



## A Short Note on Tracheostomy During Intensive Care

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### DESCRIPTION

In the intensive care unit, tracheostomy is a routine treatment for patients who require prolonged mechanical ventilation (MV) and airway protection (ICU). Decannulation is the process of weaning from a tracheostomy to maintaining spontaneous respiration and/or airway protection. This seemingly easy procedure necessitates near-perfect brain, swallowing, coughing, phonation, and respiratory muscle coordination. Multifactorial aberrations in this complicated interplay, on the other hand, can lead to its failure. Furthermore, incorrect assessment of the aforementioned parameters raises the risk of aspiration during and after the decannulation procedure. The most common causes of failed decannulation are old age, obesity, poor neurological condition, infection, and tenacious secretions.

In about 20% to 25% of patients hospitalised to intensive care units, a tracheostomy is performed. This treatment, which involves placing a tube across the anterior neck into the airway either percutaneously or surgically, may be appropriate for airway blockage reduction, pulmonary toilet facilitation, and weaning from mechanical breathing. Furthermore, tracheostomy may reduce sedation, increase patient safety and comfort, and lower total healthcare expenditures. A large body of literature, including multiple meta-analyses, has been published on the indications, timing, and technique of tracheostomy insertion. On the timing and act of decannulation, or tracheostomy removal, there are a number of systematic evaluations, surveys, and expert guidelines.

Different manufacturers offer a variety of tracheostomy tubes, so it's vital to know what options are available in your area. Internal and external diameters, as well as length, might differ greatly between manufacturers and devices. An inflated cuff or a neck flange are frequent elements of standard tracheostomy tubes. Tracheostomy tubes also contain an inner cannula that can be withdrawn for cleaning or in an emergency to lessen the danger of blockage. The cuff seals the airway, allowing positive pressure ventilation to be delivered while also protecting the lungs from oropharyngeal secretions and stomach fluid. The most common tracheostomy tube is the cuffed tube, which is

sized by the internal diameter (ID).

### PROCEDURE FOR PLACING THE TUBES

Anaesthesia, analgesia, positioning, and sterile preparation are all required for both the OS and the PDT. To lengthen the neck and ensure optimal exposure, the patient is positioned supine with a bolster inserted transversely behind the shoulders (unless the patient requires cervical spine precautions).

#### Surgical Procedure

Midway between the sternal notch and the thyroid cartilage, a 2–3 cm vertical or horizontal skin incision is created (approximate level of the second tracheal ring). Blunt dissection is continued longitudinally once the skin and underlying platysma have been divided. The trachea and underlying thyroid isthmus are exposed when the strap muscles are separated and lateral retraction is performed. The isthmus can be split or mobilised and retracted superiorly. Nearby vessels can bleed profusely, and electrocautery or suture ligation are used to stop the bleeding. The second to fifth anterior tracheal rings can be seen once the pre-tracheal fascia and fibrofatty tissue are removed bluntly.

#### Percutaneous Dilatation Technique

There are a few proprietary ways, but they all use a modified Seldinger methodology. Concurrent bronchoscopy provides a “tracheal view,” which aids in repositioning the endotracheal tube (ETT) above the incision and allowing for better visualisation of needle placement and subsequent stomal dilatation. Bronchoscopy can also help with airway toilet, prevent posterior tracheal wall damage, and confirm tube implantation.

### CONCLUSION

Because tracheostomies are becoming more common, current surgeons and physicians involved in the design and management of tracheostomies need to have a broad understanding of the procedure. The fact that tracheostomy is increasingly done outside of an OR, and using a PDT rather than the classic OS

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approach, demonstrates this. Despite the importance of procedural dexterity, surgeons will also be expected to use medical research to decide the best approach and timing for individual patients.

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## Conflict of Interest

The author's declared that they have no conflict of interest.