secure the tracheostomy tube with one hand and twist the inner tube anticlockwise to unlock and remove the inner tube.

6. **Insert the red temporary inner tube- this can only remain insitu for a maximum of 10mins**

7. To clean the inner tube hold under cold running tap water to loosen secretions, rinse well with sterile normal saline. Allow to dry naturally in kidney dish.

8. Remove the red temporary inner tube and reinsert the clean inner tube and lock in place.

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**Fenestrated cuffed tube and inner tubes**

### 8.3 Suctioning the tracheostomy Tube

**Rationale:**

- Removal of secretions from the trachea and tracheostomy tube using a suction catheter connected to a suction source. Suctioning is used when patients are unable to cough their sputum out of the tracheostomy tube when the cuff is inflated or into their mouth when the cuff is deflated.

- Patients should be suctioned on a clinical need rather than a regimented routine.
Equipment:

- Suction catheters (appropriate size for tracheostomy tube) or closed system suction (stericath)
- For mini tracheostomy size 10 suction catheter only
- Safety goggles
- Water for cleaning suction tubing
- 10mL syringe
- Yankauer sucker
- Suction source
- Clean gloves (see related document: Rossoff LJ et al)
- Pulse oximetry if available

Procedure prior to suctioning:

1. Observe the 5 moments of hand hygiene.
2. Explain procedure to patient when you are about to begin suctioning.
3. Ensure patient is well oxygenated or pre-oxygenate if necessary.
4. Prior to performing suction note the type of tracheostomy tubing:
   - Portex fenestrated tubes; do not require change of inner tube prior to suction
     - note cuff status does not need to be altered for suction.
   - Shiley fenestrated tubes; remove fenestrated inner tube and replace with non-fenestrated tube prior to suctioning.
CLOSED SYSTEM SUCTION (Stericath) PROCEDURE:

1. Wash hands.
2. Don clean glove on both hands.
3. Attach closed circuit to tracheostomy.
4. Attach suction tubing to closed system.
5. Introduce catheter into tracheostomy tube without activating any suction.
6. Insert catheter until cough reflex is stimulated or gentle resistance is felt.
7. Withdraw catheter 1cm then apply suction by pushing the button on the stericath.
8. Ensure that the catheter is completely withdrawn from the inner tube. A stericath left in the tube will cause air obstruction and subsequent respiratory compromise.
9. Suction should not be applied for longer than 10 seconds for each pass (this has been shown to limit hypoxemia and trauma).
10. The catheter may be inserted a maximum of 3 times if copious secretions provided it has not come in contact with exterior contaminants (i.e. bed clothes, skin, etc)
11. If the patient was receiving oxygen prior to suctioning, reattach oxygen immediately on completion of suctioning.

12. After suction assess whether the patient needs any further suctioning.

13. When suctioning completed, disconnect catheter from suction tubing. The closed circuit suction device may remain attached to suction tubing.

14. Flush suction tubing with water.

Ensure the stericath is changed every 24 hours. Y suction catheter

1. Wash Hands.

2. Don clean gloves.

3. Open suction catheter packet to expose adaptor only.

4. Attach adaptor to suction source.

5. Turn suction on wall to 20mmHg (high pressure).

6. Secure attached suction catheter under arm ensuring catheter remains in packet.

7. Remove packaging from catheter, grasping the adaptor with gloved hand.

8. Introduce catheter into tracheostomy tube without activating any suction.

9. Insert catheter until cough reflex is stimulated or gentle resistance is felt.

10. Withdraw catheter 1cm then apply suction by placing thumb over adaptor port.

11. Ensure that the catheter is completely withdrawn from the inner tube. A stericath left in the tube will cause air obstruction and subsequent respiratory compromise.
12. Suction should not be applied for longer than 10 seconds for each pass (this has been shown to limit hypoxemia and trauma).

