

Tracheostomies: How to Manage in Practice Handbook



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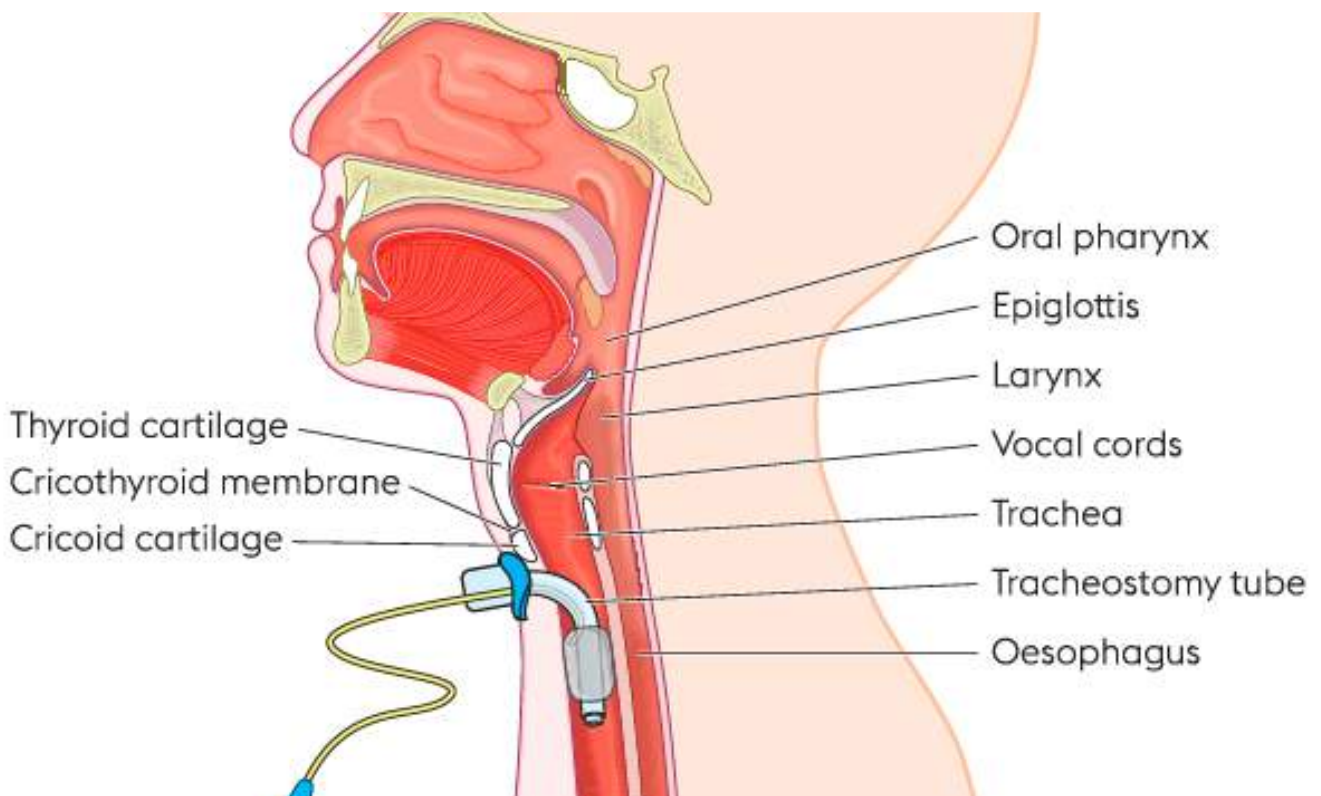
Introduction

Definition

A tracheostomy is a **surgical opening** in the **anterior wall of the trachea to facilitate ventilation**; the opening is usually maintained by use of a tracheostomy tube (HEE, 2016)



Tracheostomy Anatomy



Clinical Use

Indications



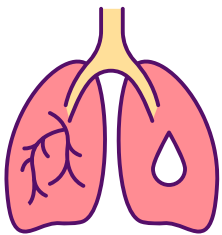
Airway Obstruction
(Foreign body, Oedema)



