

# Successful use of a novel tapered intubating guide facilitating placement of a 34 French endotracheal tube in a patient with extrinsic airway compression

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## Introduction

Inability or difficulty passing an endotracheal tube (ETT) through the glottis, despite the presence of a guide such as an Eschmann introducer or fiberoptic bronchoscope (FOB), is well described.<sup>1,2</sup> Problems occur after the guide is placed within the airway. The ETT is “railroaded” over the guide, causing it to move posterior during passage and “catch” on the laryngeal inlet. The RADLyn Endotracheal Tube Guide (ETG) is designed to overcome this problem by its unique design. We present a case in which the features of the RADLyn ETG facilitated placement of a large-diameter electromyographic-monitoring (EMG-M) ETT (Figure 1A) in a woman with severe airway compression who was to undergo removal of a large thyroid goiter.

## Case History

An elderly woman with worsening dyspnea and an inability to breathe while supine presented for removal of a large thyroid goiter. She had a Class II Mallampati airway and a thyromental distance of < 2 cm. A preoperative CT scan showed significant compression of the laryngeal inlet and subglottic trachea (Figure 2A-B). These findings led to the decision to place an EMG-M ETT using the RADLyn ETG via awake direct laryngoscopy (DL). The patient was sedated with intravenous (IV) midazolam in the operating room (OR). Remifentanyl was titrated in increments of 25 mcg IV until she was able to tolerate DL with a size 3 Macintosh blade. DL revealed partial visualization of severely distorted and edematous aryepiglottic folds.

Despite the ill-defined anatomy, the flexible guide tip of the RADLyn ETG was easily placed through the laryngeal inlet. The dilating balloon gently opened up the tissue, which permitted atraumatic advancement of a 34 French EMG-M ETT into the post-stenotic trachea. The laryngoscopist reported no “catching” or “hanging up” of the ETT as it passed the glottis into the trachea. The RADLyn ETG was then removed and correct placement of the ETT verified. The presence of the EMG-M ETT facilitated safe resection of the mass without laryngeal nerve injury. Postoperatively, the patient’s trachea was extubated without difficulty in the OR. The patient was discharged home three days post-operatively without signs of laryngeal injury or glottic dysfunction.

## Discussion

Difficulty securing the airway by “railroading” an ETT over an intubating guide or FOB is well known. The RADLyn ETG is a single-step introducer with a soft, tapered balloon that gently opens the tissue to allow easy acceptance of the ETT into the trachea. This case demonstrates how the design of this new ETG makes it a useful airway adjunct when intubating conditions do not allow for neuromuscular blockade or when a difficult or distorted airway is anticipated.

## References

- 1) Johnson DM et al *Anesthesiology* 2005; 102:910-914
- 2) Makino et al *Anesth Analg* 2003; 97:285-8

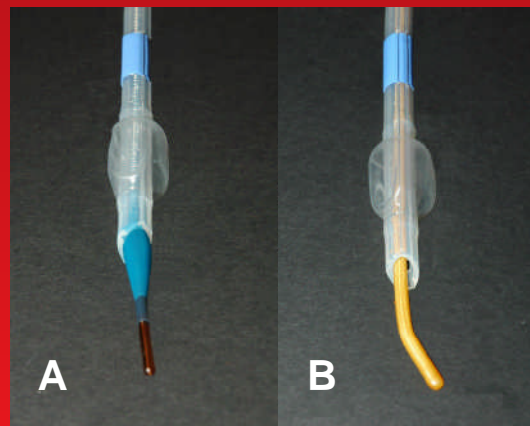


Figure 1: A) RADLyn stylet within 34 French EMG-M ETT with balloon inflated. B) Eschmann stylet through 34 French EMG-M ETT.

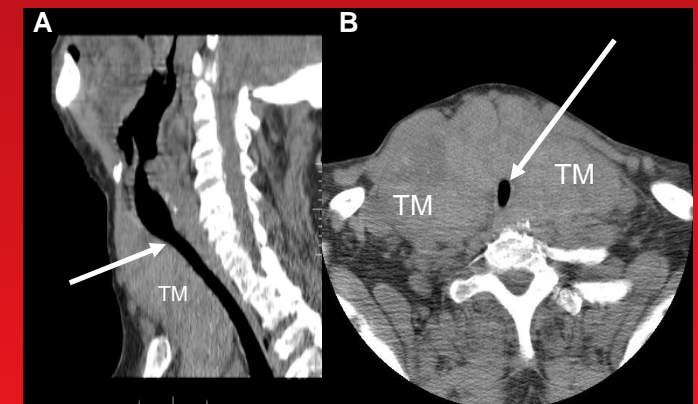


Figure 2: Five mm diameter subglottic trachea (arrow) surrounded by thyroid mass (TM). A) Longitudinal section, B) Cross section