CP01
Management of Patients with a Tracheostomy or Laryngectomy

Contents

1.0 Policy Statement

This policy defines the management of patients with a tracheostomy or a laryngectomy (i.e. those with an 'altered airway') and the processes that must be followed in providing their care at Royal Wolverhampton NHS Trust (RWT). The emergency protocols and the daily monitoring documents are included. Important background information about tracheostomies and laryngectomies is in Attachment 1.

2.0 Definitions and abbreviations

Altered airway - an airway with changed anatomy (with a tracheostomy/laryngectomy)

CCOT - Critical Care Outreach Team

CNS - Clinical Nurse Specialist

Decannulation – step-wise approach to removing tracheostomy tube

ENT - Ear, Nose and Throat

EWS - Early Warning Score; used to quickly determine the degree of illness of a patient

ICCU - Integrated Critical Care Unit

Laryngectomy - a surgical procedure to remove the larynx and form a permanent tracheal end-stoma

MDT - Multi-Disciplinary Team

OWV – One Way Valve

PSIRF – Patient Safety Incident Response Framework

PEF's – Practice Education Facilitators

PT – Physiotherapist

RWT - Royal Wolverhampton NHS Trust

Seldinger technique - a technique used to sequentially dilate an opening to insert a tube

SLT - Speech and Language Therapist

TaLT - Tracheostomy and Laryngectomy Team

Tracheostomy - a permanent or semi-permanent hole formed into the trachea

Tracheotomy - an incision into the trachea

Tracheostomy Competent Areas are as follows: ICCU, Nucleus and Cardiac Theatres, the Head and Neck Ward and Head and Neck SDEC, Respiratory Wards, Paediatric wards, the Emergency Department, the Acute Medical Unit, Surgical Emergency Unit and the Acute Stroke Unit. Outpatient clinic settings such as A25 head and neck clinics and radiotherapy suites

3.0 Accountabilities

3.1 Chief Executive is responsible for ensuring that effective systems and processes are in place to implement this policy.

3.2 Chief Nurse and Medical Director will ensure that this Policy is effectively monitored, implemented and complies with national and international guidelines and reflects best evidence based practice.

3.3 Divisional Management Teams must instigate the appropriate level of investigation that may result from failure to follow this Policy (using the PSIRF processes).

3.4 Directorate Management Teams must ensure that this Policy is implemented and adhered to in their directorates. Any incidents of failure to follow this Policy must be reported on Datix, investigated to understand and remedy the incompliance. The PSIRF should be used as and when appropriate.

3.5 Senior sisters and charge nurses must ensure that this Policy is communicated, implemented and adhered to ensuring that appropriate training outlined in this Policy is undertaken by their staff.

3.6 The Tracheostomy and Laryngectomy Team (TaLT) comprises core members (TaLT Lead consultant, Tracheostomy Lead for CCOT, ITU consultant, Tracheostomy Speech and Language Therapist and Respiratory Physiotherapist) and wider membership (managers and PEF's of the Tracheostomy Competent Areas, community personnel and other advanced healthcare practitioners). They oversee and optimise the care of adult and paediatric patients with altered airways. The TaLT is responsible for the distribution, implementation and review of this Policy to ensure it complies with national and international guidelines and reflects current evidence based practice, as well as regular engagement in audit processes. Tracheostomy ward round is a subgroup of the TaLT. This MDT ward round occurs fortnightly with representatives from ENT, Tracheostomy SLT, Respiratory PT and CCOT. Patients with a tracheostomy on ICCU and tracheostomy competent areas are reviewed by the MDT in line with guidance for tracheostomy care (FICM 2020). Patients on head and neck areas can be reviewed by the tracheostomy ward round on request. CCOT do not attend ward round for patients on the ICCU unless likely to be discharged from the ICCU with a tracheostomy in situ and weaning plan on going.

3.7 All clinical staff must adhere to this policy and ensure that they access training relevant to their duties and responsibilities outlined in their individual posts. Only staff that are trained as Tracheostomy Competent must be involved in the direct care of altered airways patients.

3.8 The CCOT assists with the day-to-day care of altered airways patients and support training of staff (direct care being provided by staff as above).

3.9 The Tracheostomy Speech and Language Therapists will provide communication, swallowing and tracheostomy weaning advice and

assessment. Input regarding oral care, saliva management and instrumental swallowing assessments will also be provided. Involvement in tracheostomy weaning including implementation of one-way valve use, recommending tracheostomy tube selection and weaning plans.

3.10 Physiotherapy – Physiotherapists will provide essential expertise regarding the close relationship between the upper and lower airways and how to optimize them both to improve altered airways patient's outcomes. This will include inpatient and outpatient opinions where and when possible.

4.0 Policy detail

4.1 Vigilance is essential when caring for patients with altered airways because without immediate recognition and management of a deteriorating situation by a trained healthcare professional significant morbidity or death may result. Patients with a tracheostomy or laryngectomy do not fall under the responsibility of one specific specialty and have, in the past, fallen between groups of care teams. The TaLT is working to develop local services by engaging increasingly with community services and key stakeholders.

Competency requirements

4.2 A staff member that is caring for a patient with a tracheotomy or laryngectomy must be competent to do so; i.e. they must be Tracheostomy Competent (see Attachment 2). Every practitioner involved in the care of patients with tracheostomies or laryngectomies must be aware of the associated complications and alert the CCOT or ENT team if there is any suspicion of these them occurring (see Attachment 3). A copy of the individual's competencies will be retained in their personal file.

Emergency requirements

4.3 If a patient with a tracheostomy or laryngectomy has any signs of respiratory distress then a blocked or displaced tube must be suspected first as these are emergency situations requiring prompt action. Practitioners must follow the National Tracheostomy Safety Project (www.tracheostomy.org.uk) emergency algorithm for tracheostomies (Appendix 3) or laryngectomies (Appendix 4) as applicable. A laminated copy of these algorithms must be present with all patients with an altered airway in RWT in the patient's Emergency Box (see Appendix 5) and either separately with or on the back of their Tracheostomy Bed Head Sign

(see Appendix 6). Any patient in whom their tracheostomy tube falls out must be reported as a Clinical Incident. If the patient's life was in danger and the circumstances avoidable then this should be reported using PSIRF.

Tracheostomy Competent Areas and transfer requirements

4.4 All patients with a tracheostomy or laryngectomy must be looked after in a Tracheostomy Competent Area (see section 2.0 for definition of areas).

4.5. The majority of tracheostomies in the Trust are inserted in ICCU. For those patients who are continuing tracheostomy weaning/ or not yet ready for decannulation, their step down from ICCU to another tracheostomy competent area is essential. Consideration will have been given to the tracheostomy tube selection and the use of a one way valve (OWV) to optimize upper airway sensitization and voicing if appropriate. Consideration of fenestrated tubes and cuffless tubes will have also been explored in line with each specific patient's presentation and clinical needs prior to step down. OWV should only be placed after an assessment from a suitably trained member of the TaLT team and a OWV should never be placed on a tracheostomy with a cuff inflated as this can be fatal.

4.6 CCOT must be made aware of the patient **before** the transfer out of ICCU.

4.7 If a cuff cannot be deflated on transfer to a tracheostomy competent area, the handover to the accepting ward must include the indication for an inflated cuffed tube and details of cuff pressure monitoring. If there is a cuff, the tube must be changed as soon as clinically appropriate. First tube changes and weaning should be directed within an MDT setting and by competent team members.

4.8 The patient's Tracheostomy Emergency Box should be made up on ICCU before transfer elsewhere.

4.9 The ward receiving a patient from ICCU with a new tracheostomy must do the following:

- Take a comprehensive handover regarding ongoing requirements (suctioning, humidification, tube changes etc.) (see Appendix1) and other tasks such as suture removal;
- Confirm that a Tracheostomy Emergency Box accompanies the patient;
  - Ensure that there is always a Tracheostomy Competent person on each shift directly looking after a tracheostomy patient;
- Put up a bed head sign (Appendix 6);
  - Fill in the Tracheostomy Care Bundle (Appendix 1a) at the start of each shift and at regular intervals thereafter.
- Transfer of an altered airways patient must be with a Tracheostomy Competent trained staff member.

4.10 After a patient has undergone a tracheostomy or laryngectomy in theatre, the receiving ward (Head and Neck or ICCU) must be told the following specifics by the operating surgeon or designated deputy:

- Tube make and size, and whether or not fenestrated or cuffed (if the receiving ward does not have spare tubes of the appropriate type, a spare tube must be transferred with the patient from theatre);
- Whether there were any stoma-specific concerns (e.g. requiring a long tube or an adjustable flange).

4.11 Whenever a patient with a tracheostomy or laryngectomy is admitted, staff in the Tracheostomy Competent Area must do the following:

- Notify (by bleep) CCOT informing them of the exact location of the patient, the reason for the current admission, and the indication for the tracheostomy;
- Tracheostomy Emergency Box provided by CCOT (Appendix 5);
- Fill out & put up the tracheostomy / laryngectomy bed-head sign (Appendices 6 and 7);
- Be fully aware of the Emergency Airway Algorithm and have a laminated copy with the patient (Appendices 3 and 4).
- Refer to Tracheostomy SLT and Respiratory Physiotherapy

Head and Neck patient requirements

4.12 Patients on the Head and Neck ward with altered airways will have complex airways including obstructing lesions of the upper airway and post-operative reconstructions of the upper airway. In addition to the guidance in sections 4.7 to 4.10, the following stipulations also apply:

- Any airway issue with these patients must be discussed with the consultant in charge of that patient early to ensure that a full understanding of the case is applied.

- Decannulation will be directed by the consultant in charge of that case within an MDT setting. Patients with upper airway reconstruction can often be decannulated more rapidly than other patients with a new tracheostomy. OWV use is unlikely in this cohort.

Weaning and decannulation requirements

4.13 Weaning and decannulation must be planned carefully with MDT involvement, and the SOP must be followed (see Appendices 8 and 9).

Discharge requirements

4.14 Patients with an altered airway must be well prepared for discharge from hospital. For safe discharge to occur, it is important to educate the following people while the patient remains an inpatient on the principles of tracheostomy management:

- The patient;
- The patient's relatives/next of kin/carers;
- The district/community nursing team.

Patients must be offered a follow up appointment in a suitable clinic (Head and Neck or TaLT clinic, see Attachment 5 and 6) to be seen within the first 4 weeks post-discharge to provide for ongoing support and tube changes. Appendix 10 details the Tracheostomy Discharge Criteria required to help ensure a safe discharge to the community.

Paediatric patients

4.15 Paediatric patients with tracheostomies will be supported by the RWT Paediatric team with links to Birmingham Children's Hospital.

