

Closed Suctioning of the Ventilator Dependent Client

An Honors Creative Project (HONRS 499)

by

Gregory D. Strine

Project Advisor

Kay Hodson, Ed.D.

A handwritten signature in cursive script that reads "Kay Hodson". The signature is written in black ink and is positioned above a horizontal line.

Ball State University

Muncie, Indiana

Date of Graduation

May 8, 1993

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This instructional video provides a demonstration of the closed suctioning technique to be used with ventilator dependent clients. Closed suctioning is a recent technological development for both the medical and nursing professions. This technique provides the professional with a method to remove airway secretions and not be placed at risk of exposure to those secretions which potentially carry infectious bacteria or viruses. Use of this type of equipment can be found throughout the United States.

This video will be incorporated into the curriculum for Acute Care Nursing which is a senior level course in the Ball State University School of Nursing. Each senior level student will be required to view this instructional video in order to learn proper technique in performing this procedure. Upon completion of viewing this video, each student will be required to perform a return demonstration of this procedure to an instructor as proof of competency.

Acknowledgements

This video production is the result of eight months of researching, writing, and filming. Writing the script for the video required approximately thirty hours of work and would not have been possible without the assistance of several individuals. Completion of this project resulted in a coordinated effort of Ball State University School of Nursing, Ball State University Media Services, and the Critical Care Education Staff of Ball Memorial Hospital. I would like to thank the following individuals for their assistance in the writing of the script and filming of the video:

Project Advisor: Kay Hodson, Ed.D., RN

Technical
Advisors: Renee Twibell, DNS, RN

Ann Wieseke, DNS, RN

Chantel Willmann, MSN, RN

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Dylmn Baughman, RN (Ball Memorial Hospital
Critical Care Educator)

BALL STATE UNIVERSITY
SCHOOL OF NURSING

Senior Honors College Project
Gregory D. Strine
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Acute Care Nursing
Instructional Video

Closed Suctioning of the Ventilator Dependent Client

Introduction

Still shots of Ball Memorial
Hospital and ICU nurses.

Audio: Up tempo background
music.

Text: Ball State University
School of Nursing

Text: Acute Care Nursing

Text: Closed Suctioning of the
Ventilator Dependent Client

Still shot of closed suction
system.

Assessment

Shot: Nurse enters room. Stands
next to patient's bed and looks
at client. Assess respiratory
rate and rhythm.

V.O. "The first objective of
this procedure is to assess
the client for the need of
suctioning. While standing
at the bedside, assess the
client's respiratory rate,
rhythm and effort."

Shot: Nurse uses stethoscope to
listen to lungs.

V.O. "Next, listen to all lung
fields bilaterally. Listen
for any adventitious breath
sounds."

Cut to shot of nurse with
stethoscope on patient's back.

V.O. "If possible, turn the
patient on his side and
listen to the posterior
breath sounds."

Shot: Nurse turns to observe monitor.

V.O. "After auscultating breath sounds, observe the client's monitor readings to check for abnormalities. Indications for suctioning include auscultation of crackles, rhonchi or other adventitious breath sounds, coughing, increased respiratory rate, decreased pulse oximeter readings, and frequent pressure alarms from the ventilator."

Shot: Vent control panel and equipment.

V.O. "Finally, examine the ventilator settings and equipment. Make sure the vent settings are consistent with current orders."

Supplies and Equipment

Shot: Nurse holding sterile vials and gloves.

V.O. "In order to perform the procedure efficiently, assemble all of the necessary supplies prior to starting the procedure. These supplies include: sterile vials of normal saline for lavage and clean gloves. A closed suction system will be in place in line with the patient's ventilator tubing. When you see the closed suction system, you know you will use the closed suctioning procedure, rather than the open suctioning procedure."

Shot: Nurse holding closed suction system connected to ventilator tubing.

Procedure

- Shot: Close-up of hand washing. V.O. "Wash hands thoroughly after assembling equipment."
- Shot: Nurse standing next to bed talking to patient. V.O. "Advise the patient you are preparing to suction his airway, and explain to the patient the need for suctioning. Also, explain to the client sensations which may be noticed during the procedure such as feeling his lungs fill with air, a desire to cough, and temporary trouble getting his breath."
- Shot: Nurse standing next to overbed table. V.O. "Now, put on a pair of clean gloves from the wall box."
- Shot: Nurse adjusting suction source. V.O. "Set suction on continuous in medium range between 110 and 150 mm Hg."
- Shot: Still of 7200 ventilator controls. V.O. "On the 7200 model ventilator, simply depress the button designated for suctioning. This will allow the ventilator to cycle for two minutes at 100% FiO2."

Shot: Nurse standing over patient. Nurse to perform each step as described. Tighten to view of nurse's hands and suction catheter.

V.O. "To perform this procedure, follow these next steps precisely. (1) Turn the suction control valve on the catheter to the unlocked position. (2) Attach a saline vial to the lavage port. Grip the T-piece on the tubing with your non-dominant hand. (3) Advance the catheter 2 cm through the plastic sleeve with your dominant hand. (4) Instill a small amount of saline. (5) Now, with your dominant hand, advance the suction catheter through the plastic sleeve until you meet resistance or the patient begins coughing. (6) Pull back on the suction catheter 1 cm to avoid traumatizing the carina. (7) Continue gripping the T-piece with your non-dominant hand while using the thumb of your dominant hand to depress the suction control valve while slowly withdrawing the catheter, suctioning as you withdraw. (8) Fully withdraw the suction catheter from the airway after each suction pass. The black ring at the end of the catheter should be visible after complete catheter withdrawal."

Shot: Nurse instilling saline

V.O. "After each suction pass, clear the catheter by instilling saline through the port while depressing the suction valve. Make sure the black ring at the end of the catheter is visible prior to clearing the secretions."

Shot: Nurse standing next to patient performing suctioning. Performs two to three passes.

V.O. "Allow the ventilator to deliver several breaths before attempting a second suctioning pass. If secretions are thick, additional saline should be instilled as desired. Remember to advance the catheter 2 cm prior to instilling the saline. Repeat the procedure until no further secretions are returned or patient intolerance of the procedure is indicated by bronchospasm and wheezing, arrhythmias or decreased pulse oximeter reading that does not respond to oxygen delivered by the vent. It is important not to make more passes than necessary in order to avoid trauma to the respiratory tract. After suctioning is completed, leave FiO2 on 100% and let ventilator cycle 2-3 times. Instill remaining normal saline in irrigation port, with the catheter in the fully withdrawn position depress the suction control valve with thumb to clean inner lumen of suction catheter."

Shot: Close-up of black ring of catheter.

Aftercare

- Shot: Nurse looking at suction catheter. V.O. "When suctioning is completed, assure that the black marker ring is visible and the suction catheter has not been left within the patient's airway."
- Shot: Nurse working with suction catheter. V.O. "Turn thumb suction control valve to the locked position. Assure that the side-port for irrigation is closed."
- Shot: Nurse with bedside chart. V.O. "Finally, document the procedure in the nursing care record including color, consistency and amount of sputum returned and any signs of hypoxia during the procedure."

Closing Credits

Narrator: Chantel Willmann, MSN, RN

Client: Wesley L. Hanson, DMA

Nurse: Greg Strine

Writer: Greg Strine

Director: Greg Strine

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Staff