All patients with an ALTERED AIRWAY will be nursed in designated ward areas across the Trust:

Head and Neck for surgical patients at WRH
Acute Respiratory Unit for respiratory patients at WRH
Medical High Care for medical patients at WRH
Ward 5 for patients at Alexandra Hospital

MANAGEMENT OF PATIENTS WITH A LARYNGECTOMY

This guidance does not override the individual responsibility of health professionals to make appropriate decisions according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction:

This guideline is to be used in conjunction with the **"**Acute Care Pathway for all patients with a Laryngectomy.**"** It is designed specifically for clinical staff working with patients who have undergone a laryngectomy. Users are also directed to the "Management of patients with tracheostomy tubes within the Worcestershire Acute Hospital Trust" guideline where appropriate.

This guideline is for use by the following staff groups:

For all WAHT staff working with patients who have undergone laryngectomy surgery.

Lead Clinician(s)

Mr Chris Ayshford	Consultant ENT Surgeon
Guideline reviewed and approved by Head and Neck Directorate meeting on:	4th March 2020
Review Date: This is the most current version of the document and should be used until a revised version is available	4th March 2023

Key amendments to this guideline

Date	Amendment	Approved by:
August 2013	New Guideline	
08/11/2013	Guideline approved for publication	Head & Neck Directorate meeting
06/01/2015	Guideline reviewed with minor amendments made to content. Care pathway added as appendix to document	Liz Gould
15/12/2017	Document approved for two years - PG 2 – Return to Head and Neck ward (not Chestnut) PG 3 – Day 3 – contents of laryngectomy equipment bag PG 8 – Day 1 – Following cuff deflation change tracheostomy tube to non-fenestrated laryngectomy tube providing there is no bleeding/fistula or other cause for airway compromise. Diameter to be agreed on a case by case basis, but default; length 55 with Xtra-Moist HME cassette (or buchanan bib if unable to tolerate cassette). PAGE 1: - Addition for "Approved at ENT Directorate Meeting: 15th December 2017 And PAGE 8 – Following cuff deflation change tracheostomy tube to non-fenestrated laryngectomy tube providing there is no bleeding/fistula or other cause for airway compromise.	Head and Neck Directorate Meeting
January 2018	Change wording of 'expiry date' on front page to the sentence added in at the request of the Coroner	
November 2019	Guideline review with amendments & additional appendices	

Contents page:

Introduction:

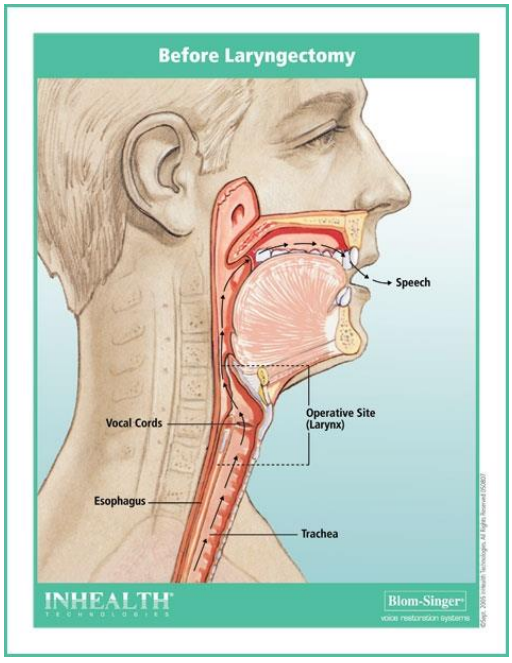
This guideline has been produced in order to enable Trust staff to manage patients, who present to the Trust, including:

