



# THE ATOMIZING / INTUBATING STYLET - AN ENDOTRACHEAL TUBE STYLET THAT ALLOWS LOCAL ANESTHESIA TO BE PRECISELY SPRAYED ONTO THE GLOTTIC STRUCTURES

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**Background & Objectives:** Precise delivery of topical anesthesia to the glottic structures under direct visualization can be valuable in a number of settings. We describe here a prototype Atomizing / Intubating Stylet (AIS) - an endotracheal tube stylet that allows local anesthesia or other drugs to be precisely sprayed onto the glottic structures for awake intubation or for other purposes. It can also be used independently of an endotracheal tube for delivering local anesthesia to the airway glottic structures, either blindly or (more appropriately) under visual guidance.



**Materials & Methods:** The device consists of 4 elements: [1] a piece of flexible plastic tubing about 5 mm in outer diameter and about 3 mm in inner diameter, and about 37 cm long, inside of which is [2] a piece of solid malleable metal in cylindrical form, just under 3 mm in inner diameter and about 35 cm long. At the distal end of the device is [3] a spray nozzle, about 11mm long and 4 mm in diameter. At the proximal end is [4] a stop-cock used to attach a syringe loaded with a drug such as lidocaine (see Image).

**Results:** In operation, the drug to be delivered to the glottic structures is loaded into a syringe, and under pressure passes through the plastic tubing, and is sprayed out the spray nozzle. The design requires that the metal cylindrical element not be too snug a fit into the plastic tubing so as to allow the passage of drug down the tube. The spray tip may be of any conventional design which is commonly used in liquid spray dispensers, such as in perfume and fragrance administration. This combination of elements provides the medical practitioner with a new and useful device to apply therapeutic solutions to the glottis and elsewhere in a fine mist or spray with a minimum of wasted time or material. The AIS is simple in construction, very easy to use, is well-tolerated by patients and allows local anesthetic agents like lidocaine (or other therapeutic agents) to be sprayed onto the glottic structures with remarkable ease. The fact that it also serves as an endotracheal stylet is an additional advantage.

**Conclusion:** The immediate and/or future applications of the AIS are for awake intubation or to deliver pharmaceutical agents to the glottic structures for treating airway edema or facilitating instrumentation of the airway, as in fiberoptic bronchoscopy procedures. The AIS adds additional functionality to the endotracheal stylet commonly used for endotracheal intubation. It is very easy to use. It is simple in construction.