

Managing out of hours voice prosthesis (or 'valve') complications in inpatients at Wexham Park Hospital who have undergone total laryngectomy

Key Points

- Patients having undergone total laryngectomy and surgical voice restoration may experience complications relating to the tracheo-stoma and voice prosthesis (or 'valve').
- If they present to A&E or are admitted to Wexham Park Hospital, all patients having undergone total laryngectomy should be referred to the ENT doctor on-call as well as the head and neck specialist speech and language therapist and clinical nurse specialists for advice/support.
- This guideline provides advice on the management of two potential complications associated with surgical voice restoration: 1) a 'leaking' valve 2) a displaced/dislodged valve.

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Abbreviations

TL	Total Laryngectomy
SVR	Surgical Voice Restoration
SLT	Speech and Language Therapist
CNS	Clinical Nurse Specialist

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Summary of guideline:

Patients having undergone total laryngectomy (TL) and surgical voice restoration (SVR) (See Appendix 1 for an overview of the anatomical changes post-surgery) may experience complications related to the tracheo-stoma and voice prosthesis (otherwise known as a 'valve'). These problems are usually managed in the outpatient setting under the care of the head and neck multidisciplinary team. This includes the ENT/head and neck surgeons as well as the head and neck specialist speech and Language therapist (SLT) and clinical nurse specialists (CNS).

The number of patients in East Berkshire that have undergone TL and SVR is extremely small and there is limited SLT/CNS provision at Wexham Park Hospital. It is imperative therefore that, in the absence of the SLT and CNS, on-call ENT staff are familiar with and confident addressing tracheo-stoma and valve related complications.

This guideline has been produced to support management of two valve complications patients with TL and SVR may experience. This includes the more common leaking valve and the rarer, but more concerning displaced valve.

Always check EPIC for the most up-to-date valve/laryngectomy care information for the patient.

Scenario 1: Leaking valve

The silicon valve that is placed within the tracheoesophageal puncture (TEP) to restore airflow to the reconstructed pharynx following TL, contains a central 'flapper', which is closed at rest (See Appendix 2). This prevents backflow of pharyngeal/upper oesophageal contents into the trachea. Over time this flapper ceases to operate effectively, and the valve begins to leak. That is, on swallowing, material enters the airway through the valve. Less commonly, the valve may leak peripherally where material is seen coming from around the tracheal flange of the valve.

Scenario 2: Displaced/dislodged valve

Whilst rare, it is possible for the valve to become displaced/dislodged from the TEP. In this event, patients are instructed to immediately attend A&E. Without a valve in place, there is an open communication between the patient's pharynx and trachea and they are at high risk of aspiration. Furthermore, unless the TEP is stented in a timely manner, there is a risk the TEP will close at which point a repeat puncture would need to be created in theatre.

The information included below is designed to aid decision making in the above scenarios. The information included is not intended to replace good clinical judgement and all care should be individualised. It is recommended that support is sought at all stages from an ENT registrar/consultant with experience in laryngectomy management.

