Macomb Community College

Respiratory Therapy Program

PERFORMANCE EVALUATIONS

PERFORMANCE EVALUATIONS

1. Hand Washing
2. Oxygen Supply Systems
3. Oxygen Delivery Devices
4. Oxygen Tent
5. Oxygen Therapy
6. Oxygen Rounds
7. Aerosol Therapy
8. Metered Dose Inhaler
9. Incentive Spirometry
11. IPPB
12. Chest Physical Therapy
13. Suctioning
14. Manual Resuscitation - Adult
15. Manual Resuscitation - Infant
16. Intubation and Alternate Airways
17. Capnography
18. Arterial Blood-Gas Sampling
19. Arterial Blood-Gas Analysis
20. Bedside Pulmonary Function
21. Ventilatory Assessment
22. 24 Hour Suction Catheter
23. Ventilator Set-up
24. Ventilator Circuit Change
25. Routine Ventilator Check
26. Arrhythmia Recognition
27. Arterial Line
28. Non-Invasive Ventilation
29. Pulse Oximetry
30. Tracheostomy Care
31. Neonatal/Pediatric Ventilator (Neonatal/Pediatric Rotation)
32. Manual Ventilation via Self-Inflating Reservoir Bag-ET Tube (Neonatal/Pediatric Rotation)
33. Capillary Blood-Gas Sampling (Neonatal/Pediatric Rotation)
34. 7200ae Set-Up
35. 7200ae Initiation

PERFORMANCE EVALUATIONS TO BE COMPLETED DURING CLINICAL ROTATIONS

RSPT 1260

1. Hand Washing - #1
2. Oxygen Supply Systems - #2
3. Oxygen Delivery Devices - #3
4. Oxygen Tent - #4
5. Oxygen Therapy -#5
6. Oxygen Rounds - #6
7. Aerosol Therapy - #7
8. Metered Dose Inhaler - #8
9. Incentive Spirometry - #9
10. IPPB - #11
11. Chest Physical Therapy - #12
12. Suctioning - #13
13. Manual Resuscitation (Adult) - # 14
14. Manual Resuscitation (Infant) - #15
15. Intubation and Alternate Airways - #16
16. Arterial Blood-Gas Sampling - #18
17. Pulse Oximetry - #29

CRITICAL CARE I

1. Arterial Blood-Gas Sampling - #18
2. Arterial Blood-Gas Analysis - #19 (Optional)
3. Ventilatory Assessment - #21
4. 24 Hour Suction Catheter - #22
5. Ventilator Set-up #23
6. Routine Ventilator Check - #25
7. Non-Invasive Ventilation - #28
8. Arterial Line - #27 (Clinical Coordinator)

CRITICAL CARE II

1. Arterial Blood-Gas Sampling - #18
2. Arterial Blood-Gas Analysis - #19 (Optional)
3. Ventilatory Assessment - #21
4. 24 Hour Suction Catheter - #22
5. Ventilator Set-up - #23
6. Ventilator Circuit Change - #24
7. Routine Ventilator Check - #25
8. Non-Invasive Ventilation - #28
9. Capnography - #17
10. Bedside Pulmonary Function - #20 (Clinical Coordinator)

CRITICAL CARE III

1. Arterial Blood-Gas Sampling - #18
2. Arterial Blood-Gas Analysis - #19 (Optional)
3. Ventilatory Assessment - #21
4. 24 Hour Suction Catheter - #22
5. Ventilator Set-up #23
6. Ventilator Circuit Change - #24
7. Routine Ventilator Check - #25
8. Non-Invasive Ventilation - #28
9. Tracheostomy Care - #30
10. Arrhythmia Recognition - #26 (Clinical Coordinator)

NEONATAL/PEDIATRIC ROTATION

1. Ventilator Set -up - #23
2. Ventilator Circuit Change - #24
3. Routine Ventilator Check - #25
4. Neonatal/Pediatric Ventilator - #31
5. Manual Ventilation - # 32
6. Capillary Blood Gas - #33
7. ABG Analysis – #19 (Select facilities only)

PERFORMANCE EVALUATION

SCORING

3 points	Describes and/or performs objectives perfectly without prompting and in appropriate time interval.
2 points	Describes and/or performs objectives satisfactorily without prompting or with minimal assistance/or completes step slower than expected .
1 point	Describes and/or performs objectives with assistance or prompting. Appears unsure of task.
0 point	Unable to perform objective adequately
NA	Objective not appropriate or unnecessary. Some steps may not be done at all clinical agencies.