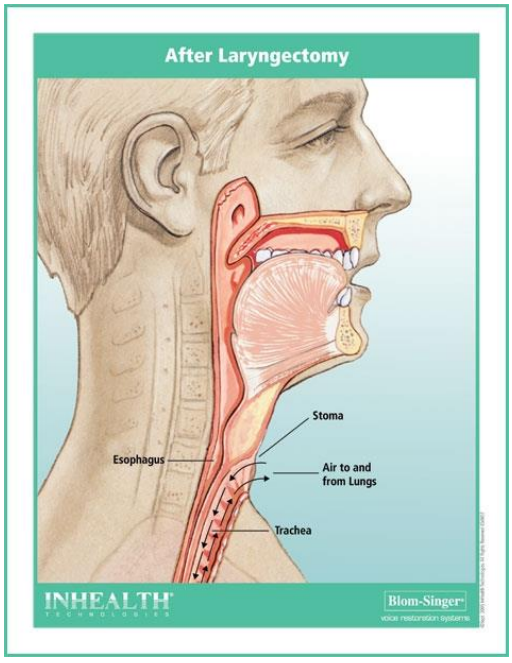
- New laryngectomy patients
- Established laryngectomy patients

In conjunction with other WAHT documents it serves to educate and raise awareness for staff on what laryngectomy surgery means for the patient, the differences between laryngectomy and tracheostomy and the necessary medical procedures required to ensure the best quality of care for this patient group. It is to be used in conjunction with a detailed acute care pathway highlighting the role of members of the Multidisciplinary Team (MDT) during the immediate and early post-operative period. It supports the National Tracheostomy Safety Project's (NTSP) work in ensuring that this patient group is cared for safely in our hospital environment.

What Is a Laryngectomy?

A laryngectomy is the complete surgical removal of the larynx (voice box) which disconnects the upper airway (nose and mouth) from the lungs. The trachea is cut and then the open end is stitched onto the front of the neck. This is an irreversible operation and once it has been performed, the patient will never be able to breathe or be oxygenated or ventilated through the upper airway again.





(With permission from InHealth Technologies and Severn Healthcare)

Indications for a laryngectomy

- For cancer of the larynx
- To manage chronic aspiration of gastro-intestinal contents
- For airway protection in the case of life threatening chronic aspiration and airway compromise

Complications of a Laryngectomy:

Immediate:

- Risk of blockage of the trachea with secretion or blood
- Loss of normal warming and humidification through upper airway
- Fistulae
- Wound breakdown
- Infection
- Haemorrhage

Delayed:

- Risk of blockage of the trachea with secretions
- Infection – pulmonary or stoma
- Tracheal instability
- Ulceration of trachea
- Fistula development
- Tapes/holder too tight
- Stomal stenosis

Care of the Patient with a new Laryngectomy Stoma:

All staff are required to refer to the "Acute Care Pathway for all patients with a Laryngectomy" in conjunction with this guideline. All laryngectomy patients should have a bed head sign (Appendix 1)

At WAHT it is usual practise for the patient to return to the designated head and neck ward with a double lumen, non- fenestrated, cuffed tracheostomy in-situ, the size may vary. This can be changed to a laryngectomy tube the following morning unless there is still bleeding from the wound or stoma. During the time in which the tracheostomy tube is in place, all aspects of tracheostomy care will need to be addressed including secretion management, inner tube changes, cuff pressure monitoring, humidification and oxygenation, dressings and stoma care.

If the tracheostomy tube appears blocked:
Refer to **"**MANAGEMENT OF PATIENTS WITH TRACHEOSTOMY TUBES WITHIN THE WORCESTERSHIRE ACUTE TRUST**"** guidelines for greater detail.

