



RCSLT clinical guidance for the management of total laryngectomy in the context of COVID-19

4 November 2020

1. Introduction

This document is aimed at speech and language therapists (SLTs) working with people with total laryngectomy (PTL) in the context of COVID-19. It provides interim guidance to support the delivery of urgent and essential care in the context of COVID-19 for PTL. It is acknowledged that speech and language therapy models of service delivery for PTL have changed substantially since the initiation of lockdown in the UK in March 2020.

The document provides evidence-informed guidance to support clinical management of this unique group of patients. It sits alongside other work produced by the Royal College of Speech and Language Therapists and relevant links are provided throughout.

The scope of the document includes:

- Specific COVID-19 considerations for PTL
- Speech and language therapy engagement and communication with service users
- Pre-operative considerations
- Inpatient care
- Outpatient care
- Personal protective equipment (PPE) and air filtration requirements
- Telehealth considerations
- Training
- Service development

This is a working document that will be reviewed and revised in response to any significant new evidence, member queries and feedback. Please send your feedback to info@rslt.org

2. Background and context

PTL generally remain on the caseloads of their local SLTs for their lifetime as they may require regular voice prosthesis changes, access to equipment and supplies for communication and heat-moisture exchange systems and/or are involved in local patient support groups.

Prior to the pandemic, many speech and language therapy services offered walk-in clinics to help troubleshoot problems in communication and swallowing and to allow timely change of a leaking voice prosthesis. During the height of the COVID-19 pandemic, all face-to-face contact was halted resulting in a significant impact to this patient group for whom various service adaptations were necessary. Currently, the NHS is working toward safely restoring clinical services while remaining alert to practices that may inadvertently increase transmission of COVID-19. This includes preparing for forthcoming pandemic surges using learning from the first wave of the pandemic.

In this document, we use the available evidence (including expert opinion, mechanistic and biological reasoning based on knowledge and understanding of pathology and physiology, and data driven evidence where available) to provide guidance to SLTs who are involved in the clinical management of PTL.

3. Specific COVID-19 considerations for PTL

3.1. Vulnerability of PTL

Within the context of the pandemic, PTL present with specific factors which make this population more vulnerable and which require specific consideration. These include the implications of altered anatomy for virus infection risk and transmission. In addition, changes in both ENT and speech and language therapy service delivery as a result of the pandemic may in some cases increase the psychosocial burden of living with laryngectomy.

As neck breathers, PTL appear more susceptible to acquiring COVID-19 (Yeung et al 2020, Patel et al 2020, Hennessy et al 2020, Parinello et al 2020). PTL may additionally experience a higher risk for the most severe complications of COVID-19, due to existing comorbidities (Brook et al 2020) and impaired mucociliary function (Parinello et al 2020). Due to altered anatomy and aerosolisation of tracheal secretions, may carry a higher risk of transmitting viral particles to healthcare workers and other members of the community (Goldstein et al 2020).

Within the context of the COVID-19 pandemic, PTL may also experience vulnerability due to lack of knowledge around the unique testing requirements of this population. Most diagnostic tests identify SARS-CoV-2 genetic material in airway secretions, with specimens most commonly taken from the oropharynx and nasopharynx. However, given the presence of altered anatomy, with the primary respiratory flow via the tracheostoma, the trachea and lungs may act as an additional

site for direct inoculation (Hennessy et al 2020). Therefore, consideration may need to be given to testing tracheal aspirates in addition to pharyngeal areas for PTL (Patel et al 2020, Hennessy et al 2020).

3.1. Psychosocial burden

While many PTL adjust well to the alterations in everyday life after laryngectomy, some experience a significant psychosocial burden.

The changes to physical appearance that occur after surgery may contribute to feelings of not being 'normal' (Dooks et al 2012). For those PTL who either struggle or are unable to communicate it may be harder to express emotions and some may experience isolation (Brook et al 2013). Higher levels of depression and anxiety have also been found in 30% of PTL (Longobardi et al 2020).