13. The catheter may be inserted a maximum of 3 times if copious secretions provided it has not come in contact with exterior contaminants (i.e. bed clothes, skin, etc).

14. If the patient was receiving oxygen prior to suctioning, reattach oxygen immediately on completion of suctioning.

15. After suction assess whether the patient needs any further suctioning.

16. When suctioning completed, disconnect catheter from suction tubing and remove glove, discarding together.

17. Flush suction tubing with water.

Post Procedure:

1. Check patient oxygen saturations. Provide additional oxygen if required.

2. Remove inner cannula and ensure cannula not blocked with secretions.

3. Auscultate chest to ensure chest clear of secretions.

4. Reassure patient and evaluate comfort.

5. Evaluate nature and volume of secretion.


8.4 Changing Tracheostomy Dressing and Tapes

Rationale:

- Changing the stoma dressing and tapes at least once a day and PRN ensures the skin integrity. **Two person procedure – one to stabilise the tube and one to attend to the dressing.** It is not recommended that the tracheostomy dressing or tapes be changed within the first 24 hours of insertion of the tracheostomy.
Equipment:

- Dressing pack
- Sterile normal saline
- Drainage “keyhole” dressing
- White linen tapes or foam & Velcro tube holder
- 4 x Non sterile gloves

Procedure:

1. Observe the 5 moments of hand hygiene.
2. Explain the procedure to the patient.
3. Suction the patient if required.
4. Position the patient comfortably; preferably with the head of the bed elevated 30 degrees and the neck in slight extension so that the stoma area is clearly accessible.
5. Second person to stabilize the tube by holding the white 15mm outer portion of the tracheostomy.
6. Remove old tracheostomy dressing with gloved hand.
7. Wash hands; open dressing pack and sterile equipment. Put clean gloves on both hands.
8. Clean around the stoma with saline soaked gauze.
9. Dry stoma with gauze.
10. Place drainage dressing around the stoma and tube. An absorbent dressing may be used if the site is excoriated and exudate is present.
11. Undo soiled tapes and remove.
12. Linen tapes - fold the tape at about 1/3 of its length and thread the folded end through the eye on one side of the faceplate then thread the loose ends through the loop made by the folded end. Repeat for the other side. Pass the longs ends of the ties around the neck and tie them to the short end of the other side with a knot. Make sure you can fit two fingers snugly between the ties and the patient’s neck to ensure they are not too tight.
13. Velcro tube holder – Place the foam at the back of the neck with the Velcro facing away, insert the thin sections through the faceplate and secure by fastening back onto the Velcro. Repeat on the other side.
14. Remove equipment and leave the patient comfortable.
15. Dispose of waste correctly.

8.5 Humidification of the tracheostomy tube

Rationale:

- Normal humidification of the airways is provided by the nasopharynx; this is bypassed when a tracheostomy tube is in situ. Artificial humidification is required to minimise thick secretions and hence airway complications.

Procedure: for a Ventilated patient

- **Bedside Equipment:**

- A humidifier with heater wire.
- Temperature probe.
- Bag of **water** for irrigation. Do not use normal saline as it will damage the humidifier.
- Wet circuit ventilation tubing.
- 2 white filters.

1. Ensure that the chamber base and heater plate are undamaged and clean and dry. Connect to power.

2. Slide the humidification chamber onto the heater plate. The finger guard will automatically lock the chamber in place.
3. Suspend the bag of water for irrigation above the humidifier and connect
the chamber to the water (via the blue twist nozzle).

4. Connect the white bacterial filters to the ventilator.

5. Connect the short blue inspiratory tubing to the inspiratory port on the
ventilator and into the inlet port on the humidifier chamber.

6. Then connect the longer blue inspiratory hose from the outlet port on the
humidifier chamber to the corrugated tubing.

