

Closed-System Suctioning
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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.

Indications

High ventilation requirements
Frequent suctioning (>6/day)
Hemodynamic instability
Active TB
Inhaled agents that cannot be interrupted

Advantages

No interruption
“Clean” technique
Readily accessible

Disadvantages

Cost
Ventilator triggering
Increased resistance

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.)

(I.D. X 3) / 2 (round up)

(7.5 X 3) / 2 = 11.25 (or) 12

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

ID X 2 (round down)

7.5 X 2 = 15 (or) 14

The Catheter

Suction Control

Lavage port

Directional tip (optional)

Locking mechanism (optional)

The Catheter

Suction Control

Lavage port

Directional tip (optional)

Locking mechanism (optional)

Apply Standard Precautions

Wash

Glove

Assess Need

SPO2

HR

RR

Need

Gather supplies

Saline for lavage (optional) or flushing catheter (required)

Adjust Suction To Appropriate Level

Pinch tubing and adjust pressure

130 to 150 mmHg ?

Turn Oxygen to 100%

Unless otherwise instructed

Minimally 30 sec. prior to suctioning

Insert Catheter

Indicator line midline

Pull back sheath while inserting

To end of ET tube

To resistance and pull back slightly

Withdraw Slightly and Apply Suction

Be sure catheter is all the way out

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

Large bore catheter

Clear Catheter and Tubing

Instill saline while applying suction

Document Results

Amount

Color

Consistency

Complications

Conclusion

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

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