Against this baseline of altered psychosocial burden, additional pandemic related factors may increase vulnerability of PTL. These include:

- Since March 2020, routine face-to-face speech and language therapy outpatient appointments have been postponed indefinitely in some institutions to limit unnecessary footfall in hospitals (Patterson et al 2020), with walk-in services suspended. Less frequent contact with key multidisciplinary team (MDT) members may increase a sense of isolation in some PTL.
- Adaptations to surgical treatments such as primary tracheoesophageal puncture will have implications for PTL and will impact on post-surgical outcomes and rehabilitation. This may compound emotional or psychological challenges being experienced by PTL.

4. Speech and language therapy engagement and communication with service users

Through the initial surge phase of the COVID-19 pandemic, it was essential for many speech and language therapy services to avoid both unnecessary voice prosthesis changes and non-urgent rehabilitation problem solving.

Services adapted by developing new ways of engaging and communicating with PTL. This included the provision of written information, emails, phone calls and virtual appointments. Information shared with PTL and those around them included:

- changes in SLT service provision from walk-in to pre-arranged appointments
- emergency procedures for managing prosthesis leakage or extrusion
- advice on reducing virus transmission risk

The COVID-19 pandemic continues to present uncertainties with the possibility of potential future surges and local restrictions. Engagement and communication with PTL and those around them play a critical part in both supporting and minimising risks to service users as progression through the pandemic continues. Specific

advice on hand hygiene, stoma and voice prosthesis cleaning and placement of mask over face and stoma (Brook 2020; Parinello et al 2020) may help PTL to protect themselves and reduce virus transmission.

4.1. Management of voice prosthesis leakage

Management of voice prosthesis leakage may be a particular concern to PTL when speech and language therapy service restrictions occur. To promote independent management and service resilience in the event of a future surge, services should consider reviewing caseloads to identify individual PTL who have the necessary skills to safely learn how to self-change their voice prosthesis. In some cases, it may be appropriate for a significant other to learn how to change a voice prosthesis.

Further strategies to aid voice prosthesis leakage management may include the use of voice prosthesis plugs. While not appropriate for use with all prostheses and of limited effectiveness for peripheral leakage, voice prosthesis plugs may temporarily aid in the management of central voice prosthesis leakage. As the use of plugs requires both good manual dexterity and visual skills, resources including a visual representation of how to place a prosthesis plug may aid PTL and significant others in successful plug placement.

In some situations, the use of thickening powder may be appropriate to facilitate short term management of central and/or peripheral voice prosthesis. Information on dosage and safe use of thickening powder should be provided (NHS England 2015). It may be appropriate to consider identifying funding to enable rapid home courier delivery of plugs/thickening powder.

Care must be taken with both the use of plugs or thickening powder to ensure adequate hydration is maintained. Should plugs or thickening powder be suggested as emergency management strategies, appropriate problem solving should take place at the earliest opportunity to provide a longer-term strategy for resolution of prosthesis leakage.

The ongoing development of clear engagement and communication is encouraged to support the safety of PTL and to reduce potential additional health system burden (Goldstein et al 2020).

5. Pre-operative considerations

5.1. Surgical voice restoration – primary vs secondary tracheo-oesophageal puncture (TEP)

At the start of the pandemic, primary TEP was discouraged in the UK to avoid the risks associated with immediate post-operative recovery and management of a newly inserted voice prosthesis (BAHNO 2020).

It is possible that primary TEP may be postponed in the future should further pandemic surges occur. However, as ENT services have re-commenced, some centres have reinstated the practice of primary TEP using local safe-practice pathways. Risk assessment considerations for the resumption of TEP includes:

- careful patient selection
- pre-operative information regarding TEP and associated risks in the COVID-19 era
- intensive early voice prosthesis training before discharge
- delivery of remote care via telehealth

6. Inpatient care

For a short period during the height of the COVID-19 pandemic, laryngectomy surgeries were postponed. In some instances, patients may have been offered radiotherapy as an alternative treatment option. As head and neck surgery services were restored, laryngectomy surgeries have resumed. The following outlines some considerations which may be relevant to inpatient laryngectomy care as we continue to progress through the pandemic.

Post-operatively, it is possible that new laryngectomy patients may be at significantly higher risk of spreading viral particles given suction requirements, open stomas and open humidification. Additionally, those PTL who require salvage total laryngectomy may experience post-operative wound complications resulting in prolonged hospital stays (Hennessy et al 2020).