- Let down the cuff
- Reassure the patient
- Apply oxygen via tracheostomy mask
- Remove inner cannula
- Suction the patient
- Remove the tube if still blocked. Refer to emergency laryngectomy algorithm

A decision as to how long the cuffed tracheostomy tube should stay in place following surgery is usually made by the ENT surgical team after 24 hours once the patient is on the head and neck ward.. Multi professional contributions will help to direct the need for a laryngectomy tube and the decision around the length and size on a case by case basis. Those involved include:

- Consultant
- Ward Staff
- Clinical Nurse Specialist
- Physiotherapist
- Speech and Language Therapist

A laryngectomy tube is inserted and held in place initially by tube holders. These should be checked at a minimum of twice per day to ensure they are clean and effectively secure. The holders are positioned around the patient's neck with the soft side to the patient. The tapes or tube holder should be attached tight enough to keep the laryngectomy tube firmly in place but loose enough to allow two fingers to fit between them and the patient. This will help to minimise the risk of reduced cerebral blood flow from the carotid arteries due to external pressure.

Post-operative stoma:

- Check that the sutures remain intact and secure
- Check skin integrity is maintained.
- The stoma site must be monitored for signs of infection or wound breakdown at least twice a day.

Longer term stoma care:

- Should be kept clean and dry.
- Crusts of secretions removed with forceps
- Humidification & nebulisation

The Laryngectomy tube:

Laryngectomy tubes should be worn until an agreed weaning process can begin following discussion with all staff involved. Trial of baseplates, laryclips, tracheostomy tapes, stoma bib should commence. Gradual weaning towards complete removal of laryngectomy tube, should occur if the patient is not to undergo further treatment. If the patient is expecting radiotherapy treatment, full weaning from tube wear should be delayed until after this is completed.

Tubes should be changed routinely; a minimum of twice per day or more regularly if required, when there are excess secretions.

Secretions can stick to the internal lumen of a laryngectomy tube and greatly reduce the inner lumen diameter, increasing the work of breathing and may, in severe cases block the airway altogether. Any blockages can be easily dealt with by removal and replacement with a clean tube. If airway still appears blocked, refer to emergency algorithm,

Indication for extended wear of the laryngectomy tube:

- If further radiotherapy treatment is planned

- Lymphoedema causing airway obstruction
- Need to suction (i.e. tracheal mucosa is protected during suctioning)
- Viscosity of secretions (i.e. thick secretions can be removed on removal of the laryngectomy tube if restricting airway)
- Tracheomalacia
- Stoma stability/microstoma
- Posterior tracheal wall condition/movement

Tracheal Suctioning:

Patients are taught to cough and clear their own secretions. Tracheal suctioning should not be carried out routinely but only if the patient is unable to cough and clear secretions independently, which may occur in the first 48 hours or emergency situations. Refer to emergency algorithm.

Primary puncture:

On return to the ward, some patients may also have had a primary puncture at time of surgery, otherwise known as TEP (tracheo-oesophageal puncture). These patients will have a 14fr foley catheter in position which is used to commence enteral feeding post operatively as guided by dietitians. See 'care of TEP' section for further information.

Humidification and airway resistance:

Following a laryngectomy, the air that patients breathe is no longer warmed, humidified and filtered by the nasal passages as they now breathe directly in and out via the stoma. Drying of the airway impairs mucus flow and cilia function resulting in thickened airway secretions. (RMH pg 815) Therefore some form of humidification must be provided to prevent the patient's secretions from becoming dry and crusty.

There are several methods available:

- Humidified oxygen administered via a tracheostomy mask if required.
- Humidified Moisture Exchange (HME) cassettes should be applied to the tube once the patient is maintaining their saturation rates satisfactorily and can tolerate the airway resistance introduced
- Nebulised saline x4 a day
- A laryngectomy stoma cover which ties around the neck protecting and humidifying the area in front of the tube by trapping and recycling the patients expired moisture.

Patient self-care

- As soon as is realistic the patient should be encouraged to self-care for their stoma and maintain the hygiene of their laryngectomy tube.
- Provision of an equipment bag (provided by a prescription delivery company) containing mirror, light and other equipment should be provided in the first week following surgery.

Safety Equipment:

- Each patient should have an altered airways emergency box containing tracheal dilators, tracheostomy tube, tracheostomy tapes, gauze, by their bed space. Available from critical care outreach team or head and neck ward.