ESSENTIAL STEPS IN RESPIRATORY CARE PROCEDURES	
STEP	**DESCRIPTION OF SATISFACTORY PERFORMANCE**
1. Select and gathers appropriate equipment.	a. Collects all required equipment and/or supplies before leaving the work area, including necessary paperwork. b. Is prepared with necessary work equipment such as stethoscope, watch, pen, goggles, calculator, scissors, notepad etc...
2. Verifies and interprets physician order.	a. Ensures that the orders on the requisition, treatment or ventilator sheet match the physician's order. b. Ensures order is complete. c. Recognizes an inappropriate order and notifies appropriate personnel.
3. Reviews the patient's chart.	a. Notes diagnosis, admission date, x-ray, ABG, PFT, lab data, surgery, code status, previous respiratory therapy orders, oxygen order, EKG, etc. b. Evaluates appropriateness of order based on chart review.
4. Assembles equipment properly.	a. Assembles equipment correctly and checks for proper operation. b. Maintains asepsis. c. Identifies malfunctioning equipment and troubleshoots.
5. Identifies patient.	a. Checks room number. b. Addresses the patient by name. c. Checks patient's identification band

6. Explains the procedure to the patient.	a. Communicates with the patient in simple terms the patient will understand ▸ Why the procedure is done. ▸ How the procedure is done. ▸ Frequency of therapy. ▸ Importance of patient cooperation. b. Ask the patient if they have any questions about the procedure. • Provide accurate answers appropriate to the patient's level of understanding. • Speaks loud enough so those patients hard of hearing will understand.
7. Ensures patient comfort.	• Place patient in comfortable position. • Ensures patient can reach bedside stand and call light. • Listens and responds to patients needs.
8. Ensures patient safety.	• Ensures patient is properly restraint and/or bed rails are in proper position. • Oxygen is running and on patient before leaving the bedside. • All equipment is working properly. • Patient understands "no smoking" policy. • Maintains asepsis. • Knows adverse reaction of therapy and takes appropriate action. • Inform appropriate personnel of changes in patient status. • Equipment alarms set appropriately
9. Cleans patient care area.	• Discards disposable supplies properly. • Stores disposable/non-disposable equipment and supplies according to department policy. • Ensures needles/glass is disposed of in proper receptacle. • Cleans and removes equipment/supplies from isolation according to department policy.

10. Documents therapy.	a. Charting should be accurate and complete. - No use of inappropriate abbreviations. - Charts in black pen. - Recognizes and corrects errors/omissions correctly. - Writes legibly and neat. - Signs entries correctly. • Assesses and documents the following: - Patient condition - Date and time therapy given - Medication and dosage - Vital signs - Ventilatory parameters - Level of consciousness - Dyspnea - Presence of cyanosis - Skin temperature - Presence of diaphoresis - Use of accessory muscles - Patient's position - Level of cooperation - Response to therapy/tolerance - Adverse reactions and any action taken by student - Patient complaints

PERFORMANCE EVALUATION #1
HAND WASHING

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	Does not contact sink with clothing or body.					
2.	Adjusts water flow and temperature (warm).					
3.	Wets forearms and hands thoroughly with water.					
4.	**Applies soap/disinfectant liberally to hands and forearms.					
5.	**Washes hands with strong friction a. Palms b. Back of hands c. Between fingers d. Under nails and around cuticles e. Wrists					
6.	**Washes appropriate length of time.					
7.	**Rinses thoroughly from fingernails to wrists.					
8.	**Obtains paper towel without contamination to hands.					
9.	**Dries hands and wrists thoroughly.					
10.	**Turns off water aseptically with paper towel.					
11.	Discards material in proper receptacle.					
12.	Knowledge/Comprehension Level a. Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. List the single most important way to prevent the spread of infection.
2. Define nosocomial infection.
3. Do RCPs need to wash hands after each patient contact if gloves are used?
4. Explain and outline the Standard Precautions currently recommended by the Center for Disease Control (CDC).
5. Describe when gloves should be worn.

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PERFORMANCE EVALUATION #2
OXYGEN SUPPLY SYSTEMS

NAME: _____
DATE: _____
INSTRUCTOR: _____

	0	1	2	3	NA
1. **Obtain an E cylinder from storage. Identify the cylinder: a. Label b. Color					
2. **Secure the oxygen cylinder into holder.					
EMPTY CYLINDER 3. Verify that the oxygen cylinder valve stem is turned off and the oxygen pressure is released from the reducing valve. Both needle indicators should be on zero.					
4. Remove the regulator from the empty cylinder.					
5. Remove the FULL/IN USE tab.					
FULL CYLINDER 6. Remove the protective white cap from the valve stem on the new cylinder. Do not remove the clear plastic seal on the valve stem. If this is removed, a leak will result.					
7. **Crack the cylinder valve to remove any dust and debris. a. Turn valve outlet away from personnel. b. Use good hand position. c. Give an audible warning.					
8. **Attach the regulator to the new cylinder, lining up the pin positions with the recessed holes in the valve stem (PISS).					
9. Tighten the regulator					
10. Turn the regulator on to: a. Observe gauge pressure. b. Check for leaks.					
11. Trouble-shoot for leaks a. Tighten connections. b. Check for clear plastic seal on valve stem. c. Faulty valve stem					
12. Knowledge/Comprehension Level a. Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. State the significance of cylinder color codes.
2. List the safety systems present on an oxygen cylinder and regulator.
3. While on oxygen rounds you check an E cylinder that is running at 8 L/min to a venturi mask. The regulator gauge indicates that 800 psig remains in the cylinder. How much longer will this cylinder last? **SHOW WORK**