Scenario 1: A total laryngectomy patient presents to A&E with a leaking valve

- A) Patient attends A&E with a reportedly leaking valve.
- B) Having reviewed the patient's history on EPIC, on call ENT review the patient and confirm the leak by visualising the valve when the patient takes a small sip of water. Note – if a subtle leak is suspected, this can be confirmed by asking the patient to sip milk. Milk should NOT be used when a severe leak is suspected or when the patient's tolerance for aspiration is considered low.
- C) If a leak is confirmed and the valve is leaking centrally, clean the valve with the patient's cleaning brush and re-test. If this does not resolve the leak or the valve is leaking peripherally, thicken the drink to Level 3 consistency (3 scoops per 200ml of Nestle Resource Thicken Up Clear) and re-test. If this resolves the leak, consider discharging the patient with thickener. Notify the H&N SLT and the H&N CNS so a valve change can be arranged within working hours. If the valve continues to leak despite using thickener, move to step D). If the valve is leaking peripherally and this cannot be controlled, place NBM and admit the patient. Seek support from a consultant experienced in laryngectomy.
- D) If the central leak is not resolved by thickening fluids, attempt to place an appropriately sized 'plug' insert into the valve. Each patient should have a plug insert, but if not, a stock if kept on ward 11 and in the SLT office. Inform the patient that using a plug insert means they will be unable to voice. Consider discharging home with plug taped in place whilst awaiting SLT appointment within working hours. Note - plug inserts cannot be used with the Blom-Singer Dual Valve, Blom Singer Low pressure and the Provox NID (non-indwelling). A 16Fr valve requires a 16Fr plug, a 20Fr valve = 20Fr plug and so on.
- E) If neither of the above options stop the leak or are not tolerated:
- If appropriately experienced, consider removing the old valve and replacing with a new one of the same size (check Ward 11 laryngectomy cupboard for a replacement valve). Confirm correct placement of the new valve. The patient can then be safely discharged home.
- If not appropriately experienced, consider removing the old valve, stenting the TEP with an appropriately sized NG /Ryles tube/catheter and taping to the neck (e.g. 16Fr valve = 16Fr catheter, 20Fr valve = 20Fr catheter or the next smallest alternative, no smaller than 14Fr. Move to step F)
- F) If able to successfully place a NG/Ryles/catheter into the TEP assess for leakage of fluids around the tube when swallowing. If leaking, thicken fluids to Level 3 consistency and re-test. If no leak, consider discharging patient home with the tube taped in place with/without thickened fluids. Provide safety netting about potentially higher risk of chest infection until a new valve is placed. If any concerns patient should re-present to A&E.
- G) If fluid leaking around the NG/Ryles/catheter, the patient will need to be admitted, kept NBM and alternative means of nutrition/hydration considered. Seek support from a senior ENT doctor experienced with laryngectomy. Notify the H&N SLT AND H&N CNS who can support management within working hours.

Scenario 2: A total laryngectomy patients presents to A&E with a dislodged voice prosthesis

- A) Patient attends A&E and it is reported that their valve/voice prosthesis is dislodged.
- B) Confirm the valve has been dislodged by visualising the TEP/puncture. If no valve is present and the patient has NOT been able to place their dilator into the TEP, immediately place the dilator or an appropriately sized NG/Ryles tube to stent the TEP and avoid aspiration. Patients should NOT be discharged home or kept overnight with their own puncture dilator in place as these are easily dislodged. If unable to insert a NG/Ryles tube/catheter or dilator it might be that the TEP has closed over. This can be confirmed by asking the patient to occlude their stoma and try to voice. If no voice is achieved AND there is no leak of swallowed liquids from the puncture this suggests the TEP has likely closed over. In this instance, keep the patient NBM and seek an urgent opinion from a senior ENT doctor experienced in laryngectomy.
- C) Confirm the location of the displaced valve. If the patient is unable to locate the valve, then it must be assumed that the patient has aspirated the valve. In this case, closely monitor for signs of respiratory distress and seek an urgent opinion from a senior ENT doctor experienced in laryngectomy. Consider CXR and CT. Manage accordingly. Note – whilst all the Blom Singer and Provox valves should be radiopaque they can be hard to spot on CXR and CT. See <https://www.theajo.com/article/view/4253/html>
- D) If able to successfully stent the TEP and the old valve has NOT been aspirated or has been retrieved successfully consider inserting a new voice prosthesis if appropriately experienced or, if not, assess for leakage of fluids around the tube when swallowing. If leaking, thicken fluids to Level 3 consistency and re-test. If no leak, consider discharging patient home with the tube taped in place with/without thickened fluids and safety netting about the potentially higher risk of chest infection until a new valve is placed. If any concerns patient should re-present to A&E.
- E) If there are concerns of fluids leaking around the Ryles /NG/catheter and you are unable to site a new valve, admit the patient, place NBM and consider alternative means of nutrition/hydration. Seek support from a senior ENT doctor experienced with laryngectomy. Notify the H&N SLT and H&N CNS so they can support within working hours.