4.16 Related RWT protocols and guidance

NatSSIPs - percutaneous tracheostomy insertion procedure for the ICCU

1. CPOC_NatSSIPs_FullVersion_2023_0.pdf

5.0 Financial Risk Assessment

1	Does the implementation of this policy require any additional Capital resources	No
2	Does the implementation of this policy require additional revenue resources	No
3	Does the implementation of this policy require additional manpower	No
4	Does the implementation of this policy release any manpower costs through a change in practice	No
5	Are there additional staff training costs associated with implementing this policy which cannot be delivered through current training programmes or allocated training times for staff.	No
	Other comments - additional Capital resources, manpower and training resources may increase depending on the growth of the service and local population needs	

6.0 Equality Impact Assessment

Performed on by author. This policy presents no adverse impact on personal protected characteristics.

7.0 Maintenance

The Tracheostomy and Laryngectomy Team will be responsible for reviewing this policy every 3 years or with local or national guidance change, to ensure that it reflects best evidence based practice, any learning or risks presented and it meets the needs of RWT.

8.0 Communication and Training

This policy will be communicated at Trust Induction. Approved Trust policies will be made available to staff via the Trusts Intranet page in the near future. Training structure and methods are communicated throughout this Policy.

Please see Attachment 2 for the full details of training Competencies and training structure. Skills for routine care can be followed on www.e-lfh.org.uk/programmes/tracheostomy-safety

9.0 Audit Process

Criterion	Lead	Monitoring method	Frequency	Committee
Tracheostomy Decannulation audit	TaLT	Routine – review of care records as a monitoring process and review of untoward incidents – presented at each TaLT meeting	Every 12 months	TaLT
Bed head signage	TaLT	Random – over a period per year	Every year	TaLT
Care bundle audit	CCOT lead	Continuous	Every year	TaLT

10.0 References

(1) Tracheostomy Care: On the right trach? (2014) - NCEPOD found at www.ncepod.org.uk

(2) Major complications of airway management in the United Kingdom Report and Findings; 4th Audit Project of The Royal College of Anaesthetists and The Difficult Airway Society

(3) https://www.stgeorges.nhs.uk/gps-and-clinicians/clinical-resources/tracheostomy-guidelines/decannulation

(4) Tracheostomy Care – Intensive Care Society Standards and Guidelines of adult patients with a temporary tracheostomy (2014). Stelfox HT, Crini C, Berra L, Noto A, Schmidt T, Bigatello LM, Hess D (2008). Determinants of tracheostomy decannulation; an international survey Critical Care 12:Rab.

(5) Early versus Late Tracheostomy: A Systematic Review and Meta-Analysis *Otolaryngology Head and Neck Surgery* C. Carrie Liu, Devon Livingstone, Elijah Dixon December 12, 2014 (https://journals.sagepub.com/doi/abs/10.1177/0194599814561606)

(6)COVID-19 Response: Safe Tracheostomy Care – a toolkit for healthcare staff, 7th May 2020, Version 1 found at www.tracheostomy.org.uk

(7) National Tracheostomy Safety Project (NTSP) www.tracheostomy.org.uk

(8) The Global Tracheostomy Collaborative (GTC) www.globaltrach.org

(9) www.e-lfh.org.uk/programmes/tracheostomy-safety

(10) Guidance for Tracheostomy Care, FICM 2020 found https://www.ficm.ac.uk/sites/ficm/files/documents/2021-11/2020-08%20Tracheostomy_care_guidance_Final.pdf

Document Control

Policy number and Policy version: V2.0 June 2025	**Policy Title** Management of Patients with a Tracheostomy or Laryngectomy	**Status:** Final		**Author:** Lead for Tracheostomy and Laryngectomy Team **Director Sponsor:** Chief Nursing Officer
Version / Amendment History	Version	Date	Author	Reason
	V1	Dec. 2020	Lead for Tracheostomy and Laryngectomy Team	Initial submission of policy.
	V1.1	March 2021	Lead for Tracheostomy and Laryngectomy Team	Minor updates to Appendices 1 and 2.
	V1.2	Nov. 2023	Lead for Tracheostomy and Laryngectomy Team	Extension
	V1.3	Jan 2024	Tracheostomy and Laryngectomy Team	Review and Update
	V1.4	July 2024	Lead for Tracheostomy and Laryngectomy Team	Extension
	V1.5	Nov. 2024	Lead for Tracheostomy and Laryngectomy Team	Extension
	V2.0	June 2025	Lead for Tracheostomy and Laryngectomy Team	Full review
Intended Recipients: All clinical staff				

Consultation Group / Role Titles and Date: (all January 2024)

Mr. James Barraclough - Lead for Tracheostomy and Laryngectomy Team (TaLT), ENT Consultant

Emily Davies-Veric – Advanced Practitioner SLT in Critical Care & Tracheostomy

Kimberley Tucker and Victoria Smerdon – Critical Care Outreach Practitioners
Dr. Saibul Ganguly – CCOT ITU Consultant
Samantha Sewell – CCOT Matron
Mr. Neil Giblett - Paediatrics ENT

Name and date of Trust level group where reviewed	Trust Policy Group – June 2025
Name and date of final approval committee	Trust Policy Group – June 2025
Date of Policy issue	June 2025
Review Date and Frequency (standard review frequency is 3 yearly unless otherwise indicated)	June 2028 (every 3 years)

Training and Dissemination: Policy communicated with an official launch Trust-wide and via Trust Intranet. Communicated via Trust Induction. Training on-going as per document contents.

To be read in conjunction with:

CP11 - Resuscitation Policy

CP57 - Prescription and Administration of Emergency Oxygen in Adults

CP05 - Transfer of Patients between Wards, Departments, Specialist Units and Other Hospitals

OP10 - Risk Management and Patient Safety Reporting Policy

OP41 - Induction and Mandatory Training Policy

IP12 – Standard precautions for infection prevention

NEWS2 observation chart (New Cross Hospital)

NEWS2 observation chart (Cannock Chase Hospital)

NEWS2 observation chart (West Park Hospital)

Critical care outreach operation policy

Royal Wolverhampton NHS Trust Guidelines for Tracheostomy and Laryngectomy Patients During the COVID-19 Outbreak (V3 - 25.4.2020)

Initial Equality Impact Assessment (all policies):
Completed Yes / No Full Equality
Impact assessment (as required): Completed Yes
If you require this document in an alternative format e.g., larger print please contact Policy Administrator 8904

Monitoring arrangements and Committee	TaLT regular business meetings

Document summary/key issues covered.

Key words for intranet searching purposes	Tracheostomy Laryngectomy Altered airway
High Risk Policy?	**No**

Appendices

1A. Tracheostomy Care Proforma

1B. Laryngectomy Care Proforma

2. Competency Guidelines for the Care of the Patient with a Tracheostomy

3. Emergency Algorithm for Tracheostomy Patients

4. Emergency Algorithm for Laryngectomy Patients

5. Tracheostomy Emergency Box contents checklist

6. Bed-Head Sign for Patient with a Tracheostomy

7. Bed-Head Sign for Patient with a Laryngectomy

8. Tracheostomy Weaning Proforma

9. Decannulation Criteria Checklist

10. Tracheostomy Discharge Criteria Checklist

11. Laryngectomy Discharge Criteria Checklist

12. Tracheostomy Patient Competence Assessment Tool

Tracheostomy Care Proforma/Audit Tool

Name:

Hospital Number:

DOB:

Tracheostomy Size:

Cuffed □ Non-Fenestrated □

Uncuffed □ Fenestrated □

Date Inserted: Date of last change: Due Change On:

Time (please fill)													
Inner Tube cleaned 2-4 hourly?													
Suctioned? How many times?													
Colour of secretions (use code overleaf)													
Is patient coughing and clearing own secretions? Y/N													
Humidification? HME/Wet Circuit													
Is the tube cuffed? If cuff up cuff pressure must be checked twice per shift or if any change													
Dressing changed/applied in the last 24hrs? Y/N													
Skin quality around stoma? Normal/red/broken skin/ulceration													
Is the patient weaning? Y/N													
One Way Valve/Cap on at ? Off at?													
Oral Hygiene Given? Y/N													
Safety Equipment at bedside and sealed ? Y/N													
Head of Bed Sign and Algorithm in place and complete? Y/N													
Initials and stamp													

All patients are to be administered humidification through either a thermovent or tracheostomy mask

Any concerns, issues or advice required please bleep the CCOT team on 7441.

Please see overleaf for guides.

Tracheostomy Care Guides

Sputum Guide.

Description	Code
White	W
Creamy	Cr
Green	G
Blood Stained	B
Yellow	Y
Thick	Th
Loose	L

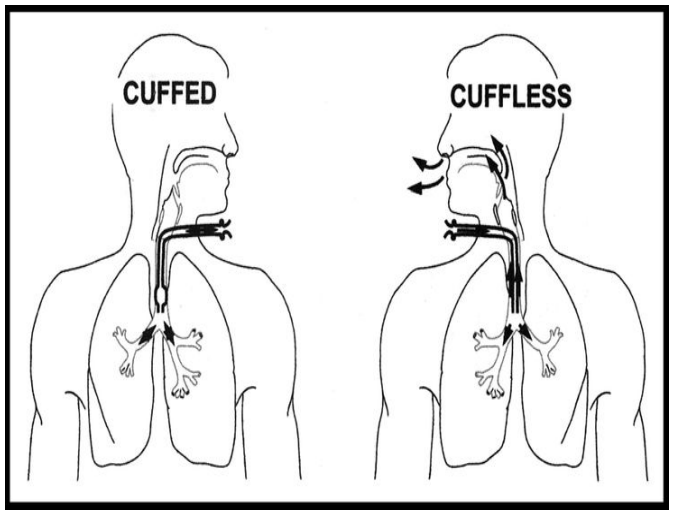
Suction Cather Size Guide

Calculation – Tube Size x 2 – 2

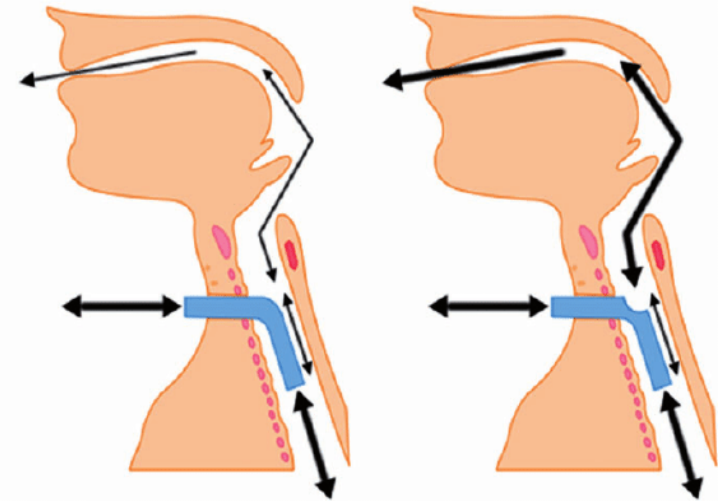
Tube Size	Suction Catheter Size
5	8Fr
5.5	8Fr
6	10Fr
6.5	10Fr
7	12Fr
7.5	12Fr
8	14Fr
8.5	14Fr

Tube Types

Cuffed and Un-Cuffed



Fenestrated/Non-Fenestrated



Laryngectomy Care Proforma/Audit Tool

Name:

Hospital Number:

DOB:

Laryngectomy Tube, Non-Fenestrated □, Fenestrated □

Tracheostomy Tube, Non-Fenestrated □, Fenestrated □

Cuffed □, Uncuffed □

Time (please fill)													
Suctioned? Y/N How many times?													
Colour of secretions (use code overleaf)													
Is patient clearing own secretions? Y/N													
Humidification? Base plate and HME/Wet Circuit/Bib													
Is the tube cuffed? Y/N If cuff up cuff pressure must be checked twice per shift or if any change													
Skin quality around stoma? Normal/red/broken skin/ulceration													
Stoma dressing applied/changed in last 24hrs? Y/N													
Oral Hygiene Given? Y/N													
Safety Equipment at bedside and sealed ? Y/N													
Head of Bed Sign and Algorithm in place and complete? Y/N													
Initials and stamp													

All patients are to be administered humidification through either a thermovent or tracheostomy mask

Any concerns, issues or advice required please bleep the CCOT team on 7441.