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PERFORMANCE EVALUATION #3
OXYGEN DELIVERY DEVICES

NAME: _____
DATE: _____
INSTRUCTOR: _____

	0	1	2	3	NA
1. Demonstrate proper assembly of the oxygen delivery devices:					
a. **Nasal Cannula _____					
b. **Simple Mask _____					
c. **Partial Rebreather Mask _____					
d. **Non-Rebreather Mask _____					
e. **Venturi Mask _____					
f. **Large Volume Nebulizer _____					
g. - Tracheostomy Mask _____					
h. - Aerosol Mask _____					
i. - Briggs Adapter _____					
j. - Face Tent _____					
k. - Oxyhood _____					
2. **The student will know the range of oxygen concentrations and liter flows obtainable with each of the following delivery devices:					
a. Nasal Cannula _____					
b. Partial Rebreather Mask_____					
c. Simple Mask _____					
d. Non-Rebreather Mask_____					
e. Venturi Mask _____					
f. Aerosol Mask _____					
g. Tracheostomy Mask_____					
h. Briggs Adapter _____					
i. Face Tent_____					
3. **Assemble a humidifier and test for proper function.					
4. Identify those oxygen delivery devices that use a humidifier: a. Nasal Cannula over _____ liters/min. b. Simple Mask. c. Partial Rebreather Mask. d. Non-Rebreather Mask					
5. **Demonstrate the appropriate steps for checking an aerosol set-up during oxygen rounds.					
6. Calculates the total liter flow of various oxygen delivery devices at varying liter flows.					
7. Differentiates between a high flow and a low flow delivery system.					
8. **Calibrates an oxygen analyzer.					
9. Analyzes the oxygen concentration of various high flow delivery systems.					
10. Knowledge/Comprehension Level a. Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS
OXYGEN DELIVERY DEVICES

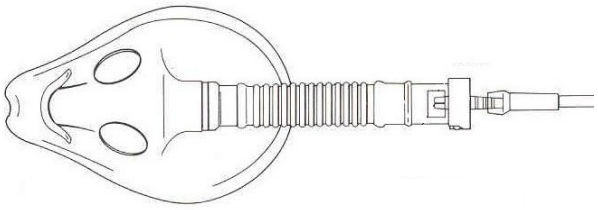
1. Why is a humidifier not used when delivering oxygen via a low-flow device?
2. After setting up a low-flow oxygen device, you notice that the humidifier is not bubbling. What, if anything, may be wrong?
3. What is the difference between a non-rebreathing mask and a partial-rebreathing mask?
4. How is the proper flowrate for a partial/non-rebreather determined?
5. If patients hypoventilate while wearing a nasal cannula, what will happen to the F_iO_2 they receive?
6. A physician orders a partial rebreather for his patient, who is breathing shallowly but has an acceptable PO_2. Upon questioning him about the indication for his order, he tells you he wants the patient to rebreathe CO_2 from the bag to stimulate him/her to breathe more deeply. What will you say or do?
7. Trace the flow of oxygen and room air through the non-rebreather mask as the patient inhales and exhales.

INHALATION

EXHALATION

8. List two ways in which high-flow oxygen devices differ from low-flow devices?
   A.
   B.
9. List 2 indications for a high-flow oxygen device.
   A.
   B.
10. Is the F_iO_2 delivered by a high flow oxygen device accurate and reliable? <u>Explain your answer.</u>
11. If you are running an aerosol mask at an F_iO_2 of 100%, and the flow is inadequate, even with the flow set at 12 LPM, what could you do to boost the total flow? List several options.
12. A trach collar is running at a F_iO_2 of 70%, and a flowrate of 10 LPM. Calculate the air/oxygen ratio at this setting, <u>and</u> the total flowrate. (SHOW WORK)
13. List two things that could happen (purposely or accidentally) to alter the expected F_iO_2 delivered by the venturi mask.
    A.
    B.

1. Identify each of the following parts of the venturi mask:
   A. Jet
   B. 100% oxygen inlet
   C. Entrainment port
   D. Reservoir
   E. Exhalation ports



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PERFORMANCE EVALUATION #4 NAME: _____
OXYGEN TENT DATE: _____
INSTRUCTOR: _____

BRAND OF OXYGEN TENT USED_____

	0	1	2	3	NA
1. **Correctly assemble the oxygen tent.					
2. Attach the canopy to the frame.					
3. **Demonstrate proper connection a. Air compressor b. Electrical outlet c. Pneumatic source					
4. **Prepare the tent for operation a. Fill reservoir b. Adjust fan control c. Adjust aerosol output d. Post oxygen signs e. Set appropriate liter flow f. Adjust canopy					
5. **Check mist to insure adequate output.					
6. **Analyze oxygen concentration.					
7. **Instruct patient/family on safety measures/precautions.					
8. Demonstrate how to check the oxygen tent during oxygen rounds: a. Empty drain bottle b. Fill reservoir c. Check fan function/switch d. Analyze oxygen e. Check electrical/pneumatic connections f. Check aerosol output g. Check for oxygen signs h. Adjust canopy i. Check liter flow					
9. **Given a situation, be able to troubleshoot the equipment					
10. Knowledge/Comprehension Level a. Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. State an indication for use of an oxygen tent.
2. List what should be monitored during oxygen rounds.

