

## LETTER TO EDITOR

# Improvised split nasopharyngeal airway as conduit for fiberoptic intubation

Dear Editor,

The intubating fiberoptic bronchoscope (FOB) is still considered to be the gold standard in anticipated difficult airway management.<sup>[1]</sup> Awake intubation via the oral route is uncomfortable for the patient and more stimulating than the nasal route if the nose is well prepared by local anaesthetics and a vasoconstrictor. In the oropharynx, at the base of the tongue, an extremely sharp turn is required to guide the FOB, and it is difficult to find the larynx.<sup>[2]</sup>

The transnasal route provides a very direct path to the larynx for the scope and endotracheal tube (ETT) after the turn at the nasopharynx, but there are chances of trauma to the nasal turbinate causing bleeding, poor vision, and damage to FOB. The oropharyngeal airways (Ovassapian, Berman, and Williams airways) were invented to facilitate oral tracheal intubation of a flexible FOB.<sup>[3]</sup> However, there is no nasal airway that can accommodate the FOB for trans-nasal intubation. Mohamed El-Tawansy et al. have conducted studies with and without split nasopharyngeal airways (NPAs) to facilitate fiberoptic bronchoscopy and found that using split NPA is effective in reducing the time to visualise the larynx and intubate the trachea.<sup>[4]</sup>

In our institute, we have improved a previously used silicone ETT to be used as a NPA for guiding nasal FOB-assisted intubation. Portex-preformed ETT which is made up of silicone is softer and is non-traumatic while passing through the nasal cavity. After using silicone ETT, we wash it thoroughly with soap and water, followed by clean water. After drying, the cuff is cut carefully. This tube is sent for ethylene oxide sterilisation. At the time of use, the tube is cut at the appropriate length by assessing the distance between the patient's nasal tip and the tragus [Figure 1]. This makes tailor-made NPAs for individual patients. After this, the tube is slit vertically for the entire length on the concave side using a scalpel to be used as an improvised nasal airway to facilitate the FOB transnasally [Figure 2].



Figure 1: Cut endotracheal tube

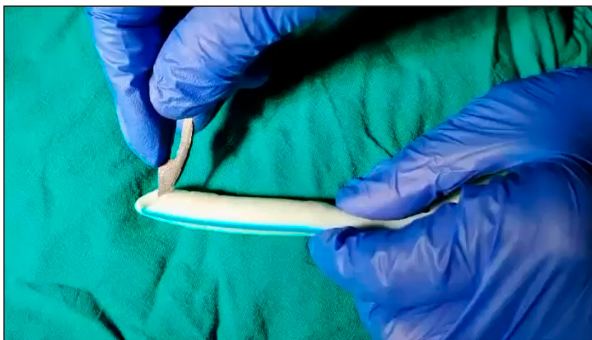
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Figure 2: Split endotracheal tube

### How do we do it?

After anaesthetising topically, the nasal cavity is gradually dilated using nasal airways of smaller to larger sizes before inserting an improvised nasal airway of appropriate size (7.0mm ETT for females and 7.5mm ETT for males). The scope is preloaded with the appropriate sized ETT and inserted through this airway which directs directly towards the larynx. This not only prevents nasal damage causing bleeding, leading to poor vision but also provides space for the FOB and prevents damage to the scope. Once the carina is visualised, the improvised nasal airway is removed from its vertical slit without disturbing the FOB position. Preloaded ETT is then slid [Video1].



Video 1: How we improvised endotracheal tube

This improvised NPA uses available resources that bypass the pharyngeal structures and carry the scope tip in line with and in front of the glottis opening. This makes laryngeal visualisation and tracheal intubation faster, without damaging the nasal mucosa with bleeding leading to poor vision and preventing damage to the delicate, costly fibres of the FOB.

**Declaration of Patient Consent:** The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their

images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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