Prolonged Mechanical Ventilation



Unable to Maintain Airway



- Excessive Secretions
- Poor Cough Reflex
- Unable to Generate Expiratory Flow

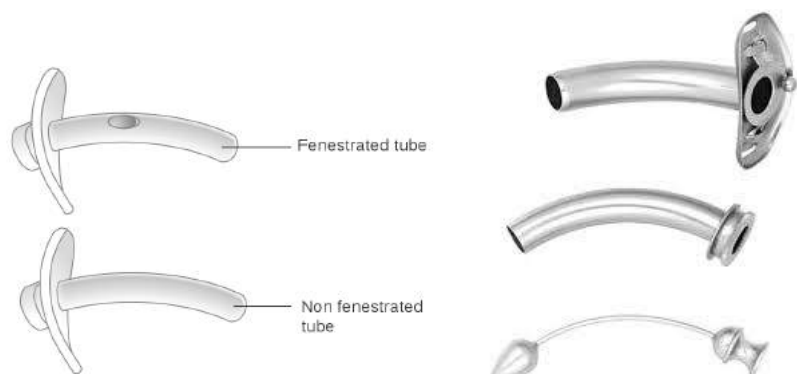


- Upper Airway Surgery
- Laryngectomy

The Tube

Consider

- Cuff vs Uncuffed
- Fenestrated vs Non Fenestrated
- Inner tube
- Sizing
- Suction port (Sub Glottal)
- Cuff pressures / Barotrauma
- Silver Negus

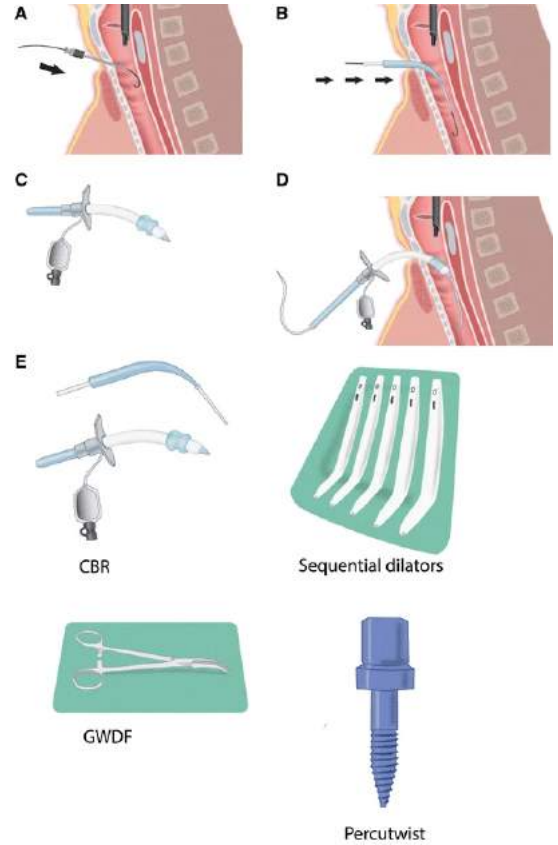
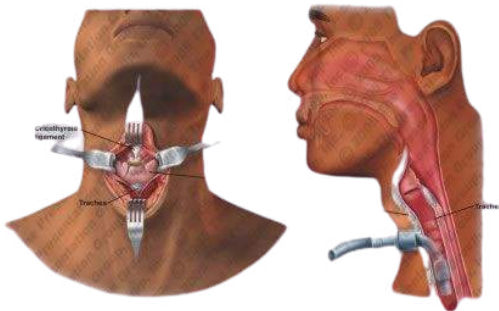


Clinical Use

Insertion

2 Methods

1. Percutaneous
2. Surgical



Humidification

- Normal mechanisms by-passed
- Need warm, wet air
- Decreased Muco-ciliary Clearance
- Increased Sputum Viscosity
- Tube Occlusion
- NBM



Risks and Complications

- Bleeding
- False lumen
- Infection
- Mortality
- Hypoxaemia
- Vocal palsy
- Plugging off, blocked inner tube

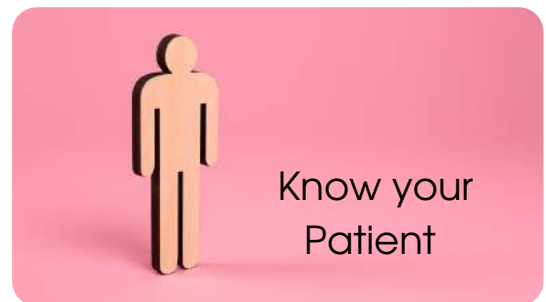


"Adult tracheostomy and laryngectomy airway emergencies are uncommon, but do lead to significant morbidity and mortality."

