Critical Care Complex
Tracheostomy Care and Safety

Care of Patients with a Tracheostomy or Laryngectomy

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Objectives

- To define the difference in types of neck breathers
- Identify different tubes/stoma devices
- Explore importance of humidification
- Look at general care required
- Update on latest guidance on suctioning
- Outline the emergency equipment required
- Explore how to use D.O.P.E in emergency situation
- Discuss the safety of patients in CCC and ward environments
Mandatory tracheostomy training for nursing staff

- Attend session
- Complete workbook & return to Tracheostomy Support Practitioner and this will be marked and returned
- Go through any practical skills required
- Have competencies signed off over the next few weeks
- Have annual updates
What is a tracheostomy?

- It is an artificial (surgical) opening in the anterior wall of the trachea to facilitate ventilation.
- It enables air flow to enter the trachea and lungs directly, bypassing the nose, pharynx and larynx.
Side Tracheostomy

- Long term ventilation
- Secure airway in an obstruction
- Head and neck trauma
- Sputum retention
End Tracheostomy

Laryngectomy
- Surgical removal of larynx
- Trachea sutured in opening in neck
- Permanent airway
Stoma Devices

Tracheostomy Tubes
(Must be a 2 piece tube)
- Portex/ Shiley / Tracoe Twist tubes
  - Cuffed/uncuffed
  - Fenestrated
  - Suction aid (subglottic suction)
  - Adjustable flange
- Silver Negus tubes

Laryngectomy Devices
- Bivona
- Stoma Button
Humidification

- Absolutely Essential
  - Cold water or heated humidification
  - Heat moisture exchange device
  - Saline nebulisers
  - Adequate general hydration
Care of inner Cannula

- Check & clean inner cannula for secretions every 2-4 hours
- Clean in designated bowl using bottled sterile water
- Dry bowls & brush thoroughly after use
- Have spare inner of same size available at bedside
- Record cleaning /suctioning on tracheostomy care chart
Suctioning procedure

- Explanation and consent
- Correct inner cannula
- If patient can cough only suction to the end of tube plus 1cm (approx 11cm)
- If they can't cough use deep suction technique, insert catheter to carina (approx 16cm) withdraw 1cm before applying suction
- Apply suction on withdrawal for no longer than 10-15 secs.
- Remove and re-insert clean inner cannula once no further suctioning is required.

- Suction set at 100-150mmHg/20kpa
- Correct sizing catheter - (for portex tubes)
  Size of tube -2= ?
  ? X2 = fg suction catheter
Infection control

- **Suction** up any remaining water in bowls
- Dry bowls & brush thoroughly after use
- When suctioning use universal precautions + face protection if not using closed system
- Change bowls, brush and sterile water daily
- Label bowls with inner cannula care/suctioning with date

Why check cuff pressures?

In CCC when patient ventilated
VAP Bundle

- CCC standard is 4hrly checks of cuff pressures
- Maintain cuff pressures 20-30 cmH2O

A cuff that needs continual re-inflation or high pressures to maintain seal should be changed as it may be that the cuff is leaking and this will put the patient at risk of VAP.

In ward environment

- When inflated, the cuff pressure should not exceed 26 cm H2O
- May cause capillary perfusion pressure causing mucosal damage
- May cause oesophageal pressure & risk of aspiration
Emergency equipment at the bedside

Recent addition of a Paediatric face mask

Why?
Complications

Immediate;
Haemorrhage - minor or severe
Occlusion of tube - cuff herniation
Misplacement of tube - pretracheal tissues
Pneumothorax
Surgical emphysema

Longer term;
Fistula
Over granulation

DOPE
DISPLACEMENT
OBSTRUCTION
PNEUMOTHORAX / PNEUMONIA
EQUIPMENT
Raising the safety issues of ‘Neck breathers’

- MDT Trachy Working Group
- CCOT/H@N handover list of Neck -breathers in the Trust at end of day
- H@N SNP review all new Neck breathers transferred from CCC
- All Neck breathers on CCOT patient list
- Encourage incident reporting if operational policy not followed or care suboptimal

• Emergency airway management training for SNP & CCOT
Operational policy

Restrict wards where ‘Neck breathers’ can be located
Ensure sufficient trained nursing staff on duty
Require 24hrs notice for transfers from CCC
Only transfer from CCC to wards between 08.00-18.00hrs

Bed management must not circumvent safe process without explicit approval of the Medical Director (or proxy) on-call, who will be responsible for making plans to manage this risk
Transfer from CCC