7. Connect the white expiratory tubing to the white expiratory port on the
ventilator.

8. Push the temperature probe plug into the socket on the side of the
humidifier base.

9. Place the “T shaped” or first sensor into the port on the elbow assembly of
blue inspiratory tubing (long tubing). Push in firmly.

10. Place the second sensor of the temperature probe into the port at the end
of the inspiratory side of the circuit just before the patient.

11. Ensure the heater wire (yellow) is plugged into the side of the humidifier,
connect the shortest (or 3 pronged) sensor into the distal point of elbow
assembly, and the longer (or 2 pronged) sensor into the white expiratory
tubing (near attachment to ventilator).

12. If ventilated patient changing from a ‘dry’ to wet circuit on Evita ventilators
ensure ‘Active Humidification’ is chosen on ventilator and the ‘airtight
check’ is attended.

13. The chamber is ready to turn on.

14. Check that the humidifier is set to ETT.
**Procedure:**

**For a Non-Ventilated patient with normal secretions**

- Use HME on the end of the tracheostomy. HME must be changed every 24 hours or more frequently if required.

**For a Non-Ventilated patient with high secretion load / high oxygen requirements.**

- **Bedside Equipment:**

  [Humidified circuit set up for ventilated patient]
- A humidifier with heater wire
- Temperature probe
- Bag of **water** for irrigation
- Adult oxygen therapy; heated with MR290 chamber and air entrainer

1. Complete steps 1 – 3 above.
2. Attach the blue tubing to the outlet port on the humidifier.
3. Connect a tracheostomy hood to the distal end of the blue tubing.
4. Push the temperature probe plug into the socket on the side of the humidifier base (blue connector).

5. Place the “T shaped” or first sensor into the port on the elbow assembly of blue inspiratory tubing, push in firmly.

6. Place the second sensor of the temperature probe into the port at the end of the inspiratory tubing just before the patient.

7. Ensure the heater wire (yellow) is plugged into socket on the side of the humidifier, connect the shortest (or 3 pronged) sensor into the distal point of elbow assembly, the longest sensor (2 pronged) does not connect into anything.

8. Attach the oxygen entrainer to inlet port on humidifier and set desired oxygen concentration, attach oxygen tubing from entrainer to oxygen outlet on wall.
9. Ensure the humidifier is set on tracheostomy (face mask) mode.

10. Ensure the equipment is changed weekly.

Post Procedure:
1. Monitor patient’s oxygen saturation, secretion production, respiratory rate and effort every 4 hourly.

2. Change the HME daily or PRN whenever soiled.

3. Ensure patient is adequately humidified.

4. Signs of inadequate humidification include:
   - Thick secretions
   - Difficulty suctioning/ coughing out secretions
   - Blocked tracheostomy inner cannula
   - Secretions are blocking catheter

5. The inner cannula must be checked for patency, cleaned and replaced 2-4 hourly or PRN depending on the viscosity and volume of secretions.

6. Document the changes or humidification application in notes.

8.6 Transporting the Patient with a Tracheostomy

Rationale:
To maintain airway patency of a patient with a tracheostomy tube insitu during transport.

Equipment
- Tracheal dilators.
- Tracheostomy tubes – same size & one size smaller.
- Portex only - Spare inner cannula of same size.
- Shiley only – White non fenestrated inner cannula (unless already insitu) – For suctioning and emergency purposes.
- Cuff pressure manometer.
- Stethoscope.
- 10ml non-Luer lock syringe.
- Suction equipment – catheters - closed system or individual catheters, tubing.
• Mobile suction unit.
• Yankauer suction catheter.
• HME if required.
• Oxygen tubing and oxygen cylinder if required.
• PPE (personal protective equipment).

Procedure:
1. Patient requires nurse escort.
2. Assess need for suctioning prior to transport – suction as appropriate.
3. Ensure all equipment available and working ready for transport.

9. Tracheostomy tube change or removal

The decision to change or permanently remove a tracheostomy tube must be made a by a senior member of the primary care team or an advanced practitioner (such as a member of the ITRACT).