Procedure for Cleaning a Laryngectomy tube in hospital:

Appendix 2

Changing the laryngectomy tube:

Appendix 3

Care of the stoma:

Appendix 4

Care of the Tracheoesophageal Puncture (TEP) :

(With permission from University Hospital Birmingham, Queen Elizabeth Hospital; Laryngectomy Care Plan)

- Ensure the TEP feeding catheter is secured to the patient's skin with tape ensuring a skin barrier is applied with choice of tapes – transpore/micropore
- Ensure the length of the feeding catheter i.e. stoma to catheter junction remains unchanged and this is documented.
- Inflate the balloon with 2 mls water
- Alternate the position of TEP feeding catheter every 24 hours
- Monitor for any leakage of saliva or refluxed feed around the feeding catheter in the TEP

Care of the Voice Prosthesis:

Appendix 5

What to do if things go wrong:

Careful monitoring of the laryngectomy patient will result in the identification of problems at an early stage. A respiratory assessment of the patient should be undertaken when the observations of temperature, pulse, respiration and blood pressure and NEWS (National Early Warning Score) are recorded 4 hourly or more frequently as required.
In the event a patient needs resuscitation, remove the laryngectomy tube if this is in place. Replace this with a cuffed tracheostomy tube with cuff inflated. Start ventilation with ambubag. Follow emergency algorithm.

Communication:

Not being able to communicate is extremely difficult for the patient with a laryngectomy. Each patient will have an agreed method of communicating following surgery. Not all patients are suitable for speaking valve placement therefore other modes of communication can be utilised alongside a speaking valve or independently. These include:

- Low tech communication: pen and paper or whiteboard
  - Mouthing
  - Oesophageal voicing
- High tech communication: text to speech app

- Electrolarynx
- Liaise with the specialist speech and language therapist for advice.

Psychological Support and Education:

Laryngectomy surgery is life altering and requires the patient and their family to adjust to a new normal. Team members involved to support psychological health include a Head and Neck Counsellor and wider psychological service, CNS, SLT, Physiotherapist, ward nursing staff.

Care of the established laryngectomy stoma:

Long term laryngectomy patients when admitted to the trust should be nursed on a designated altered airways ward: respiratory, medical short stay or head and neck ward.
Established laryngectomy patients are usually independent in their stoma care and not all patients will have a laryngectomy tube insitu. Refer to appendix 4 for stoma care and page (7) for humidification advice.
If a patient has a Tracheo-oesophageal voice prosthesis in situ, this will need cleaning and checking for leaks (see appendix 5). If a voice prosthesis is not in situ then there is no risk of aspiration as food pipe and airway are totally separated (unless a post-operative fistula is present).

Discharge Planning:

Refer to:

- **"Adult patients going home with an altered airway - Guidelines for the care and training required for carer/patient prior to discharge from hospital"**
- **WAHT "Altered Airway Discharge Pathway"**
- **Adult Laryngectomy Patient Information/Assessment Booklet**

Encouraging independence as soon as possible and throughout their admission will facilitate earlier discharge & avoid Hospital Acquired Functional Decline (HAFD).

All laryngectomy patients will have seen a SLT prior to discharge and will have an outpatient follow up arranged before leaving hospital and provided with spare equipment tailored to their individual needs. All patients will have been registered with a supply company.
Those who have a voice prosthesis will have completed the competencies for self-management and will have been provided with:

- spare foley catheter tube – 14 fr and 8 fr, spigot, syringe, tape, aqua gel, contact numbers in case of an emergency, dilator, valve cleaning brush, voice prosthesis record card
- Their valve will have been checked for leakage when drinking and a tub of thickening powder will have been provided.