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PERFORMANCE EVALUATION #5 NAME: _____
OXYGEN THERAPY DATE: _____
INSTRUCTOR: _____

OXYGEN DEVICE USED: _____

		0	1	2	3	NA
1.	Select and gather appropriate equipment.					
2.	**Verify and interpret the physician's order.					
3.	Review the patient's chart and record all pertinent information (diagnosis, ABG, ect...).					
4.	**Upon entering the room, ask for the patient by name and check the patient's name band for proper identification.					
5.	Introduce yourself and your department.					
6.	Perform History and Physical Exam and evaluate need for oxygen therapy. Document pulse oximetry reading if indicated.					
7.	Explain the procedure and confirm patient understanding.					
8.	**Assemble the equipment.					
9.	**Adjust FiO_2 and/or liter flow to the prescribed level					
10.	Apply the oxygen device to the patient					
11.	**Explain to the patient and family the hospital policy on "NO Smoking".					
12.	**Know the range of liter flows and oxygen concentrations obtainable with the oxygen delivery device.					
13.	Clean patient care area.					
14.	**Insure patient comfort and safety.					
15.	Wash Hands.					
16.	Document therapy (charting should be neat, accurate and complete).					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. List the indications for oxygen therapy according to the AARC clinical Practice guidelines.
2. Differentiate between hypoxemia and hypoxia.
3. What are the 5 causes of hypoxemia?
4. Given appropriate data, calculate the CaO_2, CvO_2 and $Ca\text{-}vO_2$.
5. Calculate the PAO2 and A-a gradient.
6. Explain the relationship between PaO2 and SaO2 using the oxygen dissociation curve; what factors shift the curve to the right or to the left.
7. List hazards of oxygen therapy according the AARC guidelines.
8. List clinical signs that might indicate the presence of hypoxia or hypoxemia.
11. Explain the cause of hypercapnia following oxygen therapy in select COPD patients.
12. What causes refractory hypoxemia? How is it treated?

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PERFORMANCE EVALUATION #6
OXYGEN ROUNDS

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Checks for proper patient identification when checking on oxygen equipment.					
2.	**Checks all necessary equipment in special care areas (ICU, CCU, ER, RECOVERY, etc.)					
3.	Documents properly following department policy, (Liter flow, FiO_2, Initials/name, etc.)					
4.	Checks the level of humidifiers and change when necessary.					
5.	Checks for oxygen cylinders and record pressures properly.					
6.	**Explains to the patient and family the hospital policy on “NO Smoking”.					
7.	**States the range of oxygen concentrations and appropriate liter flow of the device being checked.					
8.	**Drains all tubing and drain bags on aerosol devices and oxygen tents.					
9.	Fills all water reservoirs associated with nebulizers or tents properly.					
10.	Changes all necessary equipment on the appropriate days according to department policy.					
11.	**Properly perform an oxygen transport using an E cylinder.					
12.	**Determines the remaining gas volume in the cylinder and the length of time the cylinder will last.					
13.	Analyzes the FiO_2 in various oxygen environments and record properly.					
14.	Properly changes an E cylinder (500 p.s.i. or less).					

Students must pass all critical steps with a score of 2 or 3
ORAL REVIEW QUESTIONS

1. How many cubic feet and liters are in an E cylinder of oxygen?
2. Describe the function of a regulator.
3. What is the color code for an E cylinder of oxygen?
4. During oxygen rounds, you make an error in charting. How should you correct the error?
5. Given appropriate data, calculate the duration of flow from an E and H cylinder of oxygen.
6. What type of oxygen analyzer is most commonly used today in RC?
7. Explain the correct procedure for calibrating an oxygen analyzer.
8. How do you calculate the total flowrate from a fixed performance oxygen delivery device (High Flow System).
9. Explain how back pressure on a venturi device will affect the total liter flow of a fixed performance oxygen delivery system.
10. At what PSI should oxygen cylinders be changed?
15. What Respiratory Equipment is needed in a code box?

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PERFORMANCE EVALUATION #7
AEROSOL THERAPY

NAME: _____
DATE: _____
INSTRUCTOR: _____

	0	1	2	3	NA
1. Select and gather appropriate equipment before leaving the department.					
2. **Verify and interpret the physician's order.					
3. Review the patient's chart and record all pertinent information: diagnosis, admission date, x-rays, ABG's etc.					
4. **Upon entering the room, ask for the patient by name and check the patient's name band for proper identification.					
5. Introduce yourself and your department.					
6. Perform history and physical examination and evaluate if order is appropriate.					
7. Explain the procedure and confirm patient understanding.					
8. Wash Hands.					
9. **Assemble equipment properly.					
10. **Prepare medication: a. Ensure medication is properly dated. b. Confirm drug label. c. Measure proper dosage of drug/diluent. a. Obtain appropriate volume of drug aseptically. b. Know therapeutic and maximal dosage, trade and generic names, mode of action and side effects of the drug being administered.					
11. Properly position the patient.					
12. Set an appropriate flowrate to ensure an adequate mist and normal treatment length.					
13. **Check pulse before, during and after the treatment.					
14. **Check breath sounds before and after therapy.					
15. Encourage the patient to cough after the treatment and evaluate the sputum for color, odor, consistency and volume.					
16. Clean the patient care area.					
17. **Ensure patient comfort and safety (position patient, bed rails up, oxygen plugged into wall and on the patient etc.).					
18. Wash hands.					
19. Document therapy (charting neat, accurate and complete).					
20. According to department policy, monitor peak flow before and after therapy,					
21. Knowledge/Comprehension Level 13. a. Can the student answer all oral review questions?					