9.1 Changing the tracheostomy tube

Rationale:
• Tracheostomy tube change is performed to:
  1. Change to fenestrated tube to assist in weaning
  2. Downsize
  3. Maintain tracheostomy tube integrity

NSW DOH policy states a tracheostomy tube should not be changed within 72 hours of insertion and should only be considered when it is felt that the patient is at greater risk if the current tube is not changed. If unavoidable then appropriately trained senior clinical staff, airway management and intubation
equipment, and patient SpO₂ monitoring must be immediately accessible.

Where possible difficult intubation equipment including: fibre-optic bronchoscope and end tidal CO₂ (ETCO₂) monitoring should be available.

Here at Royal Prince Alfred Hospital, the standard practice is to not change a tracheostomy tube prior to one week.

FOR THE FIRST TRACHEOSTOMY TUBE CHANGE, A MEDICAL OFFICER WITH ADVANCED AIRWAY MANAGEMENT SKILLS MUST BE PRESENT FOR THE PROCEDURE.

The patient should be nil-by-mouth for at least 4-6 hours prior to tube change. Most patients usually have a cuffed non-fenestrated Portex tracheostomy tube initially inserted. This is usually changed to a cuffed fenestrated Shiley tracheostomy tube to facilitate the weaning process.

Equipment:

- Tracheostomy tube for insertion
- Spare tracheostomy tube of a smaller size
- 10mL non-Luer syringe
- Eye protection/ goggles
- Sterile gloves
- Clean gloves
- Sterile Saline
- Suction catheters and Yankauer sucker
- Tracheostomy cuff manometer
- Tracheal dilators
- Pulse oximeter
- Tracheostomy tapes
• Tracheostomy dressing

Procedure:

1. Observe the 5 moments of hand hygiene.
2. Explain the procedure to the patient.
3. A minimum of two staff (one of whom should be accredited) should perform the procedure.
4. Ensure all emergency equipment is available.
5. Place pulse oximeter on the patient and if required pre-oxygenate.
6. Position the patient comfortably; preferably with the head of the bed elevated 30 degrees and the neck in slight extension so that the stoma area is clearly accessible.
7. Equipment check: Open dressing pack and place sterile equipment on field. Ensuring a sterile technique, place 20mL of saline into a sterile container, inflate the tracheostomy cuff and check for any air leaks by placing the cuff in the saline and observing for air bubbles. Ensure cuff is completely deflated post check.
8. Check how to remove the introducer.
9. Suction via the tracheostomy and the oral cavity as indicated.
10. Whilst one staff member supports the tracheostomy tube, the second staff member should untie the tapes and remove the dressing.
11. Clean the stoma and around the site with normal saline.
12. Whilst one staff member deflates the cuff using the 10mL syringe, and holds the tube in place, a second staff member suctions the patient via the tube until secretions are cleared.
13. The old tracheostomy tube is now removed.
14. The new tube is promptly inserted into the stoma with introducer in place. For safe insertion, insert the tube from the side and rotate it into midline once it has entered the trachea.

15. The introducer is then removed **immediately**.

16. To determine correct positioning, ensure that the patient is inhaling via the tracheostomy tube.

17. Inflate the cuff as appropriate.

18. Insert inner tube of tracheostomy.

19. Firmly secure tracheostomy tube with tapes ensuring that no more than two fingers are able to fit between the ties and the skin.

20. Place clean dressing around stoma.

21. Suction patient to clear secretions. Inability to pass the catheter is an indication of a malpositioned tracheostomy. If this occurs the tube should be repositioned immediately.

22. Ensure oxygen supply and check SpO2, and/or titrate oxygen if needed.

23. Ensure patient comfort.

**Post Procedure:**


2. Report excessive bleeding from stoma or excessive granulation tissue to medical staff.

3. Clearly document tracheostomy change in the notes. (For Portex tube use sticker provided in box and place in progress notes. If Shiley tube, you will need to clearly state type and size of the tube).

