

Endotracheal Tube Placement Lock System for Thyroid and Parathyroid Surgery

Lead Inventors:

Scott Rose, M.S.

Senior Neuroscience Technologist, New York
Presbyterian Hospital

Rasa Zarnegar, M.D.

Professor of Surgery, Surgery, Weill Cornell Medical
College

Frank Glenn Faculty Scholar in Surgery, Surgery, Weill
Cornell Medical College



Business Development Contact:

Donna J. Rounds

Associate Director, Business Development & Licensing

(646) 962-7044

djr296@cornell.edu

Endotracheal Tube Placement Lock System for Thyroid and Parathyroid Surgery

Background & Unmet Need

- Thyroid surgeries are the most frequently performed endocrine procedures worldwide, with ~150K thyroid surgeries and 40K parathyroid surgeries in the United States per year
- Recurrent laryngeal nerve (RLN) palsy is one of the most common and serious complications from thyroid and parathyroid surgery, which can cause changes in vocal quality such as hoarseness
- Precise positioning of the endotracheal tube (ETT) electrodes with the vocal cords and monitoring with EMG recordings are used to minimize damage in surgeries where the vocal cords are at risk
- There is a lack of devices specifically designed for ETT stabilization after vocal cord alignment with surface electrodes
- **Unmet Need:** A standardized, easy-to-use system for precisely stabilizing ETTs for thyroid, parathyroid, and other surgeries with increased risk to the laryngeal nerve

Technology Overview

- **The Technology:** Disposable medical device for secure positioning of endotracheal tube placement for surgeries wherein the vocal cords are at risk
- The device uses teeth positioners, facial tape, and a quick-release clamp to position the ETT with optimal security
- Unlike other devices which use a neck strap to secure the device, which can shift around when patients are moved, this device uses teeth positioners and tape to ensure secure positioning
- The quick-release clamp allows for easy placement and removal of the device
- This device can be used to secure the ETT for thyroid, parathyroid, and for other surgeries wherein vocal cord EMG recordings are taken
- **PoC Data:** A prototype of this device has been created and positioned on physiologically relevant mannequins

Inventors:

Scott Rose
Rasa Zarnegar

Patents:

Provisional Filed

Biz Dev Contact:

Donna Rounds
(646) 962-7044
djr296@cornell.edu

Cornell Reference:

D-10071



Endotracheal Tube Placement Lock System for Thyroid and Parathyroid Surgery

Technology Applications

- ETT placement for thyroid, parathyroid, and other surgeries wherein the vocal cords are at risk
- ETT placement for other procedures in which cranial nerve 10, which innervates the vocal cords, is monitored, such as craniotomy

Technology Advantages

- Device utilizes quick-release clamp for easy placement and removal
- Device does not need neck strap for stabilization, instead utilizing facial tape and teeth positioners
- Device does not require assembly and uses cost-effective materials

Supporting Data / Figures

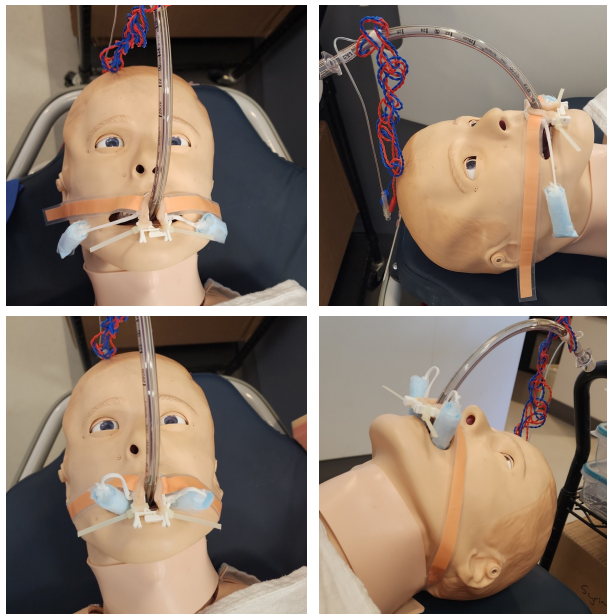


Figure 1: Prototype of endotracheal tube placement lock system.

Inventors:

Scott Rose
Rasa Zarnegar

Patents:

Provisional Filed

Biz Dev Contact:

Donna Rounds
(646) 962-7044
djr296@cornell.edu

Cornell Reference:

D-10071





**Weill
Cornell
Medicine**