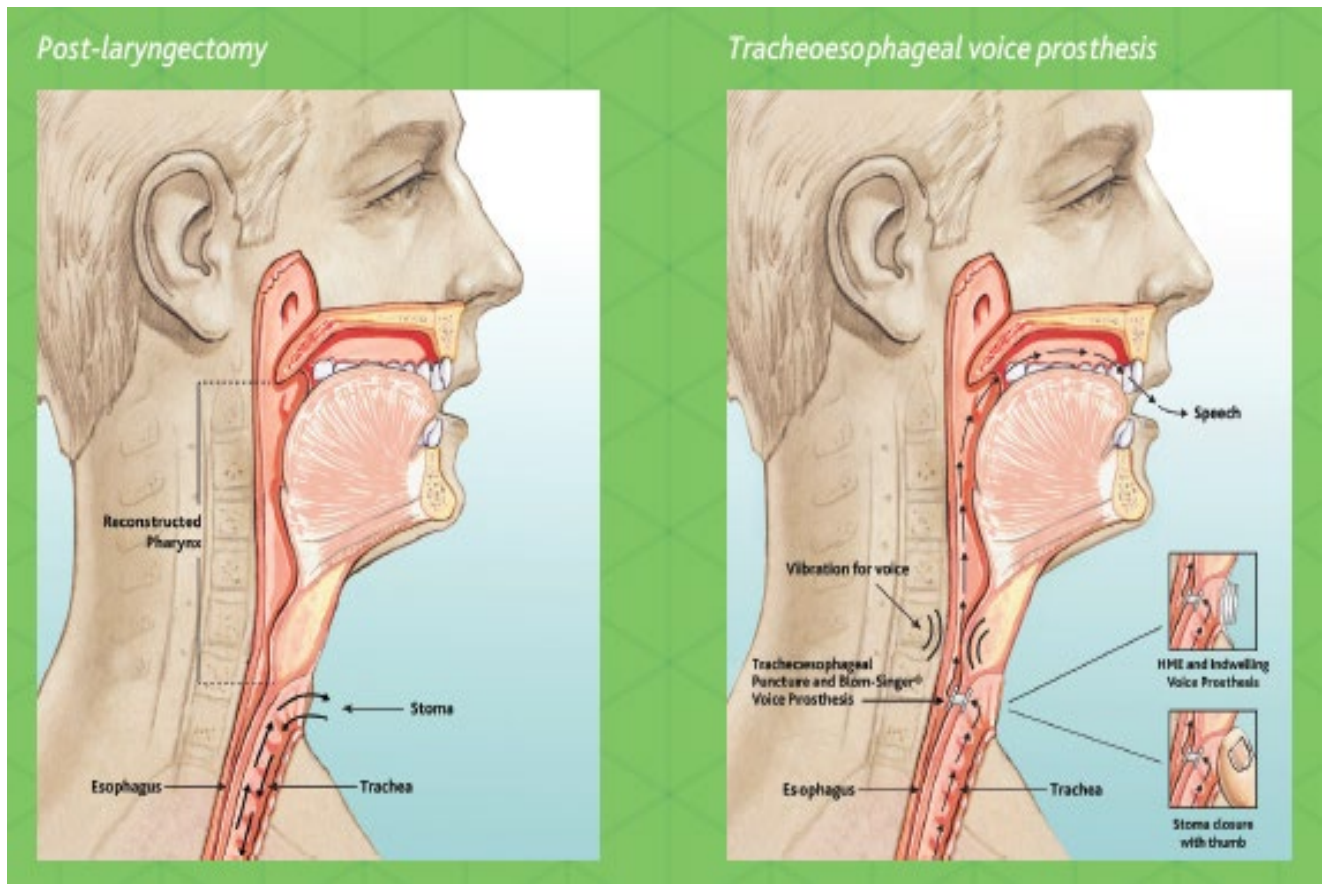
Who should I contact for advice if there is no laryngectomy trained SLT available at Wexham Park?

The head and neck CNS' should be able to help with most problems. However, if an SLT opinion is needed, then at the Royal Berkshire Hospital there are several specialist SLTs trained in laryngectomy. All laryngectomy patients in East Berkshire are likely to be known in some capacity to the Royal Berkshire therapists so they can be contacted for advice and may be able to see the patient there. They are not, however able to provide an outreach service to Wexham Park. Alternatively, some East Berkshire laryngectomy patients will be known to or under the on-going care of the Northwich Park Hospital SLT service.

