

Medi Quest BRS Hospital

A monthly News letter from BRS Hospital

Tracheostomy – an overview

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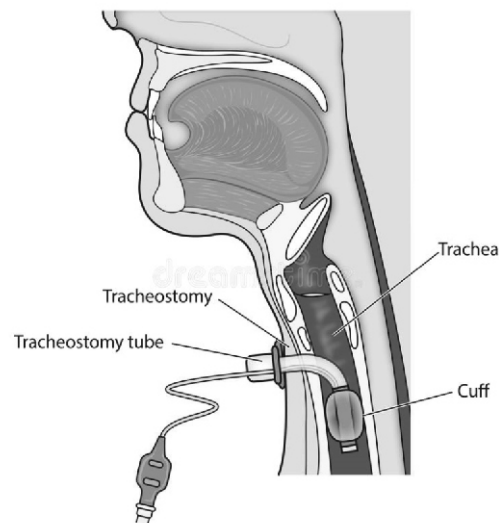
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Tracheostomy is a surgical procedure wherein a stoma is created connecting the anterior wall of trachea to the exterior.



Functions:

1. Relieves upper airway obstruction
2. Reduces airway resistance
3. Improves alveolar ventilation
4. Reduces dead space in the tracheobronchial tree
5. Aids tracheobronchial toileting
6. Access for medication and humidification
7. Airway for general anaesthesia
8. Prolonged assisted ventilation

Indications:

Obstructive
Non Obstructive

Obstructive:

1. Congenital- Laryngeal –
 - Subglottic stenosis
 - Laryngomalacia
 - Glottic webs
 - Hemangioma
- Extra Laryngeal -
 - Pierre-Robinson syndrome
 - Cystic hygroma

2. Inflammatory –

- Acute Laryngotracheobronchitis
- Acute Epiglottitis
- Acute parapharyngeal abscess

3. Traumatic-

- Maxillofacial trauma

4. Neoplastic-

- Recurrent respiratory papillomatosis
- Adenoma
- Chondroma
- Malignancy of larynx, pharynx, thyroid, esophagus, trachea

5. Neurological-

- Bilateral abductor palsy

II. Non Obstructive:

1. Assisted Ventilation –
 - Coma
 - CVA
 - Poisoning
 - Bulbar palsy
 - Vocal cord palsy
 - Respiratory muscle paralysis
2. Aspiration
3. Anaesthesia
4. Atelectasis

Advantages of tracheostomy-

- Placed for prolonged period
- No need for sedation
- Patient can be mobile
- Facilitates swallowing
- Shortens the ventilator weaning process
- Facilitates verbal communication (fenestrated tubes)
- Easy to maintain
- Tracheal stenosis is uncommon
- Tracheal toilet is easy

Disadvantages of tracheostomy-

- Surgical Procedure
- Humidification and filtration of inspired air is lost
- Decannulation may be difficult
- Stoma site infection
- Regular stomal wound care
- Tube cleaning and suctioning

Contraindication -

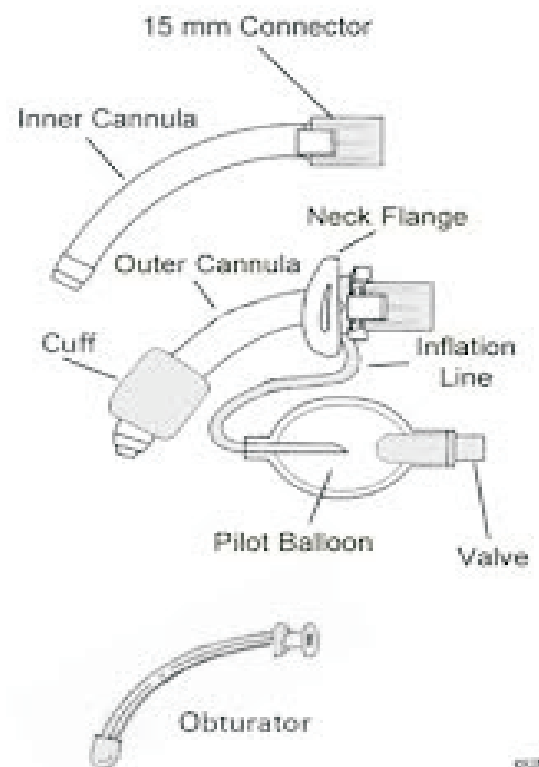
None . it is a life saving procedure.