Student must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

AEROSOL THERAPY

1. List 3 indications for the use of an aerosol treatment with medication delivery.
2. State the patient monitoring that is required when delivering an aerosol treatment with medication.
3. List 3 potential side effects of aerosol treatments with medication.
4. State the action that should be taken if the side effects listed in #3 occurred.
5. State the types of patients for which an aerosol treatment may be ineffective.
6. List the goals of aerosol treatments with medication.
7. List the information that you want to include in the charting of a patient's aerosol treatment.
8. When monitoring peak flowrates before and after bronchodilator therapy, state the range of peak flows that indicate mild, moderate and severe obstruction.
9. State when SVN therapy is indicated over an MDI.
10. State the correct way to assess breath sounds before, during and after therapy.
11. State the following information on the drug you are administering:
    a. Trade and Generic Name
    b. Dosage range
    c. Indications
    d. Mode of Action
12. State how to correct a charting error?
13. Describe how to administer a SVN to a patient with a tracheostomy or ET tube.
14. Describe how to administer a SVN to a comatose patient.
15. Describe how to administer a SVN to a child?

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PERFORMANCE EVALUATION #8 NAME: _____
METERED DOSE INHALER or DATE: _____
DISKUS DRY POWDER INHALER INSTRUCTOR: _____

METERED DOSE INHALER	0	1	2	3	NA
1. Select and gather appropriate equipment.					
2. **Verify and interpret the physician's order.					
3. Review the patient's chart and record all pertinent information.					
4. **Upon entering the room, ask for the patient by name and check the name band for proper identification.					
5. Introduce yourself and your department.					
6. Wash hands before and after therapy.					
7. Perform the history and physical examination and evaluate if the order is appropriate.					
8. Explain the procedure and confirm patient understanding.					
9. **Check pulse before and after therapy.					
10. Check breath sounds before and after therapy.					
11. **Assemble inhaler and spacer if indicated (shake well prior to administration).					
12. Coach patient to ensure proper delivery of medication.					
13. Wait 30 seconds between inhalations (follow department policy) and repeat second/third inhalation as ordered.					
14. Measure peak flow before and after therapy if indicated by department policy.					
15. Clean/store inhaler and properly clean patient care area.					
16. **Assure patient comfort and safety.					
17. Document therapy (charting should be neat, accurate and complete).					
18. Knowledge/Comprehension Level a. Can the student answer all oral review questions?					

ORAL REVIEW QUESTIONS

1. List three benefits and three disadvantages of delivering medications via a metered dose inhaler.
2. What is the difference between a spacer and holding chamber?
3. List the types of patients, for which an MDI may be a better choice for treatment delivery as compared to a treatment via a nebulizer.
4. Name 4 medications that are available in MDI form. (Give specific brand names)
5. Your patient is having difficulty coordinating the actions of the MDI, and consistently activates the container during exhalation instead of inhalation. What recommendations/actions can you provide to help him?
6. You go to room 35 to instruct Ms. Fromby in the use of an MDI so she can go home;
   a. What breathing pattern will you instruct her to use when she uses her MDI?
   b. What is the spacer used for?
   c. How will Ms. Fromby be able to tell if her MDI has medication in it or if it is empty?
7. What medications would require rinsing of the mouth? Why?

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DISKUS DRY POWDER INHALER		0	1	2	3	NA
1.	Select and gather appropriate equipment.					
2.	Verify and interpret the physician's order.					
3.	Review the patient's chart and record all pertinent information.					
4.	Upon entering the room, ask for the patient by name and check the name band for proper identification.					
5.	Introduce yourself and your department.					
6.	Wash hands before and after therapy.					
7.	Perform the history and physical examination and evaluate if the order is appropriate.					
8.	Explain the procedure and confirm patient understanding.					
9.	**Check pulse before and after therapy.					
10.	Check breath sounds before and after therapy.					
11.	Open Diskus by placing thumb on the grip and pushing away until the mouthpiece appears and snaps into position/.					
14.	Holding the Diskus in a level position, slide the lever away from you as far as it will go until it clicks.					
12.	Have the patient exhale.					
13.	Have the patient put mouthpiece to their lips and breathe in steadily and deeply through the Diskus.					
14.	Hold breath for 10 seconds and exhale.					
15.	Close Diskus.					
16.	Clean patient care area and ensure patient safety.					
17.	Document therapy (documentation should be accurate and complete).					