Reference

<https://www.theajo.com/article/view/4253/html>

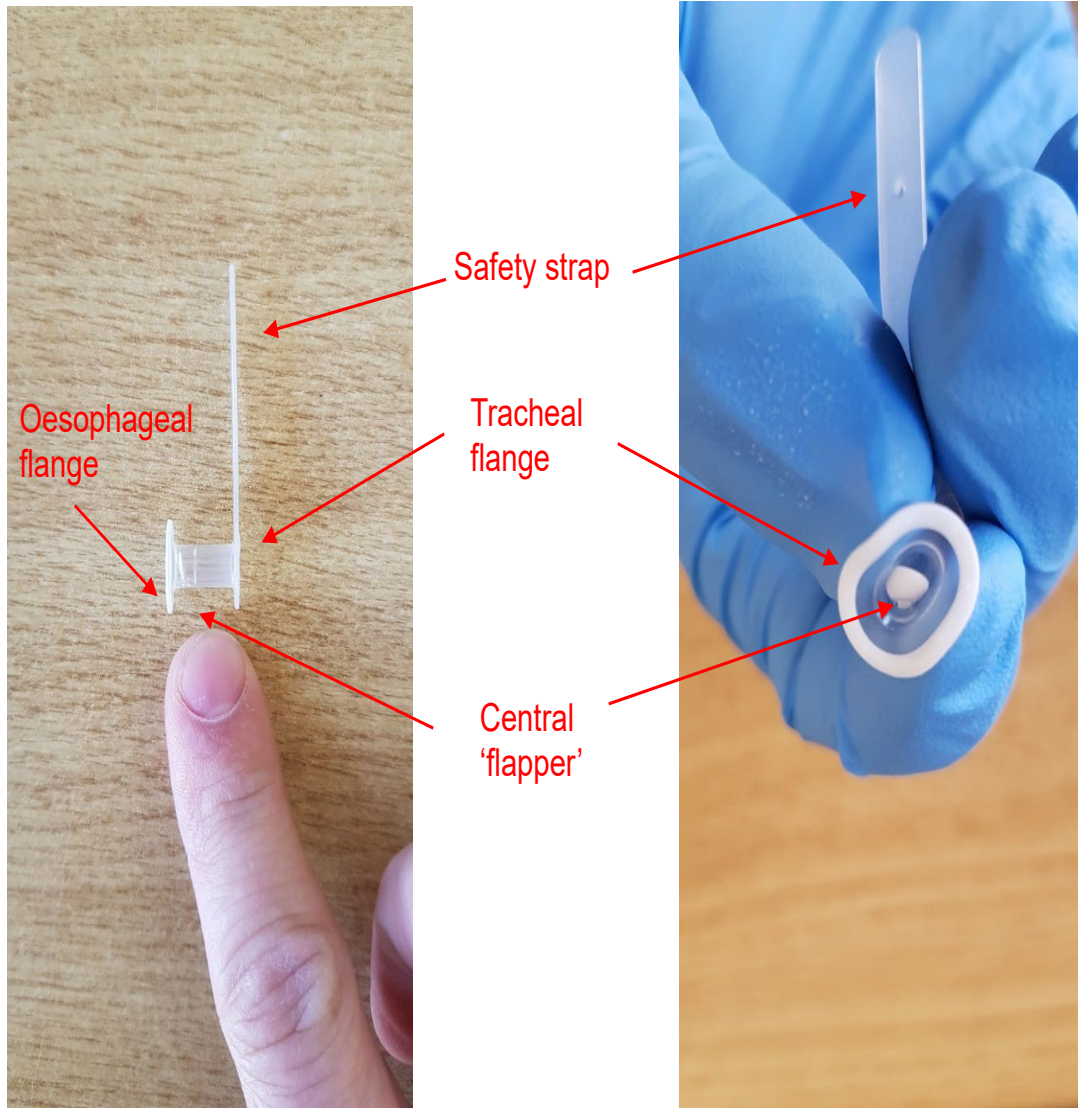
Appendix 1: Post laryngectomy anatomy (left) and placement of the voice prosthesis/valve in the partition wall between the trachea and the oesophagus (right)



From: Total Laryngectomy and Voice Restoration: What to Expect; *Blom-Singer/InHealth*

Appendix 2: Photographs of a laryngectomy voice prosthesis (valve) and its key features.

Note – the safety strap is typically removed by the clinician after insertion of the new valve and confirmation it is seated correctly in the TEP.



Full version control record

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This guideline has been registered with the Trust. However, clinical guidelines are guidelines only. The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician. If in doubt, contact a senior colleague or expert. Caution is advised when using guidelines after the review date.

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Version History

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Related Documents

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