4. Changing or downsizing a tracheostomy tube carries significant risks. If the tube exchange fails and there is excessive delay to
intubate, the patient may develop respiratory distress or a respiratory arrest. Complications associated with tube changes usually occur when there is inadequate preparation.

5. If at any time during the procedure, the patient deteriorates, place an emergency call.

6. Dispose of waste appropriately

9.2 Tracheostomy Tube Decannulation

**Equipment:**

- 10mL non-luer syringe
- Eye protection/ goggles
- Clean gloves
- Suction catheters and Yankauer sucker
- Tracheal dilators
- Pulse oximeter
- Appropriate oxygen source (oxygen mask or nasal prongs)
- Occlusive dressing.

**Procedure:**

The patient should be nil-by-mouth for at least 4-6 hours prior to decannulation.

1. Observe the 5 moments of hand hygiene.

2. Explain the procedure to the patient.

3. Ensure all emergency equipment is available.

4. Place pulse oximeter on the patient and if required pre-oxygenate via nasal prongs or mask.
5. Position the patient comfortably; preferably with the head of the bed elevated 30 degrees and the neck in slight extension so that the stoma area is clearly accessible.

6. Suction via the tracheostomy and the oral cavity as indicated.

7. Undo tracheostomy tapes and remove tracheostomy dressing.

8. Ask the patient to take a deep breath and gently withdraw tracheostomy tube on expiration.

9. Clean stoma site with normal saline and inspect for bleeding or infection.

10. Place occlusive dressing over stoma.

11. Place clean dressing around stoma.


**Post Procedure:**

1. Monitor patient’s oxygen saturation, secretion production, respiratory rate and effort every 4 hourly over the next 24 hours. Also monitor the patient’s oxygen requirements and alert the medical staff if increasing.

2. Report excessive bleeding from stoma or excessive granulation tissue to medical staff.

3. Teach patient to cough effectively by applying digital pressure over the stoma dressing. This technique can also be used for effective voice production.


5. Dispose of waste appropriately.

6. Continue to supply normal saline nebulizers for humidification for 24 hours post decannulation.
6.12 Tracheostomy Emergency Management

**Note:** Although this document is called a policy, in an emergency situation staff are required to make judgements based on the clinical picture at that moment. Hence in that situation, the procedure in this document may not be followed exactly. The purpose of this document is to act as a guideline to consider in terms of informing practice.

**Rationale:**
To ensure in the event of a cardiac/respiratory distress or arrest there is a rapid establishment of a patent airway, and appropriate ventilation and oxygenation. Although this document is called a “procedure”, in an emergency situation staff are required to make judgements based on the clinical picture at that moment. Hence in that situation, the procedures in this document may not be followed exactly. The purpose of this document is to act as a guideline to consider in terms of informing practice.

**Procedure:**

In the event of arrest or respiratory distress for the patient with a tracheostomy, the BLS algorithm is followed. If a patient is in respiratory distress, has persisting desaturation or cardiac / respiratory arrest, the resuscitation team should be called immediately and the BLS algorithm is followed.

**AIRWAY**

The obstructed tracheostomy / Clearing the airway

There are several factors that could contribute to and obstructed tracheostomy:

- Occluded inner cannula
- Occluded tracheostomy
- Herniation of cuff over tracheostomy tube
- Dislodged / kinked tracheostomy tube
- Anatomical abnormality. When checking the Airway, the tracheostomy / inner cannula is checked for patency and cleared.
  1. Deflate the cuff with a 10mL syringe
  2. Remove the inner cannula if present
3. Suction the tracheostomy
4. Apply Oxygen to both mouth and tracheostomy

- Problems that may occur in patients with a tracheostomy;
  1. Tracheostomy tube obstruction; partial and complete obstruction
  2. Accidental decannulation

A process of troubleshooting will assist in determining the above problems.