Please see overleaf for guides.

Laryngectomy Care Guides

Sputum Guide.

Description	Code
White	W
Creamy	Cr
Green	G
Blood Stained	B
Yellow	Y
Thick	Th
Loose	L

Suction Cather Size Guide

Calculation – Tube Size x 2 – 2

Tube Size	Suction Catheter Size
5	8Fr
5.5	8Fr
6	10Fr
6.5	10Fr
7	12Fr
7.5	12Fr
8	14Fr
8.5	14Fr

Appendix 2 - Competency Guidelines for the Care of the Patient with a Tracheostomy

For Nursing Staff and Allied Health Professionals

Date of implementation: 17/6/2020

Version: **Version 6**

Date for review: **June 2028**

Author's title: **Mr. James Barraclough – Tracheostomy and Laryngectomy Team (TaLT) Lead**

Contents **Page**

Introduction

The care of a patient with an altered airway requires specific knowledge, skills and experience. This assessment tool sets out the required competencies that nurses and allied healthcare professions should demonstrate to be 'Tracheostomy Competent'. This means that the individual can then look after patients with a tracheostomy as they are deemed as safe to do so.

It is important to remember that skills and knowledge must be maintained. If a period of more than 6 months has passed without refreshing these attributes then re-assessment should be sought so as to maintain those competences and safe practice.

Please note that these competencies apply to both the care of adult and paediatric tracheosotomy patients. Specific additional paediatric training is necessary to care for this group of patients. Please contact the paediatric 'Tracheostomy Champion' for further details.

Keep this document safe for continued reference.

Please ensure that you have completed the 'e-Learning for Health' tracheostomy module before completing the competencies. You will need to show your certificate before commencing competency training.

http://www.e-lfh.org.uk/programmes/tracheostomy-safety/

Multiple sources for further reading are available;

http://www.tracheostomy.org.uk

http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/tracheostomy-care-and-management-review

Nursing Competency Framework

This generic Nursing Competency Framework is based on the work of Benner (1984) and Steinaker and Bell (1979) and has been adapted for The Royal Wolverhampton NHS Trust.

With this framework, when the nurse undertakes a programme of learning or development competences, there is a presumption that the nurse has little knowledge or minimal experience of the situations in which they are expected to perform, and therefore is described as a 'Novice'.

As the nurse gains knowledge, experience and skills in an area, they will progress along the novice-expert continuum, and attain different levels of achievement. However, not all learners will be at 'novice' level when they undertake learning in an area, and they will not all become 'experts'. Learners may develop at differing rates, and learning may not be a one-way process. Gaps in clinical practice or exposure to certain situations may mean that refresher training, re-visiting materials, or a period of supervision may be required. In addition, nurses have a responsibility to keep up to date, basing practice on best available evidence, so nurses should take part in appropriate learning and practice activities that maintain and develop their competence and performance (NMC, 2015)

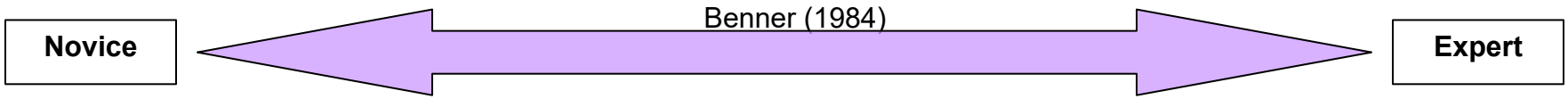
For those staff who are expected to, or intend to undertake roles or duties without supervision, 'Competence' is the level of achievement required. 'Competence' means that the nurse has achieved the required level for their role.

Those staff who will be required to teach or assess others should achieve 'Dissemination' level.

As a level of competence is achieved, the assessor should sign and date the competency document for evidence. Nurses may use a number of assessors, but all assessors should sign the record sheet.

When the competences are completed, the nurse and her final assessor should sign the last page. A copy of the competences should be taken and given to the manager so that they can update their records, and then the document should be placed on the nurse's personal file. The nurse should retain a copy of the competences for their own personal records / Portfolio.

Competency Framework Model



Exposure	Participation	Competence	Dissemination
At the level of 'Exposure' the nurse may have observed a competent practitioner carry out aspects of care or have assisted in delivering care or a practice. The learner may be able to relate a practice to its underlying theory, or their own previous / personal experience. They will be able to identify sources of information required to enhance knowledge and its application to practice.	'Participation' is where the nurse has been actively involved in delivering care or a practice, under supervision. The nurse requires supervision, support or prompts to perform the practice or action safely. They may lack speed, skill and/or knowledge. They may not have enough experience to recognise a situation in terms of an overall picture.	Competence is the level at which the nurse is deemed competent and safe to practice without direct supervision and without the need for any supportive cues. The nurse is able to explain the rationale for the practice or action. The nurse is able to identify supportive materials and methods to keep their knowledge and skills up to date.	At this level, the nurse is able to deliver care safely and competently every time. With experience, the nurse may use their intuition in situations and refer to guidance when events are not occurring as expected. The nurse relies less on existing protocols or guidelines, but refers to them for direction as to what must be taken into account. At 'Dissemination' level, the nurse has sufficient knowledge and experience to teach or influence others.

Assessor Signatures

For validation purposes, all 'Assessors' and 'Tracheostomy Champions' (please see Appendix …. For definitions of these roles) explain these roles and their required training. Is there a list of competent assessors and champions held? involved in the assessment of the nurse undertaking these competences are required to provide a signature and the relevant details below.
All Assessors are personally and professionally accountable for ensuring that they are competent to assess a nurse undertaking these competences.

Full Name	Position	Clinical Area	Signature	Stamp

Tracheostomy Competencies

Competency Statement

On completion of the training programme the learner will be able to prepare the area and equipment for a patient with a tracheostomy, safely nurse a patient with a tracheostomy and be able to identify and manage complications and emergencies.

It is expected that education is supported and assessment undertaken within 3 months. However this will be dependent upon previous experience, amount of exposure, available support within the clinical environment.

Prior to undertaking the training programme it is expected that the learner will have
☐ Prior knowledge of anatomy and physiology of the respiratory system ☐ Knowledge of the indications for tracheostomy ☐ An understanding of the techniques used to form a tracheostomy ☐ An understanding of recognising and managing emergencies and common complications ☐ Knowledge of related equipment requirements and their use in practice

On admission to the Tracheostomy Competent Area from Theatre, ITU, Community or other Ward. Establish the following in line with Tracheostomy Status Report (Appendix 1a)
• Make, type and size of tracheostomy tube • Date of insertion • Humidification requirements • Suction requirements

Emergencies and complications to be recognised and managed
• Blockage • Displacement • Infection • Haemorrhage • Cuff failure • Pneumothorax • Tracheal stenosis/ulceration • Oesophageal erosion • Laryngeal nerve damage • Stomal skin pressure sores

Equipment to be recognised and their use to be demonstrated
• Suction equipment • Safety equipment • Tracheostomy tubes - different tubes used • Dressings • Securing ties

- Cuff pressure monitor
- Tracheal dilators
- Fibre-optic laryngoscope
- Water circuit

Assessor to sign, stamp and date achieved level of competence

Competency Outcome : The Nurse will be able to demonstrate safe practice for patients with a tracheostomy

Key Skills	Assessment Criteria	Exposure	Participation	Competent	Dissemination
A. Demonstrates an understanding of the anatomy and physiology of the respiratory system	Identify the main structures of the respiratory system Discuss the position of these structures in relation to their function Discuss the mechanics of respiration Discuss the process of oxygen delivery				
B. Discuss the indications for the insertion of a tracheostomy	Identify reasons for the insertion of a tracheostomy tube Discuss the benefits to the patient Discuss the different techniques used for tracheostomy insertion Describe the investigations that are				

	required prior to insertion				
C. Discuss different types of tracheostomy tube and the indications for each.	Identify the different tubes available and the reason for the choice of tube Discuss the principles of cuff safety				
D. Demonstrates ability to assist with change of tracheostomy tube and can discuss potential complications	Preparation and explanation to the patient as required Adherence to PPE guidelines Discuss issue of consent Assemble the correct equipment and perform safety checks prior to procedure Assist medical staff as indicated Ensure chest x- ray is requested and reviewed post insertion				

	Discuss possible complications following this procedure e.g pneumothorax, bleeding, tube inserted incorrectly				
E. Discuss and demonstrate the nursing care for a patient with a tracheostomy	Discuss the importance of humidification Demonstrate the ability to care for tracheostomy tube, including cleaning of inner tube Discuss the care of the stoma, including appropriate selection of dressings and tapes Patient positioning and comfort Skin integrity assessment Discuss issues with communication Discuss the role of speech therapy in				

	assessing the swallow reflex				

F. Assess patient's requirement for tracheal suctioning and demonstrates this.	Identify the need for suction Assemble the correct equipment - including correct size catheters Demonstrate and understand the need for aseptic technique through out Explain the procedure to the patient Discuss complications and interventions to reduce risk Demonstrate good suction technique Evaluate effectiveness of suctioning				

	Demonstrate correct documentation and reporting as necessary				
G. Demonstrates the ability to perform an accurate respiratory assessment with reference to specific tracheostomy checks	Describe the routine respiratory observations and their significance in patient assessment Discuss how these observations alter in respiratory failure Discuss normal blood gas values and how they alter in respiratory failure Assess the effectiveness of respiratory support Demonstrates and understands the measurement of cuff pressures Demonstrates and understands the use of end tidal CO2 monitoring				

H. Discuss the 'RED FLAG' indicators that represent tracheostomy problems	Including inability to pass suction catheter, vocalising with cuff up, added sounds and increasing respiratory distress				

I. Discuss and demonstrate the use of tracheostomy emergency equipment	Assemble the equipment required at the bed side and describe the use Discuss where the emergency equipment and fiber-optic scope are located Discuss their role in an emergency situation Demonstrates understanding of the use of all equipment				
J. Demonstrate the use of "Emergency algorithm for tracheostomy patients'	Able to discuss the algorithm Understands the importance of each step Demonstrates the need to get help immediately Demonstrate the algorithm in a scenario				
K. Demonstrate the use of "Emergency algorithm for laryngectomy patients'	Able to discuss the algorithm Understands the importance of each step Demonstrates the need to get help immediately Demonstrate the algorithm in a scenario				

L. Demonstrates the ability to assist with decannulation and discuss potential complications	Can state the standards for decannulation Assemble the correct equipment for decannulation Identifies personnel required to assist/support during the procedure Demonstrates the procedure safely and correctly Discuss possible complications following this procedure e.g ineffective cough, aspiration, exhaustion				
M.Demonstrates correct documentation of care given and tube change.	Refer to local policies and guidelines Use of observation charts Use of nursing documentation Use of bed head signs Clear legible timely documentation				

Comments:

Signature and stamp of assessor

Date

When the competences are completed, the Nurse/Learner and final Assessor should sign below:

Signature of Nurse/Learner: Date:

Signature of Assessor: Date:

References

Benner, P. **From novice to expert: excellence and power in clinical nursing practice.** Addison-Wesley Publishing Company, Menlo Park, California; 1984.