Tracheostomy tubes are not routinely inserted post-operatively in all centres. However, where a tracheostomy tube has been inserted post-operatively, cuff inflation, closed circuit ventilation, in line suctioning and the use of disposable rather than reusable inner cannulae may decrease the risk of aerosolisation and droplet formation (Goldman et al 2020).

Inpatient laryngectomees who have confirmed or suspected COVID-19 may benefit from a high viral filtration heat moisture exchanger (HME) (Kligerman et al, 2020).

7. Establishing communication in the early post-operative stage

As previously mentioned, primary tracheo-esophageal puncture at the time of laryngectomy surgery was discouraged in the UK at the onset of the pandemic.

Where primary puncture has not been performed, SLTs will need to prepare and rehabilitate patients using non-surgical voice restoration methods during their inpatient stay. Access to appropriate communication aids such as electrolarynx devices is therefore imperative (Patterson et al 2020) and close attention to cleaning of equipment is required (PHE 2020).

Clinicians are strongly encouraged to refer to manufacturers' guidelines and local infection prevention and control teams for advice on cleaning equipment.

8. Pulmonary rehabilitation/heat moisture exchanger in the early post-operative stage

There is an emerging body of evidence to support use of heat moisture exchanger (HME) (Zuur et al 2006) to reduce the risk of virus transmission (Hennessy et al 2020, Kligerman et al 2020, Goldman et al 2020).

Given the risk of in-hospital virus transmission and reduced access to outpatient services post discharge, it may be practical to establish early use of an HME system with a baseplate +/- a laryngectomy tube and HME cassette, preferably with an integrated viral/bacterial hydroscopic filter (Hennessy et al 2020). Application of well fitted base plates will prevent airflow outside of the HME and reduce mucus contamination of clothing or physical barriers (Hennessy et al 2020).

Patients who cannot or do not wish to wear an HME should be encouraged to cover their stoma with a laryngectomy airway protector. This may be particularly pertinent to PTL during radiotherapy who may be experiencing acute skin toxicity or increased mucous production. Use of a laryngectomy tube may be an alternative option if necessary.

9. Outpatient care

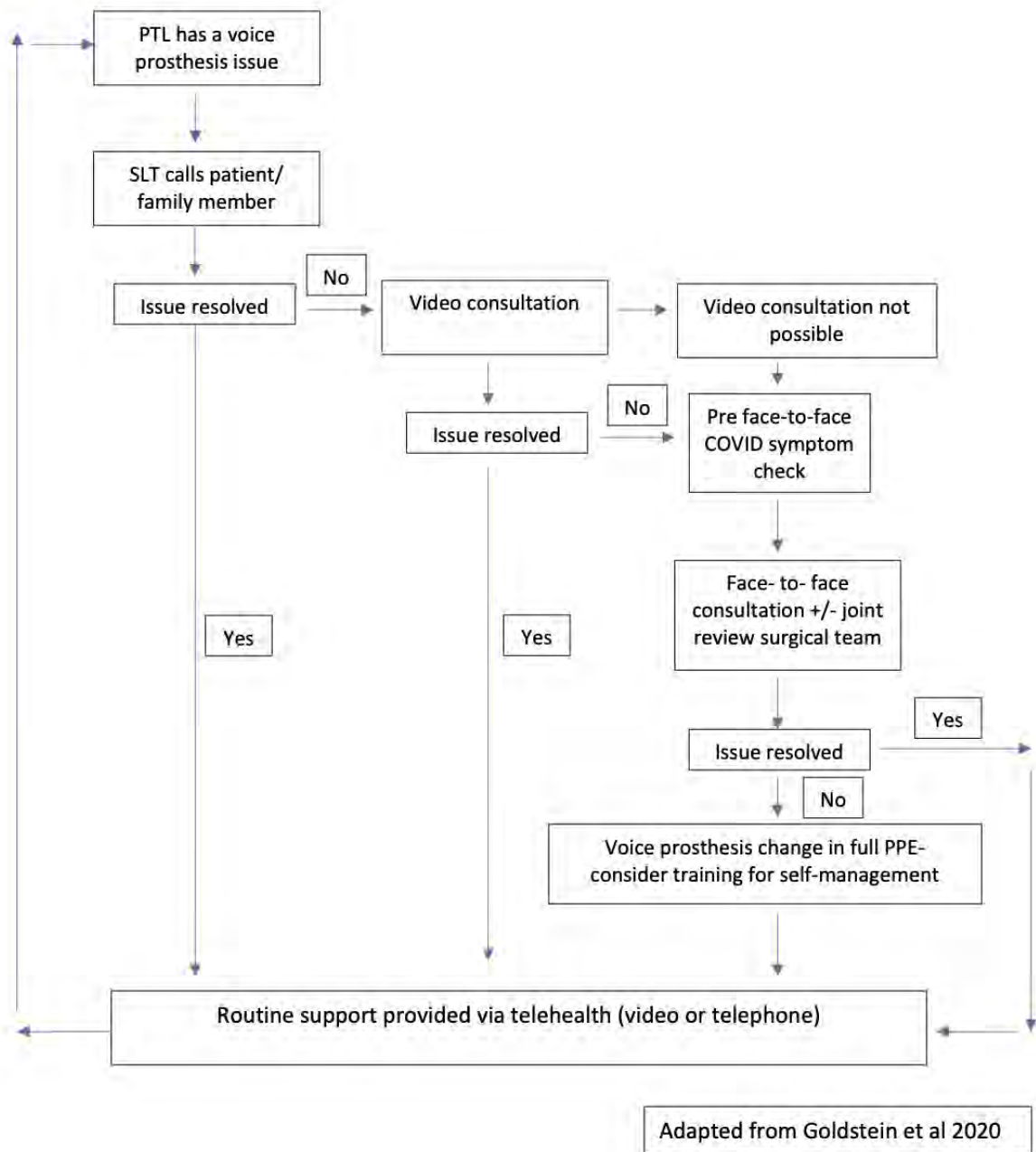
The pathway of care for laryngectomy patients typically involves extensive speech and language therapy outpatient rehabilitation over a period of months and often years to improve communication, swallowing and pulmonary function.