Monitoring Tool

How will monitoring be carried out?	Audit
Who will monitor compliance with the guideline?	ENT Directorate meetings Ward meetings

STANDARDS	%	CLINICAL EXCEPTIONS
Documentation fully completed	100%	None
Staff Knowledge ? Staff undertaking care of laryngectomy have relevant knowledge / have undertaken training in the care of laryngectomy		Staff who have not attended training
All appropriate Equipment Available		Supply Issue

References

- National Tracheostomy Safety Project (NTSP) http://www.tracheostomy.org.uk/Resources/Printed%20Resources/NTSP_Manual_2013.pdf

CONTRIBUTION LIST

Key individuals involved in developing the document

Name	Designation
Catherine Ball	Clinical Nurse Specialists
Mirjana Rasovic/Morag Inglis	Speech and Language Therapists

Circulated to the following individuals for comments

Name	Designation
Emma Boffey /Emma Jameson	Physiotherapists
Alison Spencer	Lead Critical care Outreach Nurse
Rebecca Morgan/Rebecca Allies/Megan Wright/Abigail Currie	Ward Manager & Sisters Head and Neck Ward

Circulated to the following CD's/Heads of dept for comments from their directorates / departments

Name	Directorate / Department
Mr Chris Ayshford	Consultant Head and Neck Cancer and Thyroid Surgeon and Clinical Lead for Head and Neck Cancer
Mr Graham James	Consultant Oral and Maxillofacial Surgeon and Director of Surgery
Julie Briggs	Directorate Manager
Steve Graystone	Associate Medical Director – Patient Safety
Chris Doughty	Senior Resuscitation Officer

Circulated to the chair of the following committee's / groups for comments

Name	Committee / group

Clinical Management Board	

Appendix 1

This patient has a

LARYNGECTOMY

and CANNOT be intubated, oxygenated or resuscitated via the mouth

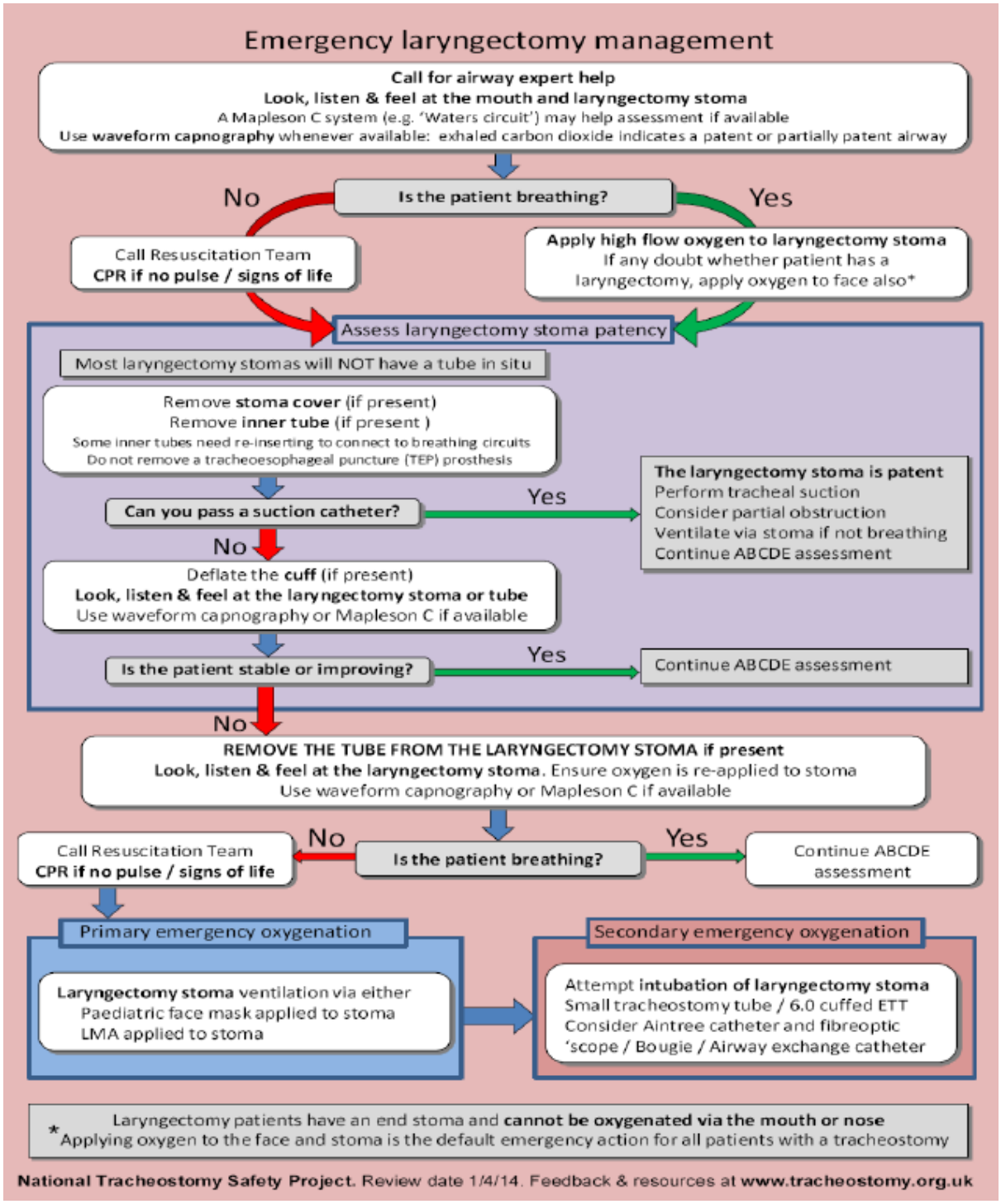
Follow the LARYNGECTOMY algorithm of breathing difficulties