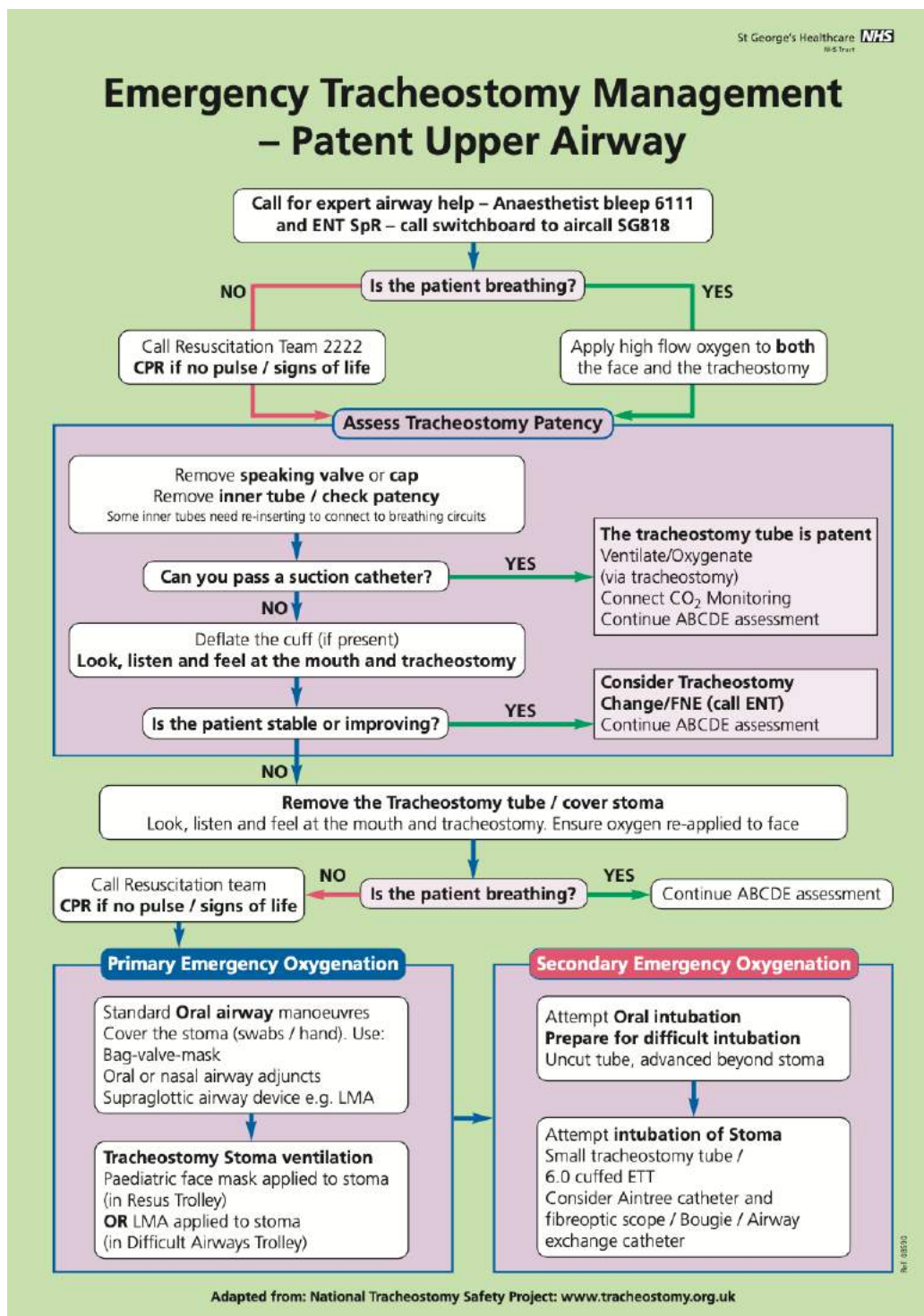
The National Tracheostomy Safety Project incorporates key stakeholder groups with multi-disciplinary expertise in airway management. The Intensive Care Society, the Royal College of Anaesthetists, ENT UK, the British Association of Oral and Maxillofacial Surgeons, the College of Emergency Medicine, the Resuscitation Council (UK) the Royal College of Nursing, the Royal College of Speech and Language Therapists, the Association of Chartered Physiotherapists in Respiratory Care and the National Patient Safety Agency. Resources and emergency algorithms were developed by consensus, taking into account existing guidelines, evidence and experiences."