As the COVID-19 pandemic continues, special consideration is required for the management of PTL in the outpatient setting. In line with local infection prevention and control guidelines, it is recommended that protocols are developed regarding information around screening, face coverings, cohorting, radiotherapy and risk management of TEP and/or stoma complications.

9.1 Risk management of TEP and stoma complications

Many centres have created algorithms and guidance (Hennessey et al 2020, Goldstein et al 2020) to help manage the various complications that will arise with this caseload during the pandemic. New approaches to managing PTL include phone and video calls to help temporarily manage/resolve some complications (Goldstein et al 2020, Longobardi et al 2020).

Hospital visits for malfunctioning, dislodged voice prostheses and/or compromised stoma cannot always be avoided or delayed. Risks include respiratory complications, possible loss or overgranulation of tracheoesophageal tract and the psychological impact of being unable to communicate at a time when the patient is already isolated due to socially distancing rules. See Figure 1 below for an algorithm for risk management of TEP complications (adapted from Goldstein et al 2020).



See appendices A and B for examples of risk assessment checklists. These can be adapted and modified to suit the specific needs of a service and may be of benefit to help inform the process of risk management.

9.2. Screening

Services should have an agreed protocol for symptom screening prior to outpatient appointments. This should include seeking advice on how to proceed if a service user reports symptoms of COVID-19, especially in cases where the risk of deferring a procedure is potentially greater than the risk of proceeding.

If the patient requires a face-to-face appointment following a risk assessment and screening process, measures should be in place to ensure the patient receives clear instructions regarding attending the hospital site.

9.3. Face coverings

Since 15 June 2020, all those attending outpatient appointments have been advised to wear face coverings to reduce the risk of spreading COVID-19 to other patients and health professionals. Ahead of any outpatient appointment, PTL should be advised to wear an appropriate face and stoma cover.

9.4. Cohorting

It is acknowledged that there will be a wide variation in the location and type of clinical space available to provide outpatient input for PTL. During the COVID -19 pandemic, clinical space and appointments slots should be in line with guidance from PHE and local infection and prevention control advice (see Public Health England risk assessment pathways in section 10). SLTs may also want to consider section 4.2.2. 'Cohorting or bubbles' in [RCSLT guidance on reducing the risk of transmission and use of personal protective equipment \(PPE\) in the context of COVID-19.](#)

9.5. Radiotherapy

Most PTL receiving radiotherapy will attend as outpatients and the current advice regarding PPE, HME and outpatient risk assessments are of particular importance.