Types of Tracheostomy:

- Elective or Emergency
- High , Mid or Low
- Temporary or permanent

Types of Tubes:

- Metallic- Fuller's, Jackson's
- Non-metallic- Portex , Shiley
- Cuffed or Uncuffed

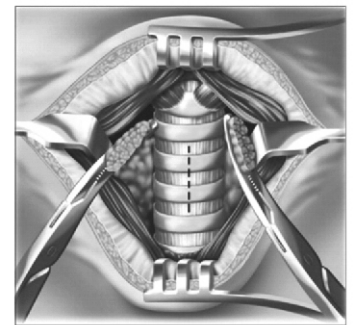
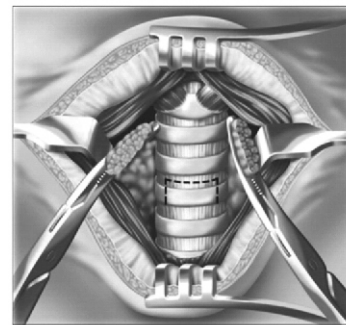
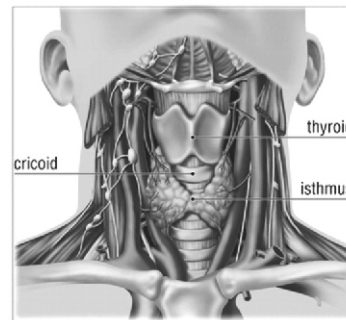


Procedure-

Mild sedation for tracheostomy performed under local anaesthesia. No premedication in case of emergency. Maximal neck extension with shoulder bag given. After preparation with Betadine and draping, skin incision site marked 2 finger breadth above the sternal notch. Local anaesthetic 2% xylocaine with adrenaline is infiltrated and a horizontal incision is made (vertical in case of emergency). Superficial fascia, platysma divided. Thyroid fascia divided and isthmus visualized and retracted superiorly. Cricoid hook is used to stabilize trachea. Pretracheal fascia incised and rings identified. A syringe filled with saline used to confirm airway by way of visualizing bubbles on aspiration in the airway. The usual site of tracheostomy is between the 2nd -3rd or 3rd-4th rings.

The stoma is widened using tracheal dilator and tube inserted. Tube position checked by auscultation while ventilating with Ambu bag. Haemostasis is achieved and stay sutures placed to transfix tube until tract has formed.

Tube is secured using ribbon tapes or Velcro tapes.



Postoperative care-

- Cuff to be inflated
- Deflate cuff for 10 minutes every 4 hours to avoid pressure necrosis
- Regular Suctioning- not more than 15 seconds at a time. Not more than 3 times per session.
- Humidification of air with moist gauze
- Stoma wound care
- Inner Tube cleaning and Tube change after 1 week in case of Portex tube
- Chest X-ray –to see tube position and lung condition



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Complications-

- **Immediate-** apnoea, bleeding , lung collapse, fistula
- **Intermediate-** tube dislodgement, tube block, infection, emphysema, bleeding, pneumothorax

- **Late-** granulation, trachea-esophageal fistula, tracheal stenosis, decannulation problems.

Newer & less invasive techniques-

- Fantoni's translaryngeal tracheostomy technique
- Mini Tracheostomy or cricothyrotomy
- Percutaneous tracheostomy

CME ON TRACHEOSTOMY CARE

Speaker: Dr.B.Pujita MBBS, MS (ENT)

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