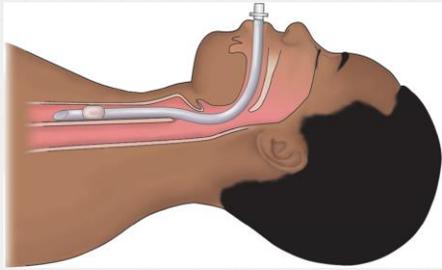


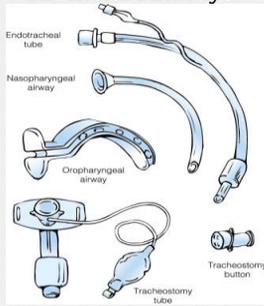
Care of a Patient on a Ventilator

R.Thomas

Endotracheal Tube



Artificial Airways



Tracheostomy

- ❖ Surgical procedure in which an opening is made into the trachea
- ❖ The indwelling tube inserted into the trachea is called a tracheostomy tube (Fig. 21-7)
- ❖ Preventing Complications Associated With Endotracheal and Tracheostomy Tubes, refer to Chart 21-8
- ❖ Guidelines for performing tracheal suctioning, refer to [lww.com/Brunner14e](http://www.com/Brunner14e)

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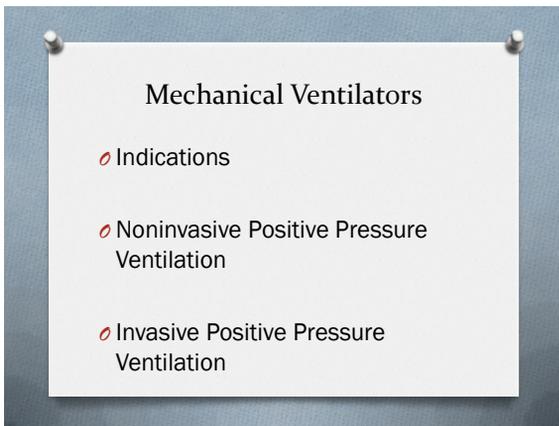
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Nursing Management of Tracheostomy

- ❖ Continuous monitoring and assessment
- ❖ Maintain patency by proper suctioning
- ❖ Semi-Fowler
- ❖ Administer analgesia and sedatives
- ❖ Provide an effective means of communication

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Ventilator Modes

- o Continuous mandatory ventilation (CMV)
- o Assist- Control Ventilation (A/C)
- o Intermittent Mandatory Ventilation (IMV)
- o Synchronized Intermittent Mandatory Ventilations (SIMV)
- o Pressure Support Ventilation (PSV)
- o Airway Pressure Release Ventilation (APRV)
- o Proportional Assist Ventilation (PAV)

Ventilator Settings

- o Controlling mode
- o Tidal Volume (TV)
 - o Amt of air inhaled & exhaled in 1 cycle
- o PEEP (Positive End Expiratory Pressure)
- o FiO2 (fraction of inspired O2)
 - o % O2 in inhaled volume
- o Rate
- o Minute ventilation
 - o RR x TV
 - o \uparrow mv \rightarrow PaCO2 \downarrow / \downarrow mv \rightarrow PaCO2 \uparrow
- o Alarm settings

Care of Patient on Ventilator

- o Airway
- o Gas exchange
- o Prevent complications
- o Weaning

Nursing Process: Planning

- ❖ Goals include:
 - Maintenance of patent airway
 - Optimal gas exchange
 - Absence of trauma or infection
 - Attainment of optimal mobility
 - Adjustment to nonverbal methods of communication
 - Successful coping measures

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Collaborative Problems

- ❖ Ventilator problems
- ❖ Alterations in cardiac function
- ❖ Barotrauma
- ❖ Pulmonary infection and sepsis
- ❖ Delirium

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Nursing Interventions

- ❖ Enhancing gas exchange
- ❖ Promoting effective airway clearance
- ❖ Preventing trauma and infection
- ❖ Promoting optimal level of mobility
- ❖ Promoting optimal communication
- ❖ Promoting coping ability

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Enhancing Gas Exchange: Interventions

- ❖ Judicious use of analgesics to relieve pain without suppressing respiratory drive
- ❖ Frequent repositioning to diminish the pulmonary effects of immobility
- ❖ Monitor for adequate fluid balance:
 - Assess peripheral edema
 - I&O and daily wts
- ❖ Administer medications to control primary disease

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Effective Airway Clearance: Intervention

- ❖ Assess lung sounds at least every 2 to 4 hours
- ❖ Measures to clear airway: suctioning, CPT, position changes, promote increased mobility
- ❖ Humidification of airway
- ❖ Administer medications

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Trauma and Infection: Interventions

- ❖ Infection control measures
- ❖ Tube care
- ❖ Cuff management
- ❖ Oral care
- ❖ Elevation of HOB

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Other Interventions

- ❖ ROM and immobility
- ❖ Communication methods
- ❖ Stress reduction techniques
- ❖ Interventions to promote coping
- ❖ Include in care: family teaching, and the emotional and coping support of the family

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Weaning #1

- ❖ Process of withdrawal of dependence upon the ventilator
- ❖ Three stages:
 - Patient is gradually removed from the ventilator
 - Then from either the endotracheal or tracheostomy tube
 - And finally from oxygen
- ❖ Successful weaning is a collaborative process

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