PTL undergoing radiotherapy have the added complication of compromised immunity. It is therefore essential that patients are fully educated to follow all the necessary precautions while attending for treatment and when travelling to and from their hospital appointments. Cancer centre staff providing treatment should be fully educated regarding the vulnerability of PTL during COVID-19.

10. PPE and air filtration requirements

Tracheoesophageal voice prosthesis change involves manipulation of the upper airway digestive tract and poses the possibility for aerosolisation of virus particles (Goldstein et al 2020, Tran et al 2012) and induction of sputum. For these reasons, voice prosthesis changes are considered an aerosol generating procedure (AGP).

According to current Public Health England (PHE) guidance patient treatment, care and support should be managed in three COVID-19 pathways (PHE 2020):

High risk pathway	Medium risk pathway	Low risk pathway
Patients who have, or are likely to have, COVID-19	Patients who have no symptoms of COVID-19 but do not have a COVID-19 SARS- CoV-2 PCR test result.	Patients with no symptoms and a negative COVID-19 SARS- CoV-2 PCR test who have self-isolated prior to hospital admission

PPE requirements for AGPs depending on risk pathway are outlined below. It is recognised that the majority of patients attending for surgical voice related care will most likely be in the medium risk pathway.

PPE AGP high risk pathway	PPE AGP medium risk pathway	PPE AGP low risk pathway
FFP3 mask Disposable gloves Full body gowns Eye protection	FFP3 mask Disposable gloves Full body gowns Eye protection	Fluid resistant surgical mask (FRSM) Disposable gloves Disposable apron/gown Eye protection

For patients in the high and medium risk pathway a designated AGP procedure room should be available (ENT UK 2020). The room must be well ventilated. Ideally, it should have mechanical ventilation with a known rate of air changes per hour (ACH) (ENT UK 2020).

Advice on the designated room and the time required for a 'rest period' should be determined by microbiological advice according to the room ventilation characteristics and should be sought from the infection prevention and control team.

Please note that for patients on a low risk pathway there is no additional requirement for ventilation or downtime, providing safe systems of work, including engineering controls, are in place (PHE 2020).

11. Telehealth considerations

Prior to COVID-19, growing evidence indicated the potential benefits of telehealth to deliver speech and language therapy interventions to head and neck cancer patients, including PTL (Burns and Wall 2017).

For all aspects of telehealth, RCSLT members are directed to the RCSLT's [telehealth guidance](#) and to the RCSLT Telehealth Professional Network. If you would like to join the professional network, please contact info@rcslt.org.

For newly diagnosed patients, video calls and pre-recorded information videos can be used in place of, or to support, in-person pre-operative speech and language therapy counselling.

Screen-share can be used to discuss written information and diagrams, and three- or four-way calling can allow patients and family to remotely meet a trained 'laryngectomy visitor' alongside a clinician, in the same way as pre-COVID-19.

During inpatient stay, calls can ease the transition between hospital and home, facilitating contact at a time when hospital visiting is not permitted. Family and carers can become familiar with changed anatomy, communication and care needs via on-screen training.

After discharge, and for existing outpatients, clinician-to-patient calls can troubleshoot and manage voice prosthesis problems without the need for outpatient attendance (Longobardi et al 2020).

Communication training for all methods of alaryngeal speech can be delivered remotely.

Digital connectivity problems (slow broadband speeds, poor signal) and accessibility issues (limited access to necessary technology or limited skills in its use), as well as the particular communication difficulties and needs of alaryngeal speakers mean that telehealth will not be feasible for all laryngectomy patients in all circumstances.

Speech and language therapy head and neck cancer services will need to consider carefully how to balance the risks of PTL in-person attendance, while still ensuring inclusivity of access to address the physical, emotional and information needs of all laryngectomy patients throughout the continuing pandemic.

12. Training

The management of laryngectomy patients requires the acquisition and development of specialist speech and language therapy skills. It is acknowledged that the pandemic has limited the provision of face-to-face teaching to enable clinicians to develop competencies including TEP sizing and voice prosthesis fitting.

Pending the reinstatement of face-to-face learning, innovative approaches are encouraged to enable competency acquisition through support and supervision. Such approaches may include remote mentoring, peer case discussion and online learning.