Steinaker, NW, Bell, MR. **The experiential taxonomy: A new approach to teaching and learning.** Academic Press, New York; 1979.

Assessment content adapted from;

'National Tracheostomy Safety Project Tracheostomy Care document'

http://www.tracheostomy.org.uk/Resources/Printed%20Resources/NTSP%20Competency%20assessment%20for%20Ward%20staff.pdf

'Tracheostomy Training Programme Ward Staff'

http://www.tracheostomy.org.uk/Resources/Printed%20Resources/NTSP%20Tracheostomy%20Assessment%20Criteria.pdf

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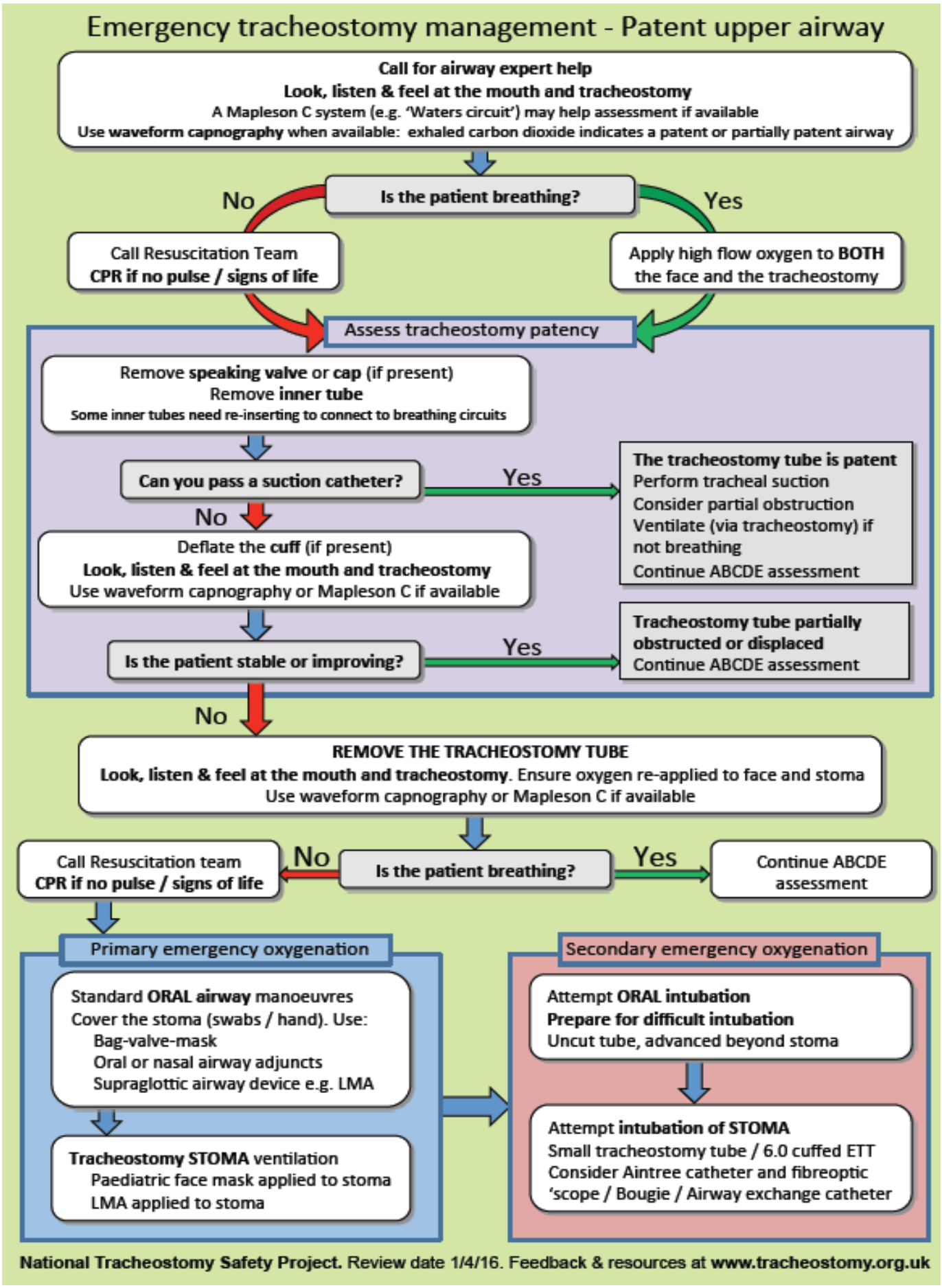
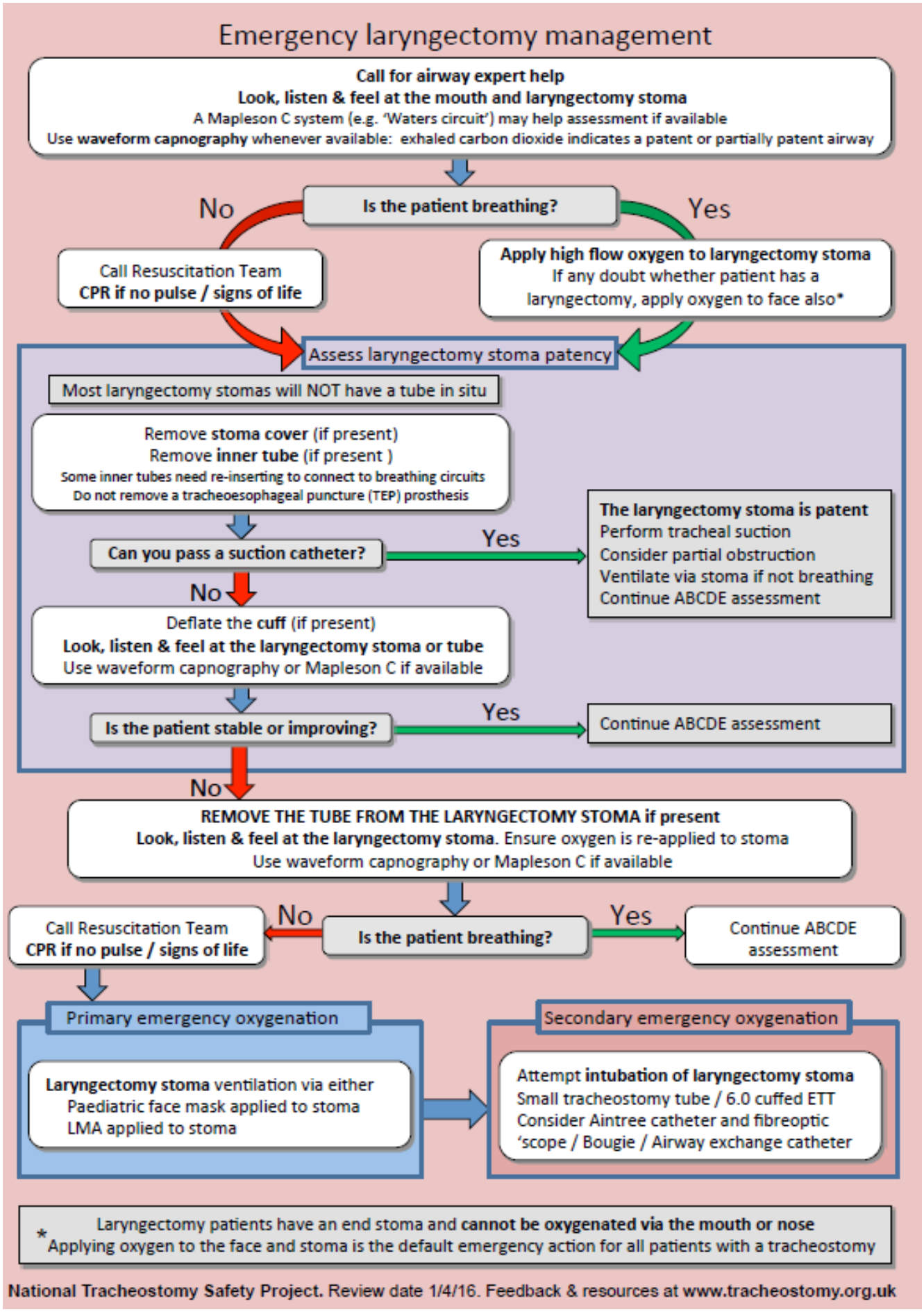
Emergency algorithms and bed head signs from;

http://www.tracheostomy.org.uk/Templates/Algorithms.html

Appendix 3; Emergency Algorithm for Tracheostomy Patients



Appendix 4; Emergency Algorithm for Laryngectomy Patients



Appendix 5 - The Tracheostomy Emergency Box

This is a box of equipment that should stay next to the patient at all times. On ICCU the box itself is not as important (as all of the equipment is already easily accessible) except for tracheal dilators which must be around the bed space in an easily accessible place. In all other areas a Tracheostomy Emergency Box must be present so that if a patient becomes compromised all necessary equipment is already to hand (Appendix 3). It is the carer's responsibility to ensure that all of the contents of the box are in date and stocked. The contents of the box are listed below.

- Functioning suction facilities (where centralised suction is not available independent portable suction units should be used)
- Appropriately sized suction catheters
- Yankauer sucker
- Non-rebreathe circuit and/or adult bag-valve-mask with reservoir with tubing*
- Oxygen*
- Spare tracheostomy tubes and inner tubes (**one of the same size and one a size smaller**) usually the same type but must be a type that can easily be inserted in an emergency situation
- Tracheal dilators
- Tracheostomy disconnection wedge*
- Stitch cutter (if sutures present)*
- Spare dressings
- Laminated Emergency Algorithm (see Appendix 3).
- Trachi-Pass
- Water soluble lubricating gel

*Not always required in community.