Performed on (date) .....

Tube size (if present) .....

Patient Name .....

Worcestershire Acute Hospitals NHS Trust



Appendix 2

Procedure for in hospital laryngectomy tube cleaning

Equipment required:

PPE – gloves, apron facial protection visor or goggles
Sterile receiver/bowl
Sterile saline
Single use pink sponges/laryngectomy tube brushes
Sterile Gauze
Waste bag
Dressing trolley

1. Prepare patient and explain procedure - set up equipment on dressing trolley
2. Wash hands and don apron, gloves and facial protection if required
3. Remove laryngectomy tube and cleanse outside of tube with gauze to remove all residual visible secretions.
4. Pour sterile saline into receiver/bowl and submerge tube
5. Clean through the tube with sponges or brush so that all secretions are removed and the tube is visibly clean. (You may need to change the solution if there are a lot of secretions)
6. Rinse off with sterile saline
7. Check tube for any signs of perishing or splits – if tube found to perished discard
8. Dry tube thoroughly inside with clean dry pink sponge outside with gauze
9. Store tube in labelled pot with lid on patient's trolley or bed space.
10. Remove gloves apron and eye protection/visor in that order, wash hands
11. Discard all waste into the appropriate waste bag & dispose into the correct waste stream bin
12. De-contaminate hands with hand sanitizer.

Appendix 3

Procedure for Laryngectomy Tube change

Equipment Required:

Spare clean tube
Tracheostomy tapes
Cleaning equipment as appendix 2

1. Prepare Patient explain procedure
2. Remove tube, inspect and clean stoma as required (Appendix 4)
3. Apply tapes to new tube
4. Aquagel applied to end of tube to aid insertion
5. Ask patient to breath in and insert tube into stoma in smooth action, following the shape and direction of the trachea
6. Apply tapes with two finger width from skin.

