

Open-System Suctioning the Airway
Bob Milisch MEd, RRT

Open-System Suctioning the Airway

Endotracheal
Tracheostomy

Purpose of This Training

This training is developed to demonstrate equipment or procedures that are to be used by qualified health care providers who are operating within the scope of their practice. Individual institutional policies and procedures must be followed at all times. It may also be used to train respiratory therapy extenders who would function as respiratory assistants working under the license of a respiratory therapist in the event of a disaster. The role of extenders would be decided by the institution or by the state. Viewing this demonstration does not imply competence. Competence in any of these procedures must be assessed by the institution where you practice.

Contamination of the Airway

Upper airway has a wide variety of “normal flora”
Below larynx this will constitute contamination
Even best technique may colonize the lungs
Artificial airway for > 24 hr. will colonize

Increased infection is due to:

Bypassing defenses
Heat and moisture
Air entrainment
Particulate water

Complications of suctioning

Hypoxemia
Interruption of ventilation
Suctioning out O₂
prevented by pre-oxygenation
Atelectasis from air **not** entering around too large of a catheter

Complications of suctioning

Dysrhythmia
myocardial hypoxemia
vagal stimulation
Hypotension
vagal stimulation
prolonged cough

Frequency of Suctioning

Never on a regular schedule

Only as needed

Lung sounds

Audible secretions

Assessment of need can be on a regular schedule

Correct catheter size

Must be less than $\frac{2}{3}$ of the I.D. of the airway. $\frac{1}{2}$ most acceptable

Too large will not allow air to enter as suctioning occurs and cause atelectasis

Too small will not suction thick secretions

Catheter Sizing

Catheters sized in French units

Tubes sized in mm ID

Fr = mm X 3 (round up)

7.0 ET tube = 21Fr ID

Catheter Sizing

Catheter sizes are in even numbers only

Best size ($\frac{1}{2}$ the tube I.D.)

$(\text{I.D.} \times 3) / 2$ (round up)

$(7.5 \times 3) / 2 = 11.25$ (or) 12

Maximum ($\frac{2}{3}$ the tube I.D.)

ID X 2 (round down)

$7.5 \times 2 = 15$ (or) 14

Suction Pressures

Hemorrhage and edema happen even with the best procedures

Pressures used

-80 to -120 Adult

-80 to -100 Children

-60 to -80 Infants

Procedure

Sterility is essential

Gather supplies

Kit

Sterile water - loosen cap

Saline for lavage (optional)

Apply Standard Precautions

Wash/disinfect

Identify and Assess Patient

SPO2

HR

RR

Need

Adjust Suction To Appropriate Level

Pinch tubing and adjust pressure

Turn Oxygen to 100%

Unless otherwise instructed

Minimally 30 sec. prior to suctioning

Open Kit

Pour Sterile Water into Container

Apply Gloves

Apply Gloves

Attach Catheter

Disconnect Patient

Insert Catheter

Withdraw Slightly and Apply Suction

Reconnect Ventilator

< 20 sec. disconnect

Assess Patient

SPO2

HR

LS

Color

Repeat PRN

Minimum of 5-10 breaths between passes

SpO2 stable

HR stable

Saline Lavage Only As Necessary

Per policy

May spread contaminants

Instill saline

Ventilate 5 breaths

Suction

Suction Mouth Last

Only after ET suctioning

Clear Catheter and Tubing

Sterile water

Dispose Catheter

Gloves can be barrier

Document Results

Amount

Color

Consistency

Complications

Conclusion

Contact milischr@westernnc.edu if there were any problems with the presentation

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