Multidisciplinary guidelines for the management of tracheostomy and laryngectomy airway emergencies
B. A. McGrath, L. Bates, D. Atkinson, J. A. Moore
First published: 26 June 2012 <https://doi.org/10.1111/j.1365-2044.2012.07217.x>Citations: 131

Bed Side Safety



Risks and Complications



Here is the Emergency Tracheostomy Management Pathway used at St George's Healthcare. This may be a good document to reference for your own learning, but also consider if there is a similar pathway or policy at your own hospital. If so, it is important to learn this policy so that everyone in your team is on the same page,

Weaning

- MDT process
- Initiation to decannulation
- Neurological condition v non-neurological condition (RISCI guidance)



Where and When to Start?

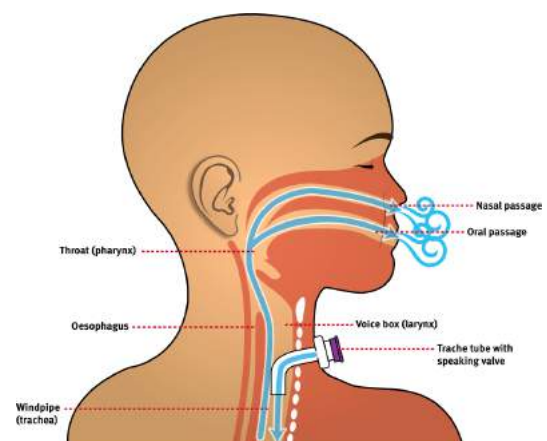
- Stable Respiratory System?
 - Stable Fio₂
 - Stable SpO₂
 - Stable ABG
 - Stable RR
- Stable Infection Markers
- Cognition
- Initial reason for insertion now resolved
- CVS stable



Ventilator to Mask?

How?

- Cuff down trials
- Speaking Valve
- ? Cap
- Wean Size / Fenestrated
- SLT involvement
- Links with rehabilitation



Tracman Trial



Clinical Question

In mechanically ventilated adult patients with a high risk of prolonged ventilation, does early tracheostomy compared with late tracheostomy reduce mortality at 30 days?

- 2004-2008
- Design = Large, multicentre RCT, randomised but not blinded, powered sample, ITA
- Inclusion criteria - I and V patient, day 4, requiring > 7 days in clinicians opinion
- Exclusion - Trachy in situ, neurological disease - hypercarbia
- N = 909

Primary outcome: All-cause mortality at 30-days was **not statistically different between the two groups** (Early 30.8% vs late 31.5%)

Secondary outcome: There were **no differences in survival at ICU discharge, hospital discharge, 1-year and 2-year follow-up**. Duration of mechanical ventilation favoured early tracheostomy but this did not reach statistical significance

Conclusion

In mechanically ventilated adult patients, there is no mortality benefit from performing an early tracheostomy, Day 4 v Day 10

Case Study

Case Study 1

- Patient G
- 73-year-old patient
- Trachy inserted 14 days ago on ITU - post adbo surgery and sepsis
- Now on HDU
- Called to see as spO2 dropping to 80 %, on trache mask, cold humidified, high wob (RR 25), patient very distressed

[What's your Plan? \(you can use this space to make notes from the discussion!\)](#)

Case Study 2

- Patient G
- Now 20 days post Trachy
- 73-year-old patient
- Trachy inserted 20 days ago on ITU - post adbo surgery and sepsis
- Now on HDU
- SpO2 98% on 28% venturi, size 8 non-fenestrated tube in situ, cuff up, rehab initiated, RR 15, watching Emmerdale

[What's your Plan? \(you can use this space to make notes from the discussion!\)](#)

Membership Resources



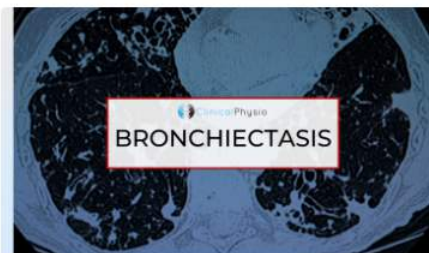
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