13. Service development

The RCSLT recommends that members continue to collect and submit clinical outcome data in line with best practice, service evaluations, research and audits.

To this end the Head and Neck Clinical Excellence Networks have undertaken a national audit of service delivery changes to PTL during the pandemic.

Information from this audit will be disseminated in due course and is expected to inform future service delivery planning.

References

British Association of Head and Neck Oncologists (BAHNO) (2020). Statement on Covid-19. [Online]. Available at:

https://www.bahno.org.uk/bahno_statement_on_covid-19.aspx

British Association of Head and Neck Oncologists (BAHNO) (2020). Guidance for reinsertion of TEP voice prostheses. [Online]. Available at:

https://www.bahno.org.uk/guidance_for_reinsertion_of_tep_voice_prostheses.aspx

Brook, I., Cord, L., Orestes, M., Davidson, B. (2020). Swallowing difficulties caused by a voice prosthesis in a laryngectomy. *Eur Ann Otorhinolaryngol Head Neck Dis*, 2019–21. [Online]. Available at: <https://doi.org/10.1016/j.anorl.2019.12.014>

Dooks, P., McQuestion, M., Goldstein, D., Molassiotis, A. (2012). Experiences of patients with laryngectomies as they reintegrate into their community. *Support Care Cancer*. 20(3), 489-98. [Online]. Available at:

<https://pubmed.ncbi.nlm.nih.gov/21298450/>

ENT UK. Aerosol Generating Procedures (AGPs) within the ENT clinic. (2020). [Online]. Available at:

<https://www.entuk.org/sites/default/files/Aerosol%20Generating%20Procedures%20%28AGPs%29%20within%20the%20ENT%20clinic.pdf>

Goldman, R.A., Swendseid, B., Chan, J.Y.K., Lewandowski, M.H.A., Adams, M.S.N., Purcell, M., Cognetti, D.M. (2020). Tracheostomy Management during the COVID-19 Pandemic. *J Otolaryngology Head and Neck Surgery*. 163(1) 67-69.

Goldstein, D.P., Ralph, G., de Almeida, J.R., Jethwa, A.R., Irish, J., Chepeha, D.B., Brown, D., Gullane, P., Waldron, J., Aziza, E., Durkin, L. (2020). Tracheoesophageal voice prosthesis management in laryngectomy patients during the COVID-19 pandemic. *J Otolaryngol Head Neck Surg*. 49(1), 59. [Online]. Available at:

<http://www.ncbi.nlm.nih.gov/pubmed/32778168>

Hennesy, M., Bann, D. V., Patel, V. A., Saadi, R., Krempf, G. A., Deschler, D. G., Goyal, N., Choi, K. Y. (2020). Commentary on the management of total laryngectomy patients during the COVID-19 pandemic. *Head Neck*. April, 1–7. [Online]. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7262329/>

Kligerman, M. P., Vukkadala, N., Tsang, R. K. Y., Sunwoo, J. B., Holsinger, F. C., Chan, J. Y. K., Damrose, E. J., Kearney, A., Starmer, H. M. (2020). Managing head and neck cancer patients with tracheostomy or laryngectomy during the COVID-19 pandemic. *Head Neck*. April, 1–5. [Online]. Available at:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7262107/>

Longobardi, Y., Galli, J., D'Alatri, L., Savoia, V., Mari, G., Rigante, M., Passali, G. C., Busso, F., Parilla, C. (2020). Patients With Voice Prosthesis Rehabilitation During the COVID-19 Pandemic: Analyzing the Effectiveness of Remote Triage and Management. *Otolaryngol - Head Neck Surg.* [Online]. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7404089/>

NHS England. Patient Safety Alert: Risk of death from asphyxiation by accidental ingestion of fluid/food thickening powder. 2015. Available from: <https://www.england.nhs.uk/wp-content/uploads/2015/02/psa-thickening-agents.pdf>

Parrinello, G., Missale, F., Sampieri, C., Carobbio, A. L. C., Peretti, G. (2020). Safe management of laryngectomized patients during the COVID-19 pandemic. *Oral Oncol.* Aug(107), 104742. doi: 10.1016/j.oraloncology.2020.104742. Epub 2020 Apr 24. [Online] Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7180359/>

