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In Response

The repetition of medical illustrations is not only a useful learning aid, but a common practice among many major medical texts. In fact, this practice was introduced nearly a century ago in one of the earliest regional anesthesia textbooks published in the United States.¹

Each chapter of our textbook² was specifically designed to function as a stand-alone chapter so that readers would not have to page back-and-forth to other sections of the atlas to view relevant images. Thus, although a limited number of images could have been eliminated, this would have significantly reduced the utility (and intent) of each chapter to provide a comprehensive overview of the anatomy, patient-provider orientation, needle insertion site, and technique for each individual block.

Also, Dr. Liu³ is simply inaccurate with his claim that “nearly half” of the illustrations are repeated within the text. To be precise, the atlas contains 221 unique illustrations of which only 31 (14%) are repeated in the text without modification. Furthermore, many (if not most) of these repeated illustrations do not occupy an entire page of the atlas as suggested by Dr. Liu.

In contrast to Dr. Liu’s comments that the repetition of a limited number of anatomically useful illustrations is distracting, we believe quite firmly in the classic Latin teaching: “repetitio est mater studiorum”—repetition is the mother of all studies and learning.

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Retrograde Intubation Using a Frova Intubating Introducer in a Patient with a Tracheostomy

To the Editor

The Frova intubating introducer with an angled flexible tip and rigid internal stylet was designed for difficult orotracheal intubations. Here we report the novel use of the Frova intubating introducer for retrograde intubation via a caudally directed tracheostomy tract in a patient in whom antegrade intubation had been unsuccessful.

A 59-year-old male quadriplegic patient with a tracheostomy was diagnosed with tracheoesophageal fistula and admitted to the operating room for fistulectomy. The patient had undergone cervical spine surgery after a car accident 9 years ago and presented with severely wasted neck and limbs, a large tongue, and a <1-cm mouth opening. For the fistulectomy, oronasotracheal intubation was needed because the tracheoesophageal fistula was just 1 cm above the tracheostomy site. We attempted nasal fiberoptic bronchoscope-guided intubation under light sedation, but the narrowness of the oral cavity and a large amount of secretions made it difficult to pass the fiberoptic bronchoscope beyond the tongue base. We therefore decided to try retrograde intubation through the tracheostomy opening. We attempted to insert a Cook airway exchange catheter (Cook Critical Care, Letchworth, Hertfordshire, UK) ordinarily used as a “guidewire” for retrograde intubation, via the tracheostomy tract several times, but the tip failed to advance cephalad. Alternatively, we inserted a Frova intubating introducer (Cook Critical Care) with a rigid internal stylet into the tracheostomy tract, and after advancing the angled tip 5 cm in the cephalad direction, the stylet was removed. We kept advancing the Frova intubating introducer into the pharyngeal space. The distal tip

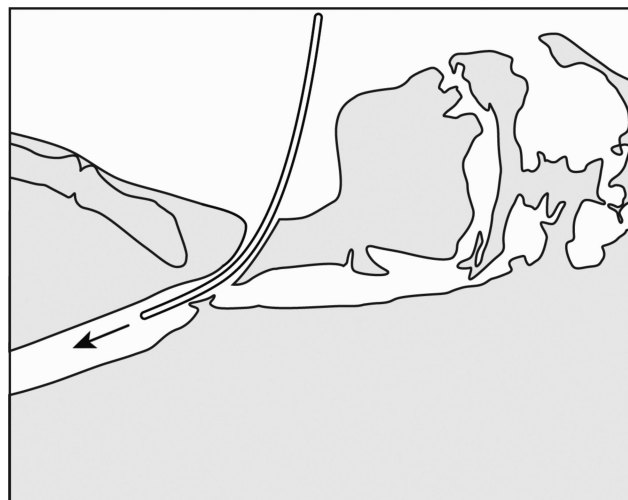


Figure 1. The Cook airway exchange catheter was unable to be advanced in the cephalad direction via a caudally oriented tracheostomy tract with a hyperacute angle.

emerged from the left nostril, and then retrograde intubation was successfully conducted by using the introducer as a guide.

