

INTRODUCTION

- Tracheoesophageal puncture (TEP) with voice prosthesis placement is a common method for vocal rehabilitation in patients who have undergone total laryngectomy (TL)
- TEP placement has dramatically improved voice rehabilitation following TL compared to traditional electrolarynx
- TEP placement at the time of surgery is now frequently performed, however secondary placement remains common
- Traditionally, secondary TEP placement requires utilization of the operating room and general anesthesia
- Awake, in office TEP has gained traction as a convenient alternative to traditional secondary placement in the OR
- There is no consensus on preferred method of office based secondary TEP technique and required instrumentation is often taken from multiple kits
- The purpose of this presentation is to describe a straightforward technique for awake, in office secondary TEP placement using the most commonly utilized TEP puncture set, the **Provox® Vega™ kit**.

Surgical Technique

1. The nares are packed with pledgets soaked in 0.05% oxymetazoline and 4% lidocaine. The patient is also asked to swish and swallow 2ml of 4% lidocaine (Image 1).



Image 1: Local anesthetic



Image 2: Transillumination of the party wall

2. Once the patient is adequately topicalized, a flexible pediatric esophagoscope is passed transnasally into the neopharynx. The anterior party wall is palpated and visualized endoscopically with secondary confirmation by transillumination (Image 2).

3. A local injection of 1% lidocaine with 1:100,000 epinephrine is injected into the party wall, at the site of planned TEP placement.

4. The provided trocar is used to make a stab incision in the party wall to create the trachea-esophageal fistula with care not to puncture or damage the posterior neopharyngeal wall. (Image 3)



Image 3: Trocar placement is done under direct endoscopic visualization



Image 4: Snare used to grasp guidewire

5. The trochar is angled cranially and guidewire is placed through it, with cranial positioning of the trochar allowing the guidewire to pass freely into the neopharynx and subsequently the oropharynx.

6. Both trocar placement and guidewire insertion are done under endoscopic visualization to prevent injury to posterior esophageal wall. The guidewire is visualized transorally, grasped through a clamp and pulled out the mouth.

7. In the event the guidewire passes caudally into the esophagus, an endoscopic snare (BostonScientific 15mm rounded stiff single use polypectomy Captivator snare) is passed through the esophagoscope working channel and around the guidewire, the snare is then pulled to advance the guidewire into the oropharynx, and grabbed transorally using a Kelly forceps, with concomitant release of the snare (Image 4).

8. The guidewire is loaded with the appropriately sized tracheoesophageal voice prosthesis in accordance with the standing technique.

9. The trocar is removed and the guidewire is then retracted through the trachea-esophageal fistula

10. The tract is dilated by the Seldinger technique and the TEP device is seated.

11. The esophageal flange is confirmed to be in place via esophagoscopy.

12. Once the TEP valve is secured, we have been employing a protocol of immediate voicing.

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