Patterson, J. M., Govender, R., Roe, J., Clunie, G., Murphy, J., Brady, G., Haines, J., White, A., Carding, P. (2020). COVID-19 and ENT SLT services, workforce and research in the UK: A discussion paper. *Int J Lang Commun Disord.* 1–12. [Online]. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7436215/>

Public Health England (2020b). COVID-19: Guidance for the remobilisation of services within health and care settings - Infection prevention and control recommendations [Online]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/910885/COVID-19_infection_prevention_and_control_guidance_FINAL_PDF_20082020.pdf

Tran, K., Cimon, K., Severn, M., Pessoa-Silva, C.L., Conly, J. (2012). Aerosol generating procedures and risk of transmission of acute respiratory infections to healthcare workers: a systematic review. *PLoS One.* 7, e35797. [Online]. Available at: <https://pubmed.ncbi.nlm.nih.gov/22563403/>

Ward, E. C., Wall, L. R., Burns, C. L., Cartmill, B., Hill, A. J. (2017). Application of telepractice for head and neck cancer management. *Curr Opin Otolaryngol Head Neck Surg.* 1. [Online]. Available from: <http://insights.ovid.com/crossref?an=00020840-900000000-99352>

Yeung, D. C. M., Lai, R., Wong, E. W. Y., Chan, J. Y. K. (2020). Care of Patients With a Laryngectomy During the COVID-19 Pandemic. *Otolaryngol - Head Neck Surg.* 1–4. [Online]. Available at: <https://pubmed.ncbi.nlm.nih.gov/32482154/>

Zuur, J. K., Muller, S. H., de Jongh, F. H., van Zandwijk, N., Hilgers, F. J. (2006). The physiological rationale of heat and moisture exchangers in post-laryngectomy

pulmonary rehabilitation: a review. Eur Arch Otorhinolaryngol. 263(1): 1–8. [Online].
Available at: <https://pubmed.ncbi.nlm.nih.gov/16001247/>

Appendix A – Risk assessment for surgical voice restoration patients during COVID-19 pandemic

Developed by the Adult ENT speech and language therapy department, Queens Medical Centre, Nottingham University Hospitals NHS Trust (with thanks to Natasha O'Neill, Clinical Lead SLT, Guy's and St Thomas' NHS Foundation Trust) – 8 April 2020

The aim of this risk assessment is to reach an appropriate balance between reducing Covid-19 exposure for patients and clinicians and ensuring the patient is safely managing their voice prosthesis at home. Its function is to determine when a voice prosthesis change may be necessary in order to reduce the risk of hospital admission due to chest infection secondary to aspiration or dehydration.

Where possible hospital attendance for voice prosthesis management should be avoided.

1. This risk assessment can be completed by a speech and language therapist (SLT) competent in SVR management.
2. The SLT should contact the patient or carer by telephone/video call to establish current status of voice prosthesis and advise on altered service with alternative measures explained (possible use of thickener, plug, pipette).
3. Using the questions below, the SLT should identify risks to the patient and clinician
4. Following the consultation, the SLT should consider actions to minimise risk and discuss with SLT and surgical colleagues.
5. The SLT should record the risk assessment by completing this form and scanning a copy to the patient's digital health record (DHR)
6. Any patient identified as having an issue with their voice prosthesis will be added to a spreadsheet for monitoring

Risk Assessment for Surgical Voice Restoration Patients during Covid-19 pandemic

Patient Name/K number:

Affix label here if available

Question					
Valve extrusion	Is the patient's valve in position?	Yes	No	Partially	
	If no, does the patient know where the valve is?	Yes	No	Suspected	
	Is there a possibility that the valve is in the trachea?	Yes suspected	Yes certain	No	
Valve leakage	Is the patient experiencing valve leakage?	Yes	No	Suspected	
	What degree of leak are they experiencing?	Intermittent	persistent		
	Are they experiencing a leak on saliva?	Yes	No		
	Can the patient or carer identify whether the leak is central or peripheral?	Central	peripheral	Unclear	
	Does the patient/carer have the dexterity and vision to safely manually site a plug and secure it?	Yes		No	
	Does the patient/carer have the dexterity and vision to use a pipette to plug the valve when drinking?	Yes		No	
	Is the leak eliminated by thickening fluids? (State IDDSI 0, 1, 2, 3, 4)	Yes		No	
	Will the patient be compliant with thickened fluids and maintain adequate hydration?	Likely		Unlikely	
	Can the patient tolerate thickened fluids? (e.g. due to stricture/narrowing)	Yes		No	
	Does the patient have an alternative route for nutrition (e.g. RIG/PEG)	Yes		No	
Clinical Status	Is the patient clinically well?	Yes		No	
	Do they have a temperature/persistent cough?	Yes		No	
	Have they been adhering to social distancing measures?	Yes		No	
	Have they been tested for COVID-19?	Yes		No	
		Date/result:			