Partial Obstruction

1. Pass a suction catheter into the tracheostomy tube, partial blockage is indicated by resistance or by roughened feeling (feels crusty).
2. Suction the tracheostomy to remove obstruction.
3. Change inner cannula.

Complete Obstruction

1. Call resuscitation team
2. Deflate the cuff with a 10mL syringe
3. Remove inner cannula if present
4. Apply Oxygen to both mouth and tracheostomy
5. If the tracheostomy tube is blocked consider replacing / removing the tracheostomy. *This is a decision that should only be made by senior medical / nursing / physiotherapy staff with extensive competent tracheostomy experience.* With the tracheostomy tube removed ventilate mouth to valve/mask/bag ensuring tracheostomy site is covered.
6. A medical decision to recannulate or intubate the patient may be made.

Accidental Decannulation

1. Need to ascertain when tracheostomy tube was inserted; less than or greater than 7 days.

Tracheostomy inserted 7 days or less:

1. Ensure adequate oxygenation: oxygenate via stoma, or mouth using valve/mask/bag whilst occluding stoma.
Tracheostomy inserted greater than 7 days:

1. Consider recannulation. This is a decision that should only be made by senior medical / nursing / physiotherapy staff with extensive competent tracheostomy experience.

2. If the tube is only slightly displaced, deflate the cuff and guide the tracheostomy tube back into the trachea, then re-inflate the cuff. Check tube position by auscultating the patient’s chest for air entry.

3. If the tracheostomy tube is completely out of the patient’s airway, quickly locate the spare tube of the same size. With the introducer in place, insert the tracheostomy tube gently but firmly into the patient’s airway, remove the introducer and inflate the cuff. Check tube position by auscultating the patient’s chest. Refer to tracheostomy tube change policy.

4. If the tube of the same size will not fit into the stoma, try the next size down.

5. Once the tracheostomy tube is inserted, replace the oxygen via tracheostomy tube or reattach ventilator.

6. In the ventilated patient whose tracheostomy tube becomes dislodged and cannot be reinserted, cover the stoma and bag via a face mask with Air-Viva.

7. If time allows, the tracheostomy tube cuff should be checked and lubricated prior to insertion.

**BREATHING**

1. Once the airway is cleared assess for breathing by look, listen and feel.

2. If the patient is breathing spontaneously apply maximum available oxygen to:
   - The tracheostomy site, if the tracheostomy tube is not blocked.
   - The mouth and nose if the tracheostomy tube is blocked (ensure cuff is deflated).
   - Laryngectomy stoma if the patient has had a laryngectomy.

3. If breathing is absent or severely compromised alert the resuscitation team.

4. If the patient is not breathing and the tracheostomy is patent and clear, inflate the cuff, insert non-fenestrated inner cannula and ventilate mouth to valve to tracheostomy or bag / valve to tracheostomy (ALS accredited RN or RN competent and assessed using a bag / valve mask (see Appendix 1).

**CIRCULATION**

Follow BLS / ALS flowchart.
See below for Algorithm

Patient with a tracheostomy

Patient in respiratory distress/arrest

Persisting desaturation

Semi conscious

Call for Help, Activate Resuscitation Team

Initiate BLS, Danger, Response

Patent?

YES

NO

AIRWAY
Assess and clear airway
Suction the tracheostomy
Oxygen to face and trache

Obstruction
If the trache is still obstructed after suctioning and removing the inner cannula, deflate the cuff

Patent?

YES

NO

Breathing
Assess for breathing
Look, Listen and Feel

Breathing present?

YES

NO

Breathing absent - continue artificial ventilation

Check for Circulation/Signs Of Life. Commence CPR if necessary

Endotracheal intubation or laryngeal mask. Consider removing trache. Bag & mask. Cover stoma

Reassess airway

Continue O² via face or trache