

## Near Total Laryngectomy and Laryngopharyngectomy

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### ABSTRACT

Author describes the technical modifications in near total laryngectomy (NTL) that helps in reducing wound-related morbidity especially in a salvage setting. The improvisation described ensures optimal preservation of normal structures thereby enhancing the functional results of NTL.

**Keywords:** Near total laryngectomy, Technique, Improvisation.

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**Conflict of interest:** None declared

### INTRODUCTION

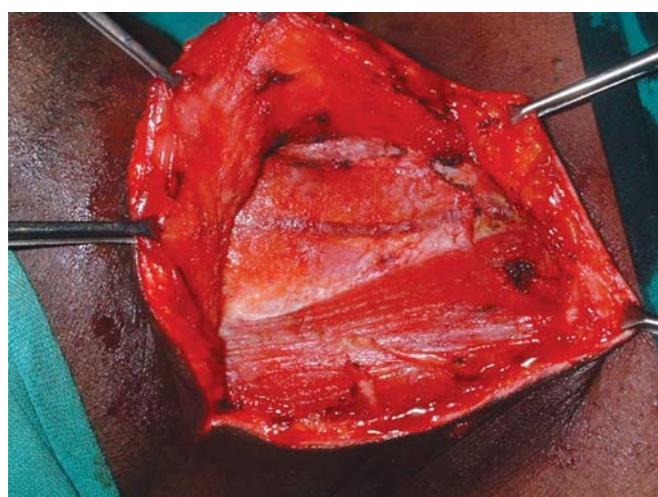
Near total laryngectomy (NTL) originally described by Bruce Pearson<sup>1</sup> is a popular technique of radical clearance of advanced larynx and hypopharynx cancers in selected situations. Since January 2003, I have started performing this procedure and have so far done 13 near total laryngectomies/laryngopharyngectomies for advanced (T3/T4) cancers of larynx and hypopharynx. Six of these cases were done as salvage procedures for failed radical radiotherapy/chemoradiation. In four cases pharyngeal reconstruction was done with an interpositional pectoralis major myocutaneous (PMMC) flap of which one was a total pharyngeal reconstruction with a tubed PMMC flap which has not been reported in literature so far. In the last four cases, I have restricted my incision to that of a hemi U flap or a hockey stick incision (Fig. 1). The technique is described.

A hockey stick incision is raised subplatysmally on the affected side to expose the entire half of the laryngeal framework to be removed and further raised toward the opposite involved side (Fig. 2). Ipsilateral strap muscles are severed off the hyoid with an electrocautery and reflected down to expose the hyoid bone, thyrohyoid membrane, thyroid and cricoid cartilage and the thyroid gland. An ipsilateral thyroid lobectomy is performed if indicated.

Depending on the amount of contralateral hemilarynx being removed the opposite strap muscles are partly severed from the hyoid bone from the medial side toward the lesser horn. The inferior constrictor muscle is severed off from the oblique line to create a muscle or myoperichondral flap on the opposite side and if possible on the same side (in

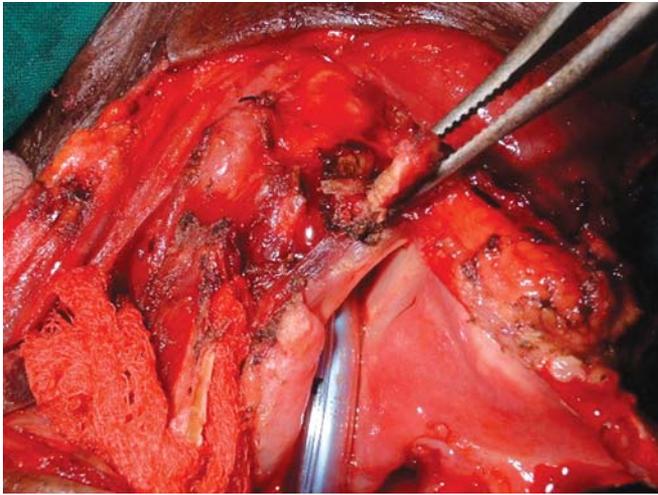


**Fig. 1:** Hemi U flap or a hockey stick incision

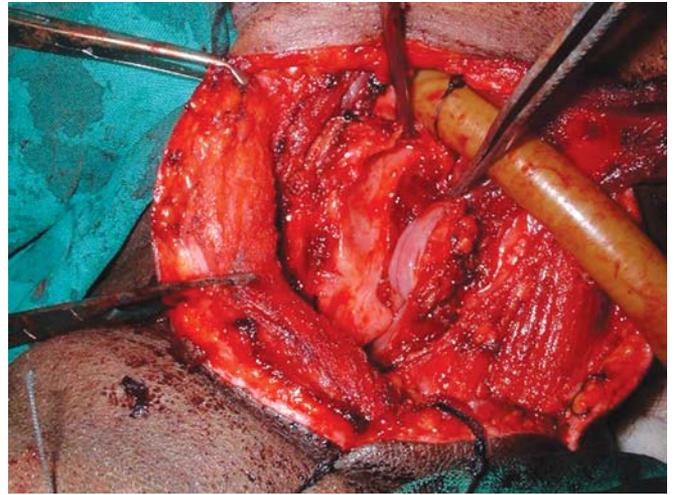


**Fig. 2:** Exposure of laryngeal frame work

case of glottic tumors). Based on the preoperative tumor mapping (imaging and endoscopic findings) the opposite thyroid lamina is cut preferably using oscillating saw. The suprahyoid attachments corresponding to the already severed infrahyoid attachments are also released with electrocautery taking care not to injure the ipsilateral hypoglossal nerve. The freed part of the hyoid bone is now cut just lateral to the lesser horn with bone cutter or saw. The NTL/NTLP specimen to be removed is partially free for wide excision of the tumor with good margins. The larynx is now entered either through an anterior approach (Fig. 3) or laterally through the opposite ventricle via the cut thyroid lamina. The thyroid cut is now extended down



**Fig. 3:** Entry to larynx from above



**Fig. 4:** NTL before closure of shunt and pharynx

to the cricoid cartilage to remove the ipsilateral hemicricoid and if needed one or two hemitracheal rings. The laryngeal or hypopharyngeal tumor is now widely excised with a finger placed behind the cricoid lamina and a mucosal cut is made in the interarytenoid area down to the lower border of the posterior cricoid lamina. This cut is deepened to include the posterior cricoid lamina, thus delivering out the wide excision specimen.

A chondromyomucosal shunt is now created from a suitably fashioned end tracheotomy toward the pharynx and the pharynx is closed primarily, if possible or augmented with a pectoralis major myocutaneous flap. A narrow shunt that would result after excision of laryngeal lesions may require a pharyngeal mucosal flap<sup>2</sup> to augment the closure (Fig. 4). A skin flap (e.g. PMMC) of adequate dimension can provide lining to the resected hypopharynx as well as the shunt, if required.

The essential improvisations in my technique compared to the classical (Pearson's) description of the procedure is the economization of the normal structures removed

including the ipsilateral strap muscles and the thyroid and the reduction in the incision wherever possible.

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### REFERENCES

1. Pearson BW, DeSanto LW, Olsen KD, Salassa JR. Results of near-total laryngectomy. *Ann Otol Rhinol Laryngol* 1998 Oct;107(10 Pt 1):820-25.
2. Silver CE, Levin RJ. The hypopharynx. In: *surgery for cancer of the larynx and related structures* (2nd ed). Silver CE, Ferlito A. WB Saunders Company 1996;207.

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