

Tracheostomy

Performed first by Pedro Virgili (1699-1776) for relief of quinsy. Former name was bronchotomy

Advantages:

- Reduction of dead space by 30-50% as a result of bypassing upper air passages.
- Improve alveolar ventilation in patients who has limited tidal volume.
- Easy removal of secretion
- Reduction in work of ventilation
- Better oxygen administration
- Seal the lung in patients with depressed cough and swallowing reflex to prevent aspiration

Indications:

A- To relief obstruction of the upper airway:

- 1- Impacted foreign body
- 2- Acute infection: Acute laryngotracheitis in children, laryngeal diphtheria, acute epiglottitis
- 3- Edema of the glottis
- 4- Bilateral abductor paralysis of vocal cords following injury to recurrent laryngeal nerves during thyroidectomy
- 5- Tumors: cancer of larynx
- 6- Chronic tracheal stenosis
- 7- Congenital web or atresia
- 8- Cut throat

B- To improve respiratory function by decreasing dead space and for effective suction:

- 1- Fulminating bronchopneumonia
- 2- Chronic bronchitis with severe emphysema
- 3- Chest injuries as flail chest

C- Respiratory paralysis:

- 1- Unconsciousness with head or facio-maxillary injury
- 2- Coma with difficulty to maintain airway
- 3- Bulbar poliomyelitis
- 4- Tetanus

D- As a preliminary to certain operations on upper airway and skull

Technique:

- General anesthesia better than local
- Prior intubation better to clean airway
- Position: head extension and neck flexion
- Incision: - Vertical: from lower border of thyroid cartilage till sternal notch
 - Transverse: Midway between thyroid cartilage and sternal notch
- Pretracheal muscles retracted
- Thyroid isthmus divided between two clamps
- Trachea opened: 1- Transverse incision between 2-3 tracheal rings
 - 2- Bjork flap (inverted U to lower skin)
 - 3- Vertical : in children

Tracheostomy tube types:

- Silver tube: size 32 or 34 for adult male and 28 for female
- Portex : single or double cuffed tube
- Previously there was red rubber tubes

Care of tracheostomy patient:

- 1- All patients should have beside them: for communication purpose
 - Bell: to call the nurse on need as they can not talk
 - Pencil and papers: so they can write what they need
 - Mirror: to look after their tracheostomy opening
- 2- Clean by suction the inner part of the tube four hourly
- 3- Deflate the cuff four hourly to prevent tracheal mucosa necrosis
- 4- Use humidifier