Insertion of a flexible guide for retrograde intubation via a tracheostomy with a caudal orientation of the internal tracheal lumen results in advancement of the guide further into the trachea rather than cephalad through the larynx. In our case, because the Cook airway exchange catheter, initially used as a guide, was flexible and did not have an angled tip, it could not be advanced in the cephalad direction via the caudally directed tracheostomy tract, causing our initial attempt at retrograde intubation to fail (Fig. 1). However, the Frova intubating introducer is made of more rigid polyethylene and has a length of 65 cm, an outside diameter of 4.7 mm, a tip portion of approximately 2 cm with a flexible angle of 65°, and an internal stylet that can be inserted for rigidity

up to the distal 5 cm.¹ These features account for why we were able to advance the Frova intubating introducer in the cephalad direction via a caudally oriented tracheostomy tract (Fig. 2). Retrograde intubation using an intubating introducer via a tracheostomy is not a recommended technique and could result in creation of a false passage, vocal cord injury, retropharyngeal hematoma, and tissue damage.² Because our patient had maintained a tracheostomy for over 8 years, the risk of a false passage was relatively low.

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PATIENT CONSENT STATEMENT

Published with the written consent of the patient's family and the approval of the Institutional Review Board (ref. 4-2011-0554) of Yonsei University Health System.

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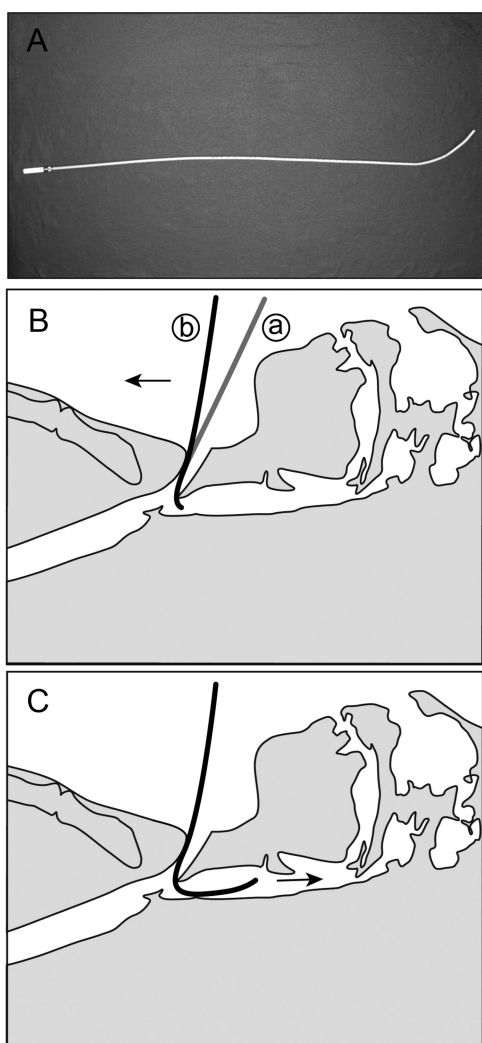


Figure 2. A, The Frova intubating introducer with an angled flexible tip and rigid internal stylet. B, (a) The angled tip of the Frova intubating introducer is inserted in the cephalad direction. (b) The Frova intubating introducer is advanced while carefully applying lever-like force in the caudal direction. C, The Frova intubating introducer is successfully advanced in the cephalad direction with a retraction movement while removing the internal stylet at the same time.

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Accidental Intraarterial Injection of Neostigmine with Glycopyrrolate or Atropine for Reversal of Residual Neuromuscular Blockade: A Report of Two Cases

To the Editor

Although the intraarterial (IA) injections of anesthetic drugs have been known to cause local ischemia and tissue necrosis, there are drugs that have been given, deliberately or unintentionally, through IA route but without any adverse effect.¹⁻³ We report 2 cases of unintentional IA injection of neostigmine with glycopyrrolate and atropine, occurring without any sequelae. The patients' families reviewed the case report and gave written permission for the authors to publish the report.

The first case was an 18-year-old female who, after craniotomy and excision of posterior fossa tumor under general anesthesia, received an IA injection (through a 3-way with 10-cm extension line attached to the left dorsalispedis arterial cannula) neostigmine 2.5 mg and glycopyrrolate 0.5 mg for