Appendix 6; Bed-Head Sign for Tracheostomy Patients

This patient has a

TRACHEOSTOMY

There is a potentially patent upper airway (Intubation may be difficult)

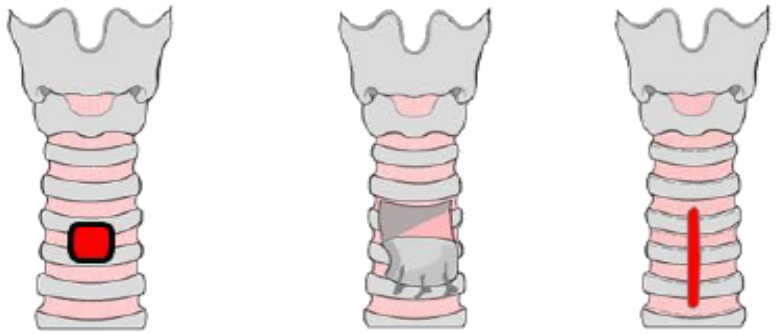
Surgical / Percutaneous

Performed on (date) .....

Tracheostomy tube size (if present) .....

Hospital / NHS number .....

Notes: Indicate tracheostomy type by circling the relevant figure.
Indicate location and function of any sutures.
Laryngoscopy grade and notes on upper airway management.
Any problems with this tracheostomy.



Emergency Call: Anaesthesia ICU ENT MaxFax Emergency Team

www.tracheostomy.org.uk

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This patient has a

LARYNGECTOMY

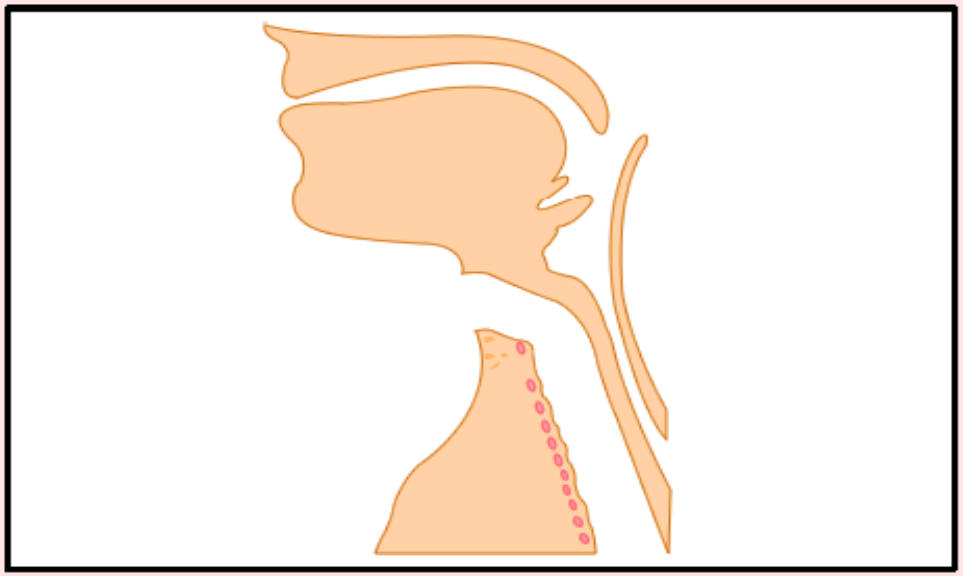
and CANNOT be intubated or oxygenated via the mouth

Follow the LARYNGECTOMY algorithm of breathing difficulties

Performed on (date) .....

Tracheostomy tube size (if present) .....

Hospital / NHS number .....



Notes:

There may not be a tube in the stoma.
The trachea (wind pipe) ends at the neck stoma

Emergency Call: Anaesthesia ICU ENT MaxFax Emergency Team

www.tracheostomy.org.uk

Appendix 8 - Weaning and Decannulation

Weaning is a staged process that leads to decannulation (removal of the tracheostomy tube), which should be the aim for all patients with a reversible cause for them to require a tracheostomy. Decannulation will not be possible in patients with no reversible cause. Some patients fail decannulation due to an inability to recover fully and not fulfil the criteria as described below. Decannulation must be planned carefully by the MDT. There is no set time for weaning and decannulation, so judging the timing can be difficult and the patient may need to spend several days or even weeks progressing to this step. The Weaning Checklist is in the Table 8:1 below must be used to assess the patient's readiness for weaning. The Tracheostomy Weaning Flowchart (Appendix 8) must be used to monitor weaning progression on a day-to-day basis. The proforma must be kept at the patient's bedside and completed by clinicians involved with the weaning process.

- Patients require careful monitoring during this process which includes:
    - Continuous oxygen saturation monitoring.
    - Regular observations of respiratory rate & heart rate.
    - The tracheostomy inner tube should continue to be checked 4-6 hourly.
    - The Tracheostomy Emergency Box (Appendix 5) is checked.
    - Capnography is available.

Table 8:1 Tracheostomy Weaning Criteria Checklist - from St George's (3)

	Yes or No?
Patient has an uncuffed/fenestrated tube or tolerating cuff deflation for 24-48 hrs.	
No obstruction of the upper respiratory tract (may require endoscopic assessment).	
Can the patient maintain and protect their airway spontaneously?	
Are they free from ventilatory support?	
Are they haemodynamically stable	
Are they absent of fever/active infection?	
Is the patient constantly alert?	
Do they have a strong consistent cough (able to cough out of the tube or into mouth)?	
Is the patient maintaining target O2 saturations as prescribed?	
Do they have control of saliva with or a least partial swallowing effectiveness (may require SALT)?	
Are there any planned procedures requiring anaesthesia within the next 1-10 days?	
Is this patient causing any concerns to any healthcare practitioner?	
Can we safely support the weaning process in the patient's current clinical environment?	

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Patient Label or

Name

Date of Birth

Hospital Number

TRACHEOSTOMY WEANING FLOWCHART

Adapted from St George's Guidelines CCOT bleep - 7441

! Please ensure patient is upright and suction of trachea and oral cavity has taken place before weaning !

Tracheostomy and TaLT Laryngectomy Team

Please circle/tick as appropriate	Date Time Initials	Date Time Initials	Date Time Initials
1. Cuff Deflated +/- synchronous suction (ss)	Yes/No If 'Yes' - go to step 2 **If 'No' –stop. Do not proceed further**	Yes/No If 'Yes' - go to step 2 **If 'No' –stop. Do not proceed further**	Yes/No If 'Yes' - go to step 2 **If 'No' –stop. Do not proceed further**
2. With finger occlusion – is there air flow through the mouth?	Yes / No If 'Yes' go to step 3 If 'No' there may be an obstruction – do not proceed further. Discuss with Trache team/ENT/ Anaesthetist to consider downsizing trache tube	Yes / No If 'Yes' go to step 3 If 'No' there may be an obstruction – do not proceed further. Discuss with Trache team/ENT/ Anaesthetist to consider downsizing trache tube	Yes / No If 'Yes' go to step 3 If 'No' there may be an obstruction – do not proceed further. Discuss with Trache team/ENT/ Anaesthetist to consider downsizing trache tube
3. Is fenestrated trache in situ ?	Yes/No If 'Yes' place fenestrated inner cannulae in (unless suctioning)	Yes/No If 'Yes' place fenestrated inner cannulae in (unless suctioning)	Yes/No If 'Yes' place fenestrated inner cannulae in (unless suctioning)
4. Put on speaking valve or cap	speaking valve / cap / neither	speaking valve / cap / neither	speaking valve / cap / neither
5. **Planned** length of time for:	Cuff down _____ Speaking valve _____ Cap _____	Cuff down _____ Speaking valve _____ Cap _____	Cuff down _____ Speaking valve _____ Cap _____
6. **Actual** length of time managed for point 5.	Hours _____ Minutes _____	Hours _____ Minutes _____	Hours _____ Minutes _____
7. If planned time not equal to actual time – Why not? (e.g.increased work of breathing excessive secretions, fatigue)	Comments:	Comments:	Comments:
8. Suggested progression			

Appendix 9 Decannulation SOP

Decannulation can take place following successful weaning and only with MDT agreement. It must be done or supervised by a practitioner who is competent to re-cannulate, should that be required. A normal level of consciousness, strong cough, minimal thin secretions and minimal supplemental oxygen are determinants of successful decannulation. Extra caution is essential if the airway is complex (e.g. known difficult intubation, previously required more than 1 re-intubation, slow to wean, or extended length tracheostomy tube with adjustable flange).

Table 8:2 Decannulation Criteria Checklist

	• Yes or No?
• Able to obey commands (in the non-neurologically compromised patient).	
• Tolerates speaking valve or cap for 24-48 hrs.	
• Adequate cough and ability to clear secretions effectively and independently via mouth.	
• Air flow is present from mouth.	
• No new lung infiltrates on CXR.	
• Haemodynamically stable.	
• Competent swallow (control of saliva).	
• No planned procedures within the next 7-10 days requiring anaesthesia.	
• MDT agreement for decannulation.	

Equipment required for decannulation

- Dressing pack.
- Semi-permeable dressings – Duoderm® or Allevyn®
- Sterile normal saline.
- Gloves, apron and protective eyewear.
- Appropriately sized tracheostomy tube and one a size smaller (available – not opened).
- Facemask or nasal specs if patient requires oxygen.
- Microbiological swab.
- Tracheal dilators.
- Functioning suction unit and appropriate sized suction catheters.
- Stethoscope.
- Resuscitation equipment available.
- Capnography.

Procedure of decannulation

A. Check Tracheostomy Emergency Box (Appendix 5)
B. Continuous oxygen saturation monitoring throughout procedure
C. Check end-tidal CO2 prior to commencing procedure
D. Explain procedure to patient and gain patient consent where possible
E. Position patient in semi-recumbent position
F. If required, place supplemental oxygen over nose/mouth
G. Ensure assistant is clear regarding what is expected of them
H. Ask assistant to suction, remove tracheostomy dressing and tapes and support the tube
I. Remove the tube on expiration
J. Observe site, swab if required and clean stoma
K. Place dressing over stoma overlapping it over the stoma
L. Check patient is comfortable
M. Show patient how to apply pressure over the stoma site when talking or coughing to reduce “blowout” of the dressing
N. Document the procedure in the case notes and make a final check of the patient

Post-decannulation

The stoma itself should close over in a matter of days as the stoma dressing is left (semi-permeable dressings – Duoderm® or Allevyn®). Occasionally the stoma does not close over and this requires an ENT opinion.

Patients fail decannulation for a number of reasons and as such require close observations after the tracheostomy tube is removed (4):

- Continuous oxygen saturations monitoring for 15 minutes then regular readings
- Regular checks of respiratory rate & heart rate

Reasons for failure include increased work of breathing, inability to clear secretions or a poorly functioning larynx. In addition, a problem with the trachea can lead to failure including:

- Stenosis (narrowing usually due to scarring from a cuff that was inflated for too long)
- Tracheomalacia (floppy tracheal walls)
- Granuloma (area of tissue growth due to over-healing and irritation of the tracheal wall lining)

Clinical indications of these latter complications include:

- Stridor
- Change in voice quality
- Increase in work of breathing

A patient should be referred to the ENT team or CCOT if acute respiratory distress is observed or if concerned. The Tracheostomy Emergency Box should be kept by the patient's bedside for 48hrs post-decannulation in case of emergency.

Patients may fail decannulation for a number of reasons and must have close observation after the tracheostomy tube is removed with continuous oxygen saturations monitoring for 15 minutes then regular readings and regular checks of respiratory rate and heart rate every hour for 6 hours, then every 4 hours for the next 24 hours.

Appendix 10 Tracheostomy discharge criteria checklist

Tracheostomy Discharge checklist Once completed please file in patients notes				
		Notes	Date	Signature/stamp
1	Referral made to **Countrywide** for supplies on discharge (*Catalogue in pack* *Generic item request form in pack)*			
2	**Suction machine**			
	Equipment loan form completed (in pack)			
	Equipment borrowing letter (in pack)			
	Supply of: • Suction Catheters- size 10/12/14 • Suction tubing x2			
3	**Nebuliser Machine**			
	Equipment loan form completed (in pack)			
	Supply of: • Oxygen tubing x 2 • Nebuliser acorns x 2 • Tracheostomy Masks x 2			
4	Ensure that patient is discharged with the following items: • Tracheal dilators • Tracheostomy tube same size and 1 size smaller • Metaline dressings • Tracheostomy swabs • Tracheostomy tapes • Trachphones • Spare inner tubes fenestrated/plain • TTO's-including saline nebulisers prescribed on edischarge for 2 hourly			
5	Ensure that the **Trachi passport** is complete/up to date (*supplied in pack*)			

6	Ensure that **tracheostomy competency** document is completed *(supplied in pack)*			
7	Referral made to district nurses			
8	Refer for Pendant/Register mobile for 999 call (leaflet in pack)			
9	Arrangement made for tube change TALT clinic/Head & Neck Clinic/ CNS			
10	Out patient follow up			

Appendix 11 Laryngectomy discharge criteria checklist

Laryngectomy Discharge checklist Once completed please file in patients notes				
		Notes	Date	Signature/stamp
1	Referral made to **Countrywide** for supplies on discharge (*Catalogue in pack* *Generic item request form in pack)*			
2	**Nebuliser Machine**			
	Equipment loan form completed (in pack)			
	Supply of: • Oxygen tubing x 2 • Nebuliser acorns x 2 • Tracheostomy Masks x 2			
3	Ensure that patient is discharged with the following items: • Tilley Forceps • Laryngectomy button/tube + spare • Baseplates • HME's • TTO's-including saline nebulisers- prescribed on edischarge 2 hourly • Atos pack containing additional supplies and shower aid			
4	Ensure that the **Lary passport** is complete/up to date (*supplied in pack*)			
5	Ensure that **Laryngectomy competency** document is completed *(supplied in pack)*			
6	Referral made to district nurses			
7	Refer for Pendant/Register mobile for 999 calls/neck breather identity wristband			
8	Appointment- Joint ENT clinic/SALT/CNS			

Appendix 12 Tracheostomy Patient Competence Assessment Tool

Name …… Hosp No……

Ward……Consultant……

If activities have not been performed by day 4-6 post operatively if possible refer to CNS for further psychological and emotional support

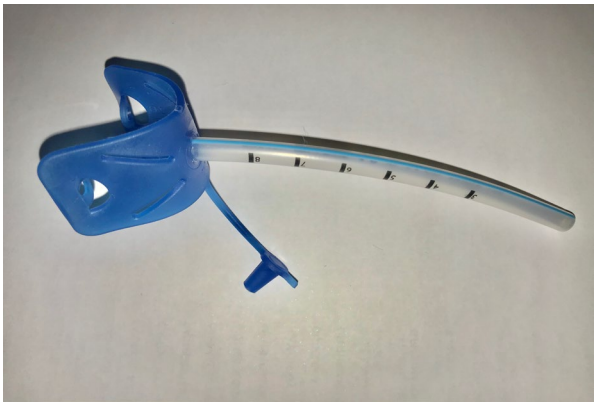
Assessment of self care skills	**Education given Post-operatively**	**Completes practice under supervision**	**Completes practice Independently**	**On going concerns e.g confidence**
Self Care Activities - Tracheostomy	***Initial /Date***	***Initial / Date***	***Initial/ Date***	
Cleans hands				
Gathers equipment				
Removes inner tube				
Inserts clean inner tubes				
Cleans inner tube				
Cleans tracheostoma				
Applies tracheostomy dressing				
Changes and secures tracheostomy tapes/collars				
Suction				
Operates suction machine				
Performs tracheal suction				
Humidification				
Attaches HME to tube				
Sets up nebuliser				
Uses nebuliser independently				
Mucus Plug				
Uses deep breathing and coughing to aid removal of mucus plug				
Uses fine saline spray to aid removal of mucus plug				
Uses nebuliser to aid removal of mucus plug				
Uses suction to aid removal mucus plug				
Communication				
Communicates by writing				
Communicates by mouthing/ gestures				
Communicates with fenestrated inner tube				

Education and assessment of knowledge and understanding	**Education given Post-operatively**	**Completes practice under supervision**	**Completes practice Independently**	**On going concerns e.g confidence**
Humidification	**Initial / Date**	**Initial / Date**	Initial/Date	
Understands the importance of humidification and why. Reduce coughing, improve sleep, reduce risk of infection				
Identifies means of humidification; HME/Bibs/ nebuliser				
States methods available to aid removal of mucus plugs. Deep breathing/ coughing /saline nebuliser/				
States signs to indicate mucus plug present.				
Potential Emergency Precautions /Safety issues discussed				
Use of plain inner tube at night				
Over granulation through fenestration				
Use of speaking valve with fenestrated inner tube				
Secretions streaked with blood				
Tube dislodgement				
Signs of chest infection (antibiotics)				
Signs of stomal infection				
Care when by water				
Care when bathing (empty bath water first)				
Shallow bathing				
No use of cotton balls				
Use good quality thick tissues				
Gas / Smoke check appliances (unable to smell)				
Smoke alarms fitted				
Tape message/ preset text message if no voice				
Avoid smoky atmosphere/ aerosols				
Carer/ relative aware of resuscitation (mouth to stoma, pinch nose and mouth)				
Changes due to reduced intra thoracic pressure.				
Possible difficulty walking up hill/ against extremes of weather				
Reduced ability to bear down				
Reduced ability to lift heavy objects				

Attachment 1;

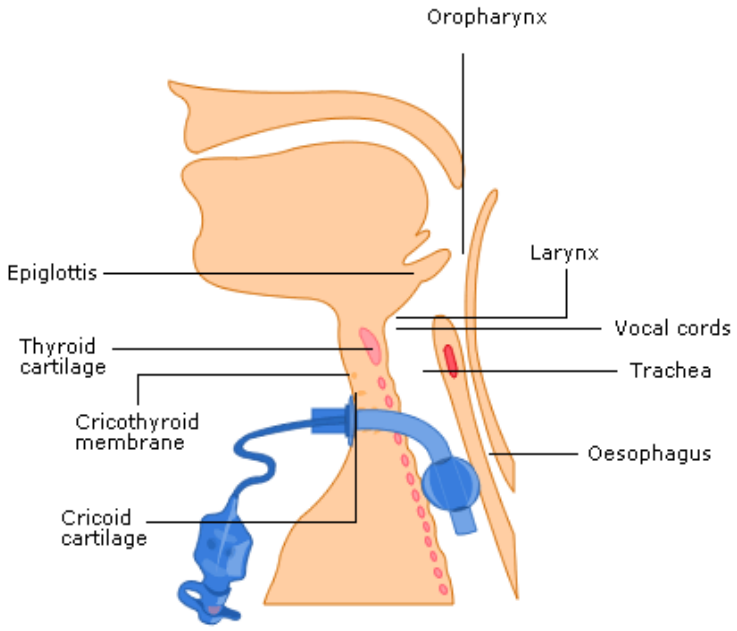
Tracheostomy and Laryngectomy: Background Information

There are three indications for a tracheostomy: to bypass upper airway obstruction (elective or emergency); to aid long term ventilation on Critical Care; and to clear secretions from airway, which is usually achieved with a mini-tracheostomy tube (e.g. Portex® Mini-Trach II Tube Kit as shown here), which is not suitable for ventilation.



Anatomy

A tracheostomy changes the airway anatomy. It bypasses the larynx through formation of a hole or stoma beneath and away from the vocal cords. The stoma is sited above the sternal notch and underneath the thyroid isthmus between the second and third tracheal rings.



Position of Tracheostomy Tube (Source www.tracheostomy.org.uk)

Physiology

The positive benefits are to bypass an upper airway obstruction; to make it easier to wean a patient off a ventilator and to manage a patients respiratory requirements; and to manage secretions in patients that produce more than normal. There some negative effects:

- Bypass the nasal airway means that inhaled so air is not warmed, humidified or filtered in the normal way;
- Changes to the lining of the airway increase the thickness and amount of secretions;
- Reducing the air-flow through the vocal cords and can stop or reduce the voice; and
- Impaired swallowing.

Procedure for insertion

1. Percutaneous tracheostomy is done by the Seldinger technique.' to gradually dilate the trachea and soft tissues.

2. Open surgical tracheostomies can be done as elective procedures under general anaesthetic or as emergencies under local anaesthetic in operating theatre. We use an assortment of makes of tube for these.

The surgical technique is preferred in patients with:

i. difficult airway anatomy – e.g. obesity, goiter or tracheal deviation;

ii. previous radiotherapy or neck surgery;

iii. unstable cervical-spine or fixed flexion of neck;

iv. overlying aberrant blood vessels;

v. abnormal surface landmarks – e.g. burns and scarring;

vi. bleeding problems.

Tracheostomy tube types

Although there are different materials and manufacturers of tracheostomy tubes, they can be universally classified according to the presence or absence of a *cuff* and *fenestration:*

A. Uncuffed and unfenestrated

This is the most basic type of tracheostomy tube and consists of a tube into the trachea with flanges to hold its position on the skin, held still with straps or tape around the neck.

B. Uncuffed and fenestrated

Fenestrated tubes have a hole or a number of smaller holes to allow air to pass through the larynx. This enables for the patient to speak and improves their ability to cough.

C. Cuffed and unfenestrated

A cuffed tube has a balloon that can be inflated and is used primarily to allow for a patient to be mechanically ventilated. A seal is created by the balloon in the airway so that when a ventilator pushes air into the trachea, the lungs inflate as air **cannot** escape around the sides of the tracheostomy tube and out through the larynx and mouth.

D. Cuffed and fenestrated

These tubes allow for options in patients who have specific needs. They may be able to vocalise but also need the cuff for secretion management, for example.

Variations of tube length, adjustable lengths and materials (from Silver to soft silicone) are all used, tailored to the patient's needs. If there is any doubt regarding the tube type then contact CCOT or TaLT.

The inner tube

Most tracheostomy tubes come with 2 inner tubes. The purpose of an inner tube is so that the tube can then be cleaned without having to remove the whole tracheostomy tube. The second clean inner tube is immediately inserted into the main tracheostomy tube so that the first inner tube can then be cleaned and used in rotation with the other inner tube. In an emergency when a tracheostomy tube is thought to be blocked, the inner tube can easily be removed to potentially remove any blocked secretions (discussed later).

Patients with a laryngectomy

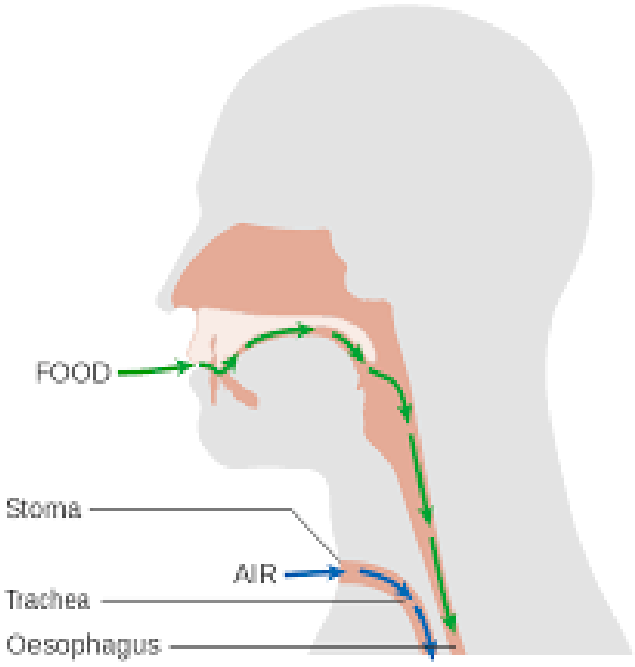
A patient that has undergone a laryngectomy has had their larynx removed. This is usually but not always as part of treatment for cancer. Most patients with a laryngectomy can lead a near to normal life, swallowing normally and speaking via a speaking valve (voice prosthesis) connecting the trachea to the oesophagus. This can be detected at the back of the trachea on close inspection of the stoma.

Difference between tracheostomy vs laryngectomy

The primary crucial difference between tracheostomies and laryngectomies is that a tracheostomy results in potentially two patent airways (mouth and stoma), whereas with a laryngectomy, there is no connection between the upper and lower airways due to a permanent surgical change to underlying anatomy (Figure 5).

Awareness of whether a patient has laryngectomy or tracheostomy has implications in the emergency resuscitation of the patient. This is because **laryngectomy patients cannot be intubated or oxygenated via mouth, and their stoma must be used instead.** Nevertheless, distinguishing a tracheostomy from a laryngectomy can be challenging on the initial visual inspection of the stoma alone by professionals without prior training and experience.

General care for laryngectomy patients is very similar to tracheostomy patients otherwise. Advice can be gained from CCOT, ENT and Head and Neck CNSs.



Attachment 2;

Tracheostomy Competencies and Training Structure

A staff member that is caring for a patient with a tracheotomy or laryngectomy must be competent to do so i.e. Tracheostomy Competent. There are 3 requirements to become Tracheostomy Competent:

1. Complete the 'e-learning for Healthcare' Tracheostomy Safety module;
2. Complete the Tracheostomy Training Day;
3. Complete the Tracheostomy Nursing Competencies (Appendix 2) booklet.

1. **The Tracheostomy 'e-learning for health' module**

(https://www.e-lfh.org.uk/programmes/tracheostomy-safety/)

This is a comprehensive learning module covering all of the basics regarding tracheostomy care and is recognised as providing the fundamental knowledge required to look after this group of patients. Passing this module will then allow staff to work through their competency booklet and attend the training day.

2. **Tracheostomy Training Day**

Twice a year (and likely more in the future) TaLT run a whole day of training. The morning covers the basics of care for patients with altered airways including a patient talking about their experiences. The afternoon is spent rotating learners through 4 different stations to gain practical skills. A certificate of completion is handed out at the end of the day together with each learner's Tracheostomy Competency Booklet. Ward managers should try to book their staff on to the Training Day by contacting CCOT. It is anticipated that an on-line 'update' module will be created in the near future so that personnel can maintain their competencies.

3. Competency Guidelines for the Care of a Patient with a Tracheostomy (Appendix 2) have been developed to include

- skills and knowledge on basic care of a tracheostomy patient
- emergency recognition and management
- understanding the care of a laryngectomy patient
- knowing how to use the equipment associated with basic care and emergency care of altered airways patients

A learner's own Tracheostomy Competency Booklet is provided at the end of the Training Day and allows for the trainee to work through knowledge and skills in the clinical environment. As they work through the competencies achievements and progress can be signed off by members of CCOT or a Tracheostomy Champion (see below). There are numerous opportunities to sign off skills on patients with tracheostomies including on a learners own ward, by shadowing CCOT on other wards around the Trust and also by attending the TaLT Community Clinic (see below).

- **Tracheostomy Champions**

If an individual's learning is developed further they then have the opportunity in becoming a Tracheotomy Champion of a Tracheostomy Competent Area and can deliver the training to learners within their own clinical area. Training is generally overseen by CCOT at the bedside but it is anticipated that as more staff develop an interest in caring for people with tracheostomies more Champions in Areas will be developed. Training the Trainers courses updates will be developed in the coming future

Attachment 3;

Routine Care for a Patient with a Tracheostomy

Patients with a tracheostomy will have an increased thickness and volume of airways secretions, so they all need frequent suctioning and increased humidification. The following must be done and checked for all tracheostomy patients regularly, beginning immediately after it is created: routine respiratory observations (oxygen saturation, respiratory rate and Early Warning Score) must be recorded regularly; regular suction; and humidification (see Appendix 1a, the Tracheostomy Care Bundle, and Appendix 2 the Competency Guidelines for the Care of the Patient with a Tracheostomy). Most patients in RWT have tubes made by Kapitex® - either a Traceo Twist® or Traceo Twist plus® which is slightly longer.

Suction

The frequency of suctioning varies depending on the level and consistency of secretions. Suctioning can be performed either using the open or closed approach.

Open suctioning

- A suction catheter is inserted as far as the recommended length for patient's specific tracheostomy tube size (just up to the end of the tube; not into the trachea to reduce patient coughing and discomfort).
- If the suction catheter does not pass through, the inner tube should be removed to assess for a blockage and replaced with a clean inner tube. If blood is aspirated more once, seek early review by the Critical Care Outreach (CCOT) or the Ear, Nose and Throat (ENT) team.

Closed suctioning

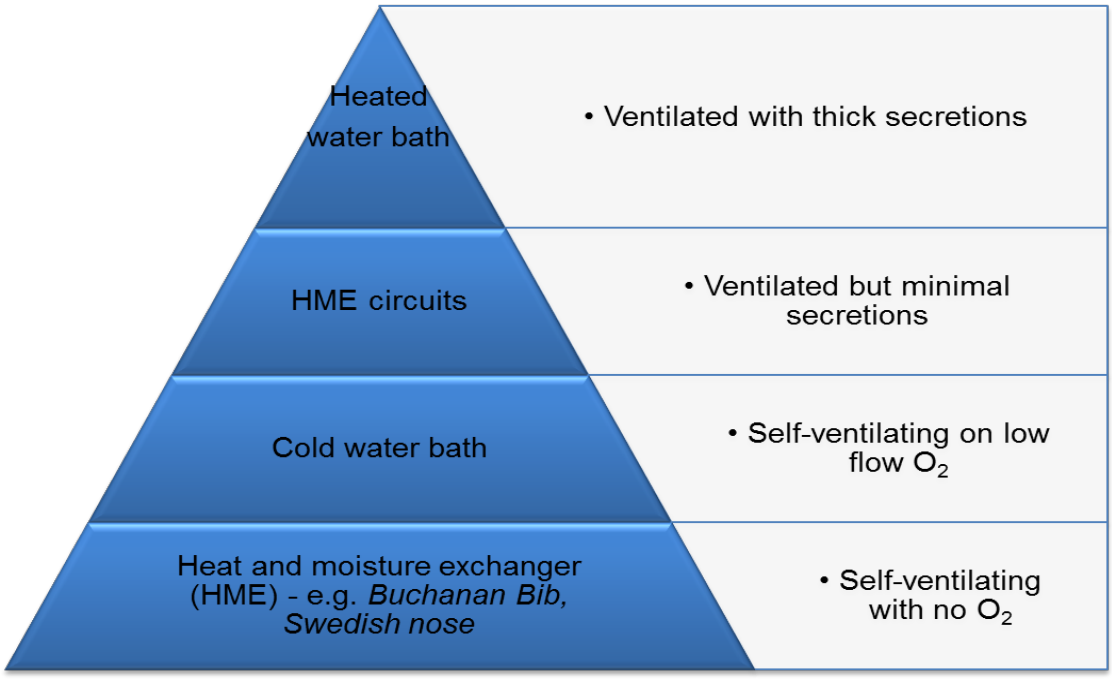
- When frequent suctioning is needed and when the patient is ventilated.
- With the closed suctioning system the ventilator remains connected and the patient can continue to have a supply of oxygen. Closed suctioning is recommended if aerosol generation is an issue (See COVID-19 tracheostomy document).

Humidification

This is the best way to maintain more fluid secretions so that they can be cleared more easily by the patient and, or by suctioning. Humidification can be given directly as nebulised saline via a 'tracheostomy mask' (like a small facemask that is placed over the tracheostomy tube) or via a Humidification Moisture Exchanger (HME) where the patient's own exhaled air passes through a filter and the moisture is extracted to then be added to the inhaled air as it passes back through in the other direction. HME devices include the Buchanan bib and the Swedish nose.

Figure 3; Buchanan Bib

Figure 4; Swedish nose



Humidification Ladder in Care of Tracheostomies

Stoma care/dressings

The sutures that hold the flanges of the tracheostomy must be removed within 5-10 days following the procedure. Dressings are always used in the immediate post-operative period and in cases where the flanges rest on sensitive skin. This is therefore patient dependent. It is mandatory to check and document the skin integrity of the stoma every day. If indicated, a polyurethane type dressing should be used (the use of simple gauze swabs should be avoided). The minimum expectation is for a daily dressing changed or when visibly soiled. Dressing changes are ideally a two person technique to prevent complications such as dislodgment of the tracheostomy tube.

Tube cleaning

Remove the speaking valve and inner cannula. Insert the spare tube (which is clean). Use normal saline to clean the outside of the inner tube with a non-woven gauze, then, use a foam-based cleaning swab to clean inside of the inner tube that has been removed.

Tube changes

The first tracheostomy tube change is usually 7 days after insertion but this may depend on the status of the patient. This must only be performed by a clinician competent to do so who recognises all of the associated risks. The frequency of tube changes should be assessed on a case-by-case basis and has to be undertaken by trained competent professionals. Most tube changes are performed every 4 weeks as recommended by the manufacturer for Tracheo tracheostomy tubes (Kapitex®). Always ensure that emergency airway equipment and a tracheostomy tube with a smaller size are within reach during a tube change.

Capnography and fibre-optic endoscopy are adjuncts that can be used to assess the efficacy of patient's respiration and swallowing with a tracheostomy during and after a tube change.