Appendix 4

Procedure for in hospital Stoma cleaning

Equipment Required:
Dressing trolley
PPE
Gallipot/dressing pack
Sterile Saline
Sterile Gauze
Waste Bag

1. Remove Laryngectomy tube as above
2. Inspect stoma, clean with sterile gauze soaked in saline with one wipe technique to remove any secretions.
3. Any dried secretions soften and remove with gauze and saline or Tilleys forceps.
4. Ensure stoma is clean dry and check for skin damage or soreness, can use skin barrier protection if required.
5. Replace with clean laryngectomy tube or baseplate as per individual patient equipment use.

Appendix 5

Procedure for checking voice prosthesis function in hospital

Torch Voice prosthesis cleaning brush Milk or coloured water Suction

1. Make sure patient is sat upright and you are able to view stoma and voice prosthesis easily.
2. Ask patient to clean the valve or support them with this if they are unable to do so. Aim for the centre of the voice prosthesis with the brush and apply gentle pressure until fully inserted, then rotate the brush 360 degrees in one direction.
3. Gently remove the brush and clean with sterile water and sterile receiver. Dry with a paper towel. Repeat procedure until brush is clean on removal from voice prosthesis.
4. Ask the patient to take a sip of fluid, hold it in their mouth and then swallow. Be ready with light source and suction whilst viewing the voice prosthesis during the swallow.
5. If the voice prosthesis is leaking fluid will be seen from either the centre or around the voice prosthesis.
6. Provide patient with thickened fluids and re-assess whether this stops the leak
7. Contact SLT or ENT for further assistance if out of hours.

Worcestershire NHS
Acute Hospitals NHS Trust

Worcestershire Royal Hospital
Charles Hastings Way
Newtown Road
Worcester
WR5 1DD
Reception: 01905 760212
Medical Secretary: 01905 760215

Ref:
NHS No:

West Midlands Ambulance Trust
Waterfront Business Park
Waterfront Way
Brierley Hill
West Midlands
DY5 1LX

Dear cad.admin@nhs.net

RE :-

Address:-

Date of birth

Altered airway: - Laryngectomy
Tracheostomy

Could it be a silent call Yes /No

Is there a telephone aid used Yes /No

Please contact me as soon as possible if there are any concerns regarding this.

Yours Sincerely

Donna Gilbert/Catherine Ball
Macmillan CNS Head and Neck
Worcester

Appendix7 – Laryngectomy/Tracheostomy Trolley

To be checked & topped up as necessary daily

Top Drawer: Laryngectomy/Tracheostomy care

- Spare laryngectomy tube in sealed pot
- Tube holding tapes
- Tracheostomy dressing (if applicable)
- Lubrication jelly x2
- Saline solution 10ml ampoules x5
- Dressing Pack/gauze/cleaning sponges
- Sterile kidney receiver

2nd Drawer: Feed Equipment (if applicable)

- Purple 60ml syringes x3
- Medicine pots/purple syringes 10ml/20ml
- Plastic cups
- Feed giving set x1
- Bag of feed

3rd Drawer: Miscellaneous

- Gauze swabs x2 packs
- Pink sponges x2 packs
- Sterile field x 1
- Yankeur suction catheter x2
- Single use suction gloves

4th Drawer: Basic Surgical Voice Equipment if applicable/Miscellaneous

- 14fr foley catheter8fr feeding catheter
- Spigot
- Syringe
- Cleaning brush
- Micropore/Transpore tape
- Torch
- Optiderm base plates
- HME cassettes
- Tilleys forceps
- Spare water bottle x1
- Spare saline bottle x1

Basket:

- Tracheostomy box (complete as per equipment list)

Trolley Top:

- Bottle water (in use, open dated & timed)
- Bottle saline for suction (in use open dated & timed)
- Tracheostomy inner tubes (if applicable)

Trolley to be cleaned daily & only equipment as stated above stored on it in line with infection control policies.

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	**Does the policy/guidance affect one group less or more favourably than another on the basis of:**		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	N/A	
4.	**Is the impact of the policy/guidance likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the policy/guidance without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this key document, please refer it to Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Human Resources.

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	**Yes/No**
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval