Novel Orogastric Tube Guide for Accurate Placement While Reducing Cross Contamination



COMMERCIAL OPPORTUNITY

The use of orogastric tubes can result in cross contamination by oral secretions, trauma from blind insertion and tube curling from multiple placement attempts. Our prototype orogastric tube guide addresses these issues by making it easier to successfully insert the tube on the first attempt. The estimated market for our prototype is the 17 million US general anesthesia cases per year, since a vast majority of these patients require orogastric tube placement. This device may help to improve patient care and reduce hospital costs related to hospital-acquired infections, trauma and wasted orogastric tubes.

- A vast majority of patients undergoing general anesthesia require orogastric tube placement to drain stomach contents (air, fluid) in order to improve the surgical field view and to reduce the risk of postoperative nausea and vomiting—the most common cause of delayed discharge from the recovery room.
- The traditional orogastric tube placement is a blind technique causing oral trauma while actively promoting cross-contamination from the oral secretions. The hospital policy to frequently change gloves is poorly followed in the O.R, leads to cross-contamination of the multi-user anesthesia equipment and surfaces and has been well published recently in several medical journals.
- Cross-contamination has been estimated to add \$30 billion to the nation's hospital costs each year due to hospital-acquired (nosocomial) infections of healthy patients. These costs remain non-reimbursable to the hospitals and could go up higher given the rise in the incidence of the antibiotic-resistant bacterial strains.
- Unsuccessful insertion attempts lead to softening of the orogastric tube and curling of the tube in the patient's mouth rather than going down the esophagus making the tube unusable and leading to product waste, as well as wasted /anesthesiologist time.
- This device also provides a bite block along with thoughtfully placed O₂ delivery/CO₂ monitoring ports and saves additional costs by eliminating the need to use traditional bite block and nasal cannula.

TECHNOLOGY

The guide is inserted using a tongue depressor into the patient's mouth without coming in contact with the oral secretions. This creates an open port, curved at an optimal angle for directing an oro-gastric tube precisely into the esophagus. Our device also includes a bite block to prevent the patient from biting down on the endotracheal tube delaying recovery or in some cases an acute medical condition – flash pulmonary edema. The port also has built-in channels to efficiently deliver oxygen deeper into the patient's mouth while collecting CO2 closer to the trachea for an improved monitoring as opposed to the common and inefficient nasal cannula in the recovery room.



• Provisional patent application filed on 8/31/13 for Tariq Chaudhry, M.D.

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