LOW RISK	MEDIUM RISK	HIGH RISK
<ul style="list-style-type: none"> • Reports intermittent leak. • Safely sited plug and reports no leak. • Safely using pipette • Safely using thickener and reports central or peripheral leak eliminated. • Patient reports persistent salivary leak through voice prosthesis but able to wear plug 	<ul style="list-style-type: none"> • Voice prosthesis dislodged and patient aware of location of prosthesis i.e. can confirm this has not been aspirated. • Ryles tube or dilator safely sited and secured and no leak reported on milk test. • Dilator is not secure to leave overnight. • If patient/carer are symptomatic of COVID-19 immediate change is NOT advised • Ryles tube/foley catheter should be collected from the department by relative / delivered to patient and if taped securely can be left overnight 	<ul style="list-style-type: none"> • Poor vision or dexterity therefore unable to safely site plug (patient AND carer) • Poor vision or dexterity therefore unable to thicken drinks and/or observe for signs of leak. (patient AND carer) • Use of thickener has not eliminated the leak. • Patient is non-compliant with both plug and thickener. • Poor positioning of tracheoesophageal puncture makes it difficult for patient to site plug or observe for signs of leak if using thickener. • Prosthesis displaced or not visible (embedded) and patient unable to site Ryles tube or dilator to prevent flow of saliva/liquids through TEP. • Cognitive ability of client is diminished and/or carer not available



Leaking voice prosthesis being safely managed at home with alternative methods. Will require telephone follow up 2-4 weeks with documentation.

Requires non urgent insertion of voice prosthesis at the hospital. Aim to see patient within 1 week. This allows for a delay if patient/carer is symptomatic of COVID symptoms.

Discuss with colleague and arrange for patient to attend hospital for prosthesis change. If prosthesis requires changing consider an occluder which will avoid risk of further leakage until safe services are resumed. Follow protocol for SVR change.

Patient Name:	Hospital Number:
Date of Assessment:	SLT signed:
Risk assessment outcome based on the matrix overleaf:	
Agreed Action Plan:	

carers

Appendix B - Assessment checklist

Developed by Belfast Health and Social Care Trust

ASSESSMENT CHECKLIST	YES/NO
Patient advised of altered service?	
Patient received a letter of altered service?	
Surgical voice functional/present?	
Speaking valve overdue change?	
Is leak reported/identified?	
Is leak central?	
Is leak peripheral?	
Is leak persistent?	
Can plug insert be used with the current speaking valve?	
Can patient/carer manipulate plug insert?	
Has patient tried using fluid thickener to resolve the leak?	
Does patient have access to thickener?	
Has thickened fluids resolved the leak?	

ASSESSMENT CHECKLIST	YES/NO
Is patient compliant with thickened fluids?	
Is patient able to swallow thickened fluids?	
Is patient able to see the speaking valve in tract?	
Is speaking valve protruding?	
Is speaking valve embedding?	
Is the speaking valve dislodged?	
If dislodged, has patient placed stent/dilator/Jacques catheter & secured it?	
Is patient able to locate speaking valve?	
Is there a leak around stent/catheter?	
Is there a reported swallowing difficulty/change in diet/weight loss?	
Is there a known history of stricture/ swallowing difficulty?	
Does patient have alternative communication means?	
Is patient aware of stent location & how/when to insert stent?	
Does patient report any change in stoma size?	
Does patient have all necessary HME/SVR supplies?	

Acknowledgements

This paper has been written on behalf of the Royal College of Speech and Language Therapists (RCSLT) by the following expert panel:

Katherine Behenna, Head of SLT Head and Neck Cancer/ENT Services, Nottingham University Hospitals Trust

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Joanna White, Macmillan Principal Speech and Language Therapist, Aneurin Bevan University Health Board, Wales.