Criteria set for transfer
Decision made by CCC consultant that patient is fit for transfer

- Follow agreed pathway & complete relevant referrals & documentation
- Senior nurse ward area – adequate staffing/special required?
- Refer to TSP/ CCOT/H@N with estimated discharge time

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Criteria for discharge

- Patient requires FiO2 40% or less and no more than 2hrly suction.
- Patient has a 2 piece tracheostomy tube in situ with the inner cannula in place and there are cleaning brushes available to clean the inner cannula.
- Patient is going to a Trust Approved Ward for accepting Tracheostomy patients (Buxton, Gissing, Dunston, Heydon, Collishall, Mubarton).

Necessary Referrals

- Liaise with Ward Sister & Bed Manager once estimated discharge date decided (in order that staffing levels, training and safety of patient can be considered).
- Refer to Tracheostomy Support Practitioner (TSP) using ICE referral system (ext 3521) answer phone, (Bleep 1002)
- Refer to the Critical Care Outreach Team (CCOT) using the Critical Care Referral system and inform them of estimated time for transfer (Bleep 0805)
- Inform Site Nurse Practitioner so they can be reviewed overnight (Bleep 0544)
- Complete Tracheostomy documentation (see below) and use at handover
  - Tracheostomy Transfer Form
  - Tracheostomy Care Chart
  - Tracheostomy Care Plan
  - Weaning Chart
- Ensure patient goes with a fully equipped Tracheostomy Safety Box

Check receiving ward has all the bedside equipment ready to receive the patient prior to transfer.
## TRACHEOSTOMY CARE CHART

<table>
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<tr>
<th>Time</th>
<th>O2 given (%)</th>
<th>Used Humidifier (if used)</th>
<th>O2 flow (L/min)</th>
<th>Suction given (if used)</th>
<th>Suction amount and consistency</th>
<th>Others</th>
<th>Use of Speaking Valved Endotracheal Tube/Trach Button</th>
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The patient with an INFLATED cannula tracheostomy should have the pressure checked every shift and the cuff pressure maintained below 25 cm H2O, within the green safety zone on the manometer.

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## TRACHEOSTOMY TRANSFER INFORMATION

- Name: [Name]
- Consultant: [Consultant]
- Registration No: [Registration No]
- Transferring Ward: [Transferring Ward]
- Date of Birth: [Date of Birth]
- Receiving Ward: [Receiving Ward]
- Critical Care Outreach referral: [Yes/No]
- Tracheostomy Nurse referral: [Yes/No]

**Indications for Tracheostomy:**
- Surgical: [Yes/No]
- Percutaneous: [Yes/No]
- Type and size of tube in situ: [Details]
- Date and time tube inserted: [Date/Time]
- Date start tube change due: [Date/Time]
- Cuff: Tracheostomy [Inflated/Deflated]

**Suction requirements:**
- Suction Catheter Size: [Size]
- Nature of suction / Specimens: [Specimen]
- Humidification requirements: [Yes/No]

**Suction condition / Swabs taken:**
- Suction: Yes/No
- Date to remove: [Date]

**Swallow assessment:**
- Dates / results: [Details]
- Referral sent: Yes/No
- Method of communication and ability to communicate: [Details]

**Current weaning plan:**
- Comments / specific instructions: [Instructions]
- i.e. difficult tube changes, previous obstructions, displacement, bleeding

**Accompanying equipment:**
- Emergency Tracheostomy Box: Yes/No
- Cuff Pressure Manometer: Yes/No

**Signature:** [Signature]
**Print Name:** [Print Name]
**Date:** [Date]

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For any further queries, please contact either the Transferring ward or the Tracheostomy Team at [Contact Information] or Critical Care Outreach Team at [Contact Information].
Where to get more information?

NNUHFTH - any queries get in touch…..

- **Erica Everitt**  
  Tracheostomy Support Practitioner
- **Shirley Brigham**  
  Tracheostomy Support Practitioner

Contactable on  
Bleep 1092  
Ext 3521

Referrals on ICE  
Webpage;  
Tracheostomy Support Service

[www.tracheostomy.org.uk](http://www.tracheostomy.org.uk)
In summary

- Doing the basics well is most important with this group especially in CCC (prevention of VAP)
- Improving your understanding why patients are neck breathers will help with rationale for care & management
- Think what you would do in an airway emergency with your patient who is a neck breather
- Get involved with the MDT management & planning
- Be familiar with documentation and the transfer process to the wards