VANDERBILT UNIVERSITY

CTTC Center for Technology Transfer & Commercialization

Cuffed Inner Cannula and Flexible Outer Cannula Tracheostomy Tube

Summary

During any procedure in which a tracheostomy tube is fully removed from the artificially created airway, there is a chance of losing the airway, which could be detrimental to the patient. To prevent this occurence, Vanderbilt researchers have created a new tracheostomy tube, which allows the airwayto be maintained while replacing a cuffed tube with a cuffless tube, and vice versa. The present design also reduces potential for tracheal irritation.

Description

This tracheostomy tube has the following specific advantages over the current designs:

1. Avoids decannulation (preventing potential airway loss) during removal of the cuffed tracheostomy tube and re-implantation of the uncuffed tracheostomy tube and vice versa
2. Allows a comfortable fit with a wide array of neck sizes and geometries, which is increasingly important with the growing obesity epidemic
3. Prevents kinking and loss of airway if the neck is manipulated during the procedure
4. Reduces irritation caused by traditional models
5. Independent relative motion between the inner and outer cannulae while maintaining structural integrity
6. Eliminates any need for decannulation during downsizing and upsizing until there is no longer a need for the tracheostomy tube

This solution provides a relatively simple and inexpensive way to increase the safety of a typical cuffed tracheostomy removal. While the primary application of the technology would be for hospital use, its ease of use will allow for more competent home care use by untrained care givers.

A prototype of the technology has been created, and a U.S. non-provisional patent application (12/855,470) has been filed.

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