Cuff pressure monitoring

- If a tube has a cuff, the cuff pressure has to be checked twice a day, after every re-inflation and if a leak is suspected.
- If the pressure is too low, then aspiration pneumonia and leakage of ventilation oxygen around the sides of the tube can occur.
- If the pressure is too high, then there is a risk of necrosis of tracheal mucosa and, rarely, a tracheo-oesophageal fistula can occur.

Communication and Swallowing

These are both dramatically affected by a tracheostomy. At first a patient will not be able to talk and it is important that this is explained to them before they undergo the procedure. Swallowing is difficult with a tracheostomy and so it is essential to involve Speech and Language Therapists (SLT) early in a tracheostomy patient's care as recommended in the NCEPOD report.

Bypassing a patient's larynx ('voice box') can result in no or very little airflow past the vocal cords and therefore result in little or no speech. Other simple but effective measures means of communication include writing things down, using visual aids and using electronic devices, tablets and apps. It is important to give patients time, be patient and empathise with their new situation. In time, when the tube is changed for a smaller tube with no cuff and fenestrations, then more air can pass through the vocal cords which will allow for speech. Expert SLT advice is essential to maximise the options and techniques for these patients.

A tracheostomy tethers the skin and soft tissue of the neck and alters the air pressure and so impairs swallowing. There are techniques that will help patients to swallow that will require early involvement of SLT practitioners so the patients can have access to advanced instrumentation (e.g. a Fiber-optic Endoscopic Evaluation of Swallowing or FEES) to accurately diagnose problems and safely restart oral feeding enabling adequate nutrition to improve their health and recovery.

Complications

Every care practitioner must always be aware of the complications of a tracheostomy and must alert the CCOT or ENT team if there is any suspicion of one of them occurring. They can be divided into early and late (>7days post-procedure) complications.

Table 1 Tracheostomy Complications

Early	Late
Tube Displacement	**Tube Displacement**
Blocked tube with secretions/blood	Blocked tube with secretions/blood
Bleeding from local tissue trauma	Bleeding
Surgical emphysema	Granulations
Pneumothorax	Aspiration pneumonia
Laryngeal nerve/ oesophageal injury	Tracheal stenosis or tracheomalacia
Infection of stoma site	Tracheal ulceration
Cuff failure	Oesophageal erosion

Emergencies

If a patient with a tracheostomy displays any signs of respiratory distress (increased work of breathing, pale or blue complexion, high respiratory rate, reduced oxygen saturation levels, cool peripheries) then the two possible situations of a **blocked tube or displaced tube must be suspected first as these are emergency situations requiring prompt action.**

In the event of an emergency, the National Tracheostomy Safety Project (www.tracheostomy.org.uk) emergency algorithm for either tracheostomies (Appendix 3) or laryngectomies (Appendix 4) must be followed. A laminated copy of these algorithms must be present with all patients with an altered airway in RWT. They should always be available in a patient's Emergency Box (see below and Appendix 5) and either separately or on the reverse of their Tracheostomy Bed Head Sign (see below and Appendix 6).

The algorithm for tracheostomies can be summarised with the following steps (please follow full algorithm in Appendix 3 and 4).

Respiratory distress - Call for help - Deliver high flow oxygen to face with facemask AND tracheostomy with tracheostomy mask or facemask.

A. ? Breathing

- Yes; continue resuscitation,
- No; call **Resuscitation Team on 2222.**

C. Assess patency - remove cap, remove inner tube, suction tube, deflate cuff.

D. ? Improving

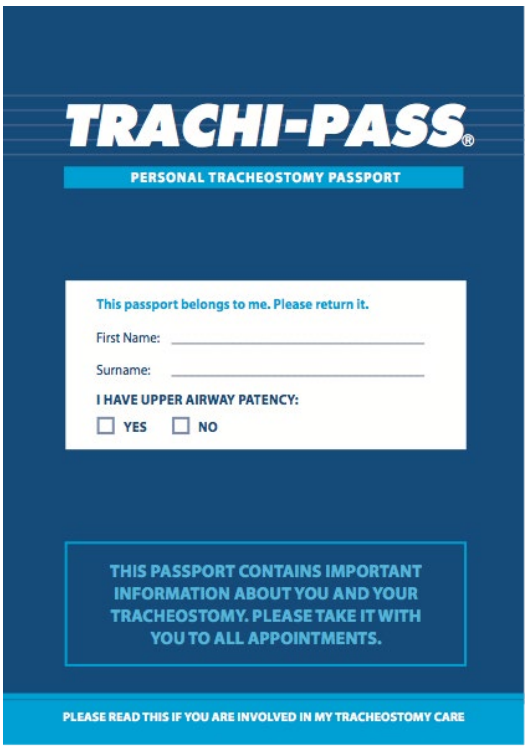
- Yes - continue O2
- No - remove tube

E. Re-assess; give O2 (face and stoma), airway manoeuvres (chin lift, head tilt, airway adjuncts).

F. May require intubation (via mouth or stoma) if not improving.

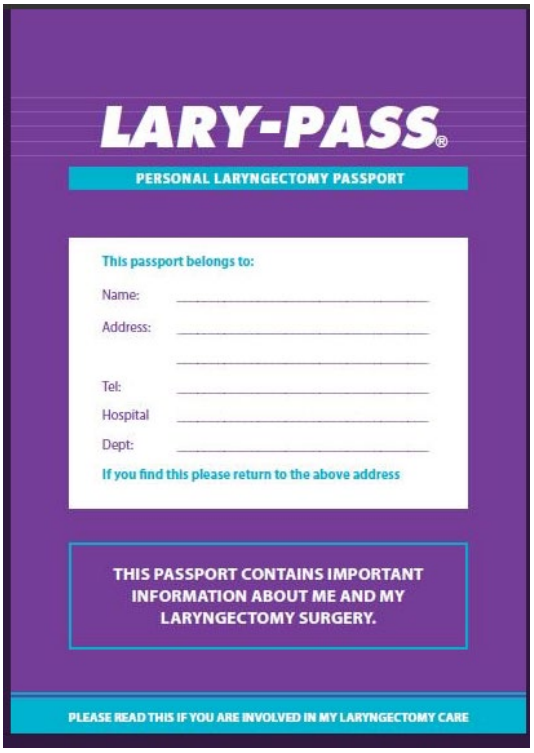
Attachment 4;

Tracheostomy and Laryngectomy Related Items and Equipment



- **Trachi-Pass®**

All patients with a tracheostomy should be given a Trachi-Pass® booklet (produced by Kapitex® who provide the majority of tracheostomy tubes within RWT). These booklets are owned by the patient and stay with them at all times. They inform all carers about the details regarding the patient and their care needs in relation to their tracheostomy. The booklet contains details about the type of tube, indications, red flag issues, and tube change requirements. This allows for better recognition and understanding for all that come in contact with that patient. We are one of the first Trusts in the UK to universally use the Trachi-Pass® in all of our patients and have found them very helpful to aid communication between carers and the patient.



- **Lary-Pass®**

This booklet is similar and works on the same principles of the Trachi-Pass® and is provided to all patients with a laryngectomy. This should also stay with the patient at all times to inform carers about their care needs. It also has the emergency protocol and basic diagrams explaining the concept of neck-only breathing.

- **Waveform Capnography**

This is needed to ensure that carbon dioxide is being expired from the patient and indicates the presence of respiration and the degree of respiration. On ICCU capnography forms part of the readings of the ventilator but in a ward environment, portable capnographs are now available. It has been recommended by the NCEPOD report (1) that waveform capnography is available for all first and all difficult tube changes. With this in mind the 3 areas in which the portable EMMA® Capnographs are available are

- With the CCOT
- On the Head and Neck ward
- On the respiratory wards

Figure 1 EMMA® Capnograph (Medacx)

- **Endoscopy**

It has been recommended by the NCEPOD report (1) that endoscopy should be available during difficult tracheostomy tube changes and during the insertion tracheostomies. This is to check the position, length and patently of tubes and helps with a number emergency of situations. The clinician using the endoscope must be competent to do so; it will be an ICCU doctor, anaesthetist or ENT doctor.

Attachment 5;

Discharging altered airways patients to the community

If a patient either has a laryngectomy (permanent) or a tracheostomy that is not possible to decannulate whilst the patient is in hospital then discharge planning should occur as early as possible. This will involve training the patient and close relatives to care for the altered airway as much as possible in the community. If self-care is not possible then an appropriate care residence must be sought so that they are competent to care for the patient with an altered airway. Difficulties with individuals' capabilities must be identified early to address any potentially resolvable problems. Involvement of community teams and the patient's GP should also be made early.

Patient and carers competencies can be mapped using the Patient Competency Tool (Appendix 12). Only when the inpatient team are satisfied that a patient and their immediate carers have fulfilled all of the criteria for competency, can a patient be discharged to the community.

The equipment required on discharge also requires planning. The Tracheostomy Discharge Checklist (Appendix 10) and the Laryngectomy Discharge Checklist (Appendix 11) can help with this to help with smooth hand-over of the patient into the community. The TaLT and CCOT can help with questions regarding this also. Appropriate follow up must be arranged (head and neck team or TaLT clinic – see Attachment 6)

Attachment 6;

TaLT Community Clinic

- **Aims**

1. To provide on-going care and support to patients with tracheostomies and their carers in the wider Wolverhampton Healthcare economy.
2. To bridge the gap between primary and secondary care for patients with tracheostomies, supporting community services and reducing unnecessary hospital admissions
3. To allow for tracheostomy training of staff within RWT
4. To allow for training of carers of patients with tracheostomies to improve the level of care in the community and reduce unnecessary hospital admissions. Carer Competencies have been created to help with training this group of individuals (available from TaLT).

- **Patients**

All patients with altered airways are welcome to attend the TaLT community clinic. Most patients have a tube change during their visit but other aspects are discussed together with an assessment of the patient, their stoma and their equipment they have available in the community. Many patients who are looked after by Head and Neck consultants have ongoing tracheostomy care deliver by the Head and Neck Team and CNSs in their appropriate clinic and do not need to attend TaLT clinic.

- **TaLT Personnel**

There must always be at least 2 fully trained healthcare providers present and one must be a doctor.

- **Equipment - checklist for every clinic**
- PPE appropriate to the risk involved and for the number of patients per clinic
- Spare tubes appropriate for the patients
- Working wall suction and equipment
- Flexible nasendoscope with working light-source
- Working capnograph
- Adult resuscitation trolley in room

- **Location**

Currently the clinic is held in the paediatric dental suite adjacent to Ward A23

- **Dates**

This is currently held every 4 weeks to allow for tracheostomy tube changes this frequently. It is anticipated that the frequency will increase as there is an anticipated increase in demand.

- **Referral and first visit**

Referrals are made in the standard way to the TaLT direct but specific mention should be made regarding transfer requirements and mobility. Ideally a referral should be made to the TaLT Lead before discharge from hospital so that a preliminary review can be made on the ward before transfer to the community.

Patients are brought by their carers from the community and **at least one of those carers MUST be Tracheostomy Competent for transfer -** when a patient is referred for the first time to the clinic this must be ensured on discharge to the community. **They must also be transferred with their Tracheostomy Emergency Box and Trachi-Pass®.**