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PERFORMANCE EVALUATION #9
INCENTIVE SPIROMETRY

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	Select and gather appropriate equipment.					
2.	**Verify and interpret the physician's order.					
3.	Review the patient's chart and record all pertinent information.					
4.	**Upon entering the room, ask the patient by name and check the name band for proper identification.					
5.	Introduce yourself and your department.					
6.	Wash hands before and after therapy.					
7.	Perform history and physical examination and evaluate if the order is appropriate. (Breath Sounds will be evaluated during the physical exam).					
8.	Explain the procedure and confirm patient understanding.					
9.	Position the patient appropriately.					
10.	Adjust the spirometer and determine the patient's inspiratory capacity during a best effort.					
11.	Set initial goal on the appropriate scale.					
12.	Coach patient as follows: a. Encourage patient's maximum effort b. Indicate number of repetitions c. Encourage rest periods					
13.	Observe and evaluate patient's response.					
14.	Encourage the patient to cough.					
15.	Provides instruction to the patient on the independent use of the device.					
16.	Properly cleans and stores equipment; cleans patient care area.					
17.	**Ensure patient comfort and safety.					
18.	Documents therapy (charting is neat, accurate and complete).					
19.	Knowledge/Comprehension Level: Can the student answer all oral review questions?					

Student must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. List two indications (reasons for using) for incentive spirometry.
2. List two abnormal findings that are indicative of atelectasis.
3. List the two types of Incentive Spirometers.
4. State which lung volume or capacity is being observed during an Incentive Spirometry maneuver and list two ways that a goal or target is derived.
5. Describe how you would teach a patient to perform an Incentive Spirometry maneuver.
6. List two complications or hazards of Incentive Spirometry.
7. What documentation should be completed after Incentive Spirometry visit.

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PERFORMANCE EVALUATION - #11 NAME: _____
IPPB DATE: _____
IPPB DEVICE USED: _____ INSTRUCTOR: _____

		0	1	2	3	NA
1.	Select and gather appropriate equipment before leaving the department.					
2.	**Verify and interpret the physician's orders.					
3.	**Review the patient's chart and record all pertinent information (diagnosis, admission date, x-rays, ABG's, PFT's etc.)					
4.	**Upon entering the room, ask for the patient by name and check the patient's name band for proper identification.					
5.	Introduce yourself and your department.					
6.	Wash hands.					
7.	**Perform history and physical examination and evaluate if order is appropriate. Assessment should include: a. Pulse b. Breath Sounds c. Respiratory Rate and Pattern (WOB) d. Peak Flowrate (before and after therapy) e. Tidal Volume/Inspiratory Capacity/Vital Capacity					
8.	Explain the treatment and confirm patient understanding.					
9.	**Assemble equipment properly					
10.	**Prepare medication a. Ensure medication is properly dated. b. Confirm drug label. c. Measure proper dosage of drug/diluent. d. Obtain appropriate volume of drug aseptically. a. Know therapeutic and maximal dosage, trade and generic name, mode of action and side effects of drug.					
11.	Properly position patient.					
12.	Trigger machine to "on" position to test for proper function.					
13.	Adjust ventilator to maintain an adequate pressure, flow, volume and sensitivity.					
14.	**Check pulse and breath sounds during and after treatment.					
15.	Terminate procedure after appropriate interval.					
16.	Encourage the patient to cough after the treatment and evaluate the color, consistency, odor and volume of sputum.					
17.	Clean patient care area (return equipment and furniture to original location, properly dispose of excess equipment/paper/supplies, etc...)					
18.	**Ensure patient comfort and safety.					
19.	Wash Hands.					
20.	Document therapy (charting should be neat, accurate and complete).					
21.	Knowledge/Comprehension Level: Can the student answer all oral exam questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

IPPB

1. List two indications for the use of IPPB rather than aerosol treatments.
2. List three potential hazards/complications associated with IPPB, and explain how you could detect each of these in your patient.
3. List two contraindications to IPPB therapy.
4. Describe volume-oriented IPPB and explain its purpose.
5. How can you tell whether or not a patient is actually receiving a deep breath during an IPPB treatment? (List several ways)
6. When would you use “air mix” vs. 100% source gas setting on your IPPB machine?
7. Describe how the following controls on the IPPB machine are used:
    a. Nebulization controls:
    b. Sensitivity or patient effort:
    c. Rate:
    d. FiO_2 control:
    e. Pressure:
8. You determine that your patient is not being adequately ventilated to provide a deep breath with the IPPB treatment. List adjustments you could make, on the machine, to increase the delivered tidal volume. (Use the machine you used for one observation) Write the name of the machine down.
9. Describe an appropriate I:E ratio during IPPB.
10. Describe how the apnea timer works.

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PERFORMANCE EVALUATION - #12 NAME: _____
CHEST PHYSICAL THERAPY DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Verify and interpret the physician's order.					
2.	Review the patient's chart and record all pertinent information (diagnosis, ABG, x-ray, oxygen order, etc.)					
3.	**Upon entering the room, ask for the patient by name and check the patient name band for proper identification.					
4.	Introduce yourself and your department.					
5.	Wash hands.					
6.	**Perform history and physical examination and evaluate: a. If the order is appropriate b. Breath Sounds c. Respiratory rate and pattern (WOB) d. Pulse e. Assess oxygen requirements, position tolerance, etc.					
7.	Explain the procedure and confirm patient understanding.					
8.	**Position the patient appropriately: a. Lower Lobe - Superior segment b. Lower Lobe - Posterior basal segment c. Lower Lobe - Lateral basal segment d. Lower Lobe - Anterior basal segment e. Middle Lobe - Right lateral and medial segment f. Lingula - Left lateral and medial segment g. Upper Lobe - Anterior segment h. Upper Lobe - Apical segment i. Upper Lobe - Posterior segment					
9.	Perform chest percussion: a. Identify landmarks b. Proper hand placement and position c. Proper rhythm and rate					
10.	Perform vibration a. Use proper technique b. Vibrate only on exhalation					
11.	Instruct and assist patient in proper cough technique after each segment is percussed/vibrated.					
12.	Reassess breath sounds and respiration.					
13.	Clean patient care area.					
14.	**Ensure patient comfort and safety.					
15.	Wash hands.					
16.	Document therapy (charting should be neat, accurate and complete.					
17.	Knowledge/Comprehension Level: Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

CHEST PHYSICAL THERAPY

1. List the indications for Postural Drainage Therapy (PDT).
2. List the hazards/complications for PDT.
3. Name the contraindications to therapy.
4. Name the criteria used to assess outcome of PDT.
5. Name the lobes and segments of the lung.
6. Identify the segmental and lobar bronchi in each lung.
7. Name the fissure that separates the upper and lower lobes of the lung.
8. Name the fissure that separates the upper and middle lobe of the right lung.
9. Describe the following positions:
    a. Trendelenburg
    b. Reverse Trendelenburg
    c. Prone
    d. Supine
    e. Fowlers
    f. Semi-Fowlers
11. Describe why breath sounds may worsen following PDT.
12. Define the following terms:
    a. Orthopnea
    b. Dyspnea
13. Explain why hypoxemia may occur or worsen during PDT.
14. Explain how a patients positioning in bed may affect the patients PaO_2.
15. Explain ways to modify PDT to improve patient comfort.
16. Describe when you may hear the following breath sounds:
    a. Vesicular
    b. Rhonchi
    c. Râles
    d. Diminished breath sounds
    e. Wheezing
17. Identify all CPT positions if given a picture of the position (Egan).
18. Explain proper positioning for all CPT positions.

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PERFORMANCE EVALUATION - #13
SUCTIONING

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Verify and interpret the physician's order.					
2.	Review the patient's chart and record all pertinent information.					
3.	**Upon entering the room, ask for the patient by name and check the patient's name band for proper identification.					
4.	Introduce yourself and your department.					
5.	Wash hands.					
6.	**Perform History and Physical Examination and evaluate if the order is appropriate: a. Heart rate and rhythm (EKG if monitored) b. Breath sounds c. Color, pulse oximeter, oxygen requirement, WOB, etc.					
7.	**Follow Standard Precautions for handling blood and body fluids.					
8.	Explain the procedure and confirm patient understanding.					
9.	Properly position the patient.					
10.	Select and gather appropriate equipment.					
11.	**Check the suction for proper vacuum pressure (-80 to -120 mm Hg).					
12.	**Prepare equipment: a. Arrange a sterile field b. Glove utilizing sterile procedure c. Lubricate the catheter when suctioning nasally or when otherwise indicated.					
13.	Lavage.					
14.	**Hyperoxygenate and/or hyperventilate before suctioning.					
15.	**Suction the patient: a. Insert catheter without vacuum b. Limit suction time to 10-15 seconds c. Vacuum applied intermittently d. Maintain sterile technique					
16.	**Reoxygenate and ventilate following procedure.					
17.	**Reassess heart rate, EKG, respirations.					
18.	Repeat steps 13 - 17 until airway is clear.					
19.	Suction orally last, if needed.					
20.	**Return to previous oxygen concentration and reassess patient.					
21.	Clean patient care area. a. Turn off suction machine, store connection tubing, and check suction liner. If full, replace and discard equipment in proper receptacle.					
22.	**Ensure patient comfort and safety.					
23.	Wash hands.					
24.	Document therapy (charting should be neat, accurate and complete).					
25.	Knowledge/Comprehension Level: Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

SUCTIONING

1. List indications for suctioning
2. List the hazards of suctioning the airway
3. Name ways you can help reduce the incidence of hypoxia/hypoxemia during the suctioning procedure
4. What suction pressures should be used when suctioning adults, children and infants?
5. How long should suction be applied to the airway?
6. What are the effects of vagal stimulation during suctioning?
7. What is a Coudé suction catheter used for?
8. Why should a patient be hyperoxygenated prior to suctioning?
9. Indicate 2 methods by which a patient may be hyperoxygenated prior to suctioning.
10. How do you determine the proper size suction catheter for a patient?
11. Your patient is intubated with a size 7.0 mm I.D. endotracheal tube. Explain how you can calculate the correct size suction catheter to use.
12. While suctioning an alert patient, who is intubated, you begin to have difficulty passing the catheter through the tube. What could be wrong?
13. You are asked to collect a sputum sample for laboratory analysis while suctioning. How is this done?
14. During suctioning, what monitoring will you do to assess your patient's tolerance of this procedure? Why?

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PERFORMANCE EVALUATION - #14
MANUAL RESUSCIATATION - ADULT

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Demonstrate the correct procedure for opening the airway using: a. Head tilt, chin lift b. Jaw thrust					
2.	**Describe the airway maneuver you would use if you suspect a neck injury.					
3.	**Demonstrate the correct procedure for measuring the following airways: a. Oral b. Nasal					
4.	**Demonstrate the correct procedure for inserting the following pharyngeal airways: a. Oral b. Nasal					
5.	**Assemble the adult resuscitation bag.					
6.	**Demonstrate the correct procedure for checking a resuscitation bag to insure proper function.					
7.	**Assemble the resuscitation bag to deliver 100% oxygen. a. Attach tubing to oxygen flowmeter b. Attach reservoir tubing to bag c. Turn liter flow to 15 liters/min					
8.	**On a manikin, demonstrate the proper technique of bag mask ventilation. a. Applies mask correctly b. Obtains a good seal c. Opens the airway and maintains good head position					
9.	**Determine if bag/mask ventilations are adequate. a. Look for chest rise and fall b. Listen for breath sounds c. Assess patient color d. Assess for gastric distention					
10.	**Demonstrate the correct procedure to follow if vomiting occurs during bag-mask ventilation.					
11.	**On a manikin, demonstrate proper technique of bag-valve- tube ventilation. a. Delivers adequate tidal volume b. Maintains appropriate rate and I:E ratio					
12.	**On a manikin, demonstrate proper ventilation with a pocket mask (mouth to mask ventilation). a. Applies mask correctly b. Opens the airway and maintains good head position c. Delivers adequate volume					
13.	On a manikin, demonstrate proper ventilation using an oxygen powered breathing device (demand valve).					
14.	Knowedge/Comprehension Level: Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. What is the purpose of oral/nasal pharyngeal airways?
2. When would you use an oral pharyngeal airway? A nasal airway?
3. What is the external/internal diameter of resuscitation bags?
4. What is the capacity of the Adult Laerdal resuscitation bag?
5. What is the capacity of the Child Laerdal resuscitation bag?
6. List 5 factors that will affect the FiO_2 delivered with a resuscitation bag.
7. What is the normal rate used to manually ventilate an adult?
8. What is the normal rate used to manually ventilate a child?
9. List the range of ET tube sizes used for adults and children.
10. What is the FiO_2 delivered to the patient during mouth-to-mouth ventilation?
11. What is the FiO_2 delivered to the patient during mouth to mask ventilation?
12. What is the FiO_2 delivered to the patient during bag/mask ventilation with an oxygen reservoir?
13. What is the FiO_2 delivered to the patient during bag/mask ventilation without an oxygen reservoir?
14. List the equipment that needs to be stocked in a respiratory care code box.
15. What are the most common reasons for failure to ventilate during bag/mask ventilation?

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PERFORMANCE EVALUATION - #15
MANUAL RESUSCITATION - INFANT

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Assemble the infant resuscitation bag.					
2.	**Demonstrate the correct procedure for checking the resuscitation bag prior to use.					
3.	**Assemble the resuscitation bag to deliver 100% oxygen. a. Attach tubing to the oxygen flowmeter. b. Set flowrate at 10 L/min. c. Attach reservoir.					
d.	**Assemble the resuscitation bag with in-line pressure manometer.					
4.	**Identify the correct size resuscitation mask to use with a: a. Premature infant b. Newborn c. Infant/child					
5.	**On an infant manikin, demonstrate proper technique of bag-mask ventilation: a. Correct size and positioning of mask b. Opens the airway and maintains good head position c. Maintains adequate seal d. Monitors peak inspiratory pressure e. Maintains appropriate rate and I:E ratio					
6.	**Determine if ventilations are adequate. a. Rise and fall of the chest b. Breath sounds c. Color d. Gastric distention e. Cardiac rate and rhythm					
7.	**On an infant manikin, demonstrate proper technique of bag-valve-tube ventilation. a. Delivers adequate volume b. Monitor peak inspiratory pressure with in-line manometer c. Maintains appropriate rate and I:E ratio d. Assesses the infant (chest excursion, breath sounds, color, gastric distention, cardiac rate and rhythm					
8.	Knowledge/Comprehension Level: Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

MANUAL RESUSCITATION - INFANT

ORAL REVIEW QUESTIONS

1. List the range of endotracheal tube sizes used with infants.
2. Explain why infant endotracheal tubes do not have cuffs.
3. Explain the purpose of the black ring on an infant endotracheal tube.
4. Explain the maximum pressure that should be used to ventilate an infant.
5. List the capacity of the infant Laerdal resuscitation bag.
6. What is the pressure relief/pop-off on the infant Laerdal resuscitation bag?
7. What is the normal respiratory rate and heart rate of an infant.
8. At what heart rate should bag/mask ventilation be initiated?
9. You are attempting to bag/mask a newborn without success. List the possible reasons for failure to ventilate an infant via bag//mask.

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PERFORMANCE EVALUATION - #16
INTUBATION AND ALTERNATE AIRWAYS

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Demonstrate the following maneuvers to relieve airway obstruction in an unconscious patient. a. Head tilt, jaw thrust b. Jaw thrust without head tilt c. Head tilt, chin lift					
2.	Identify the following airways: a. Guedel b. Berman c. Safar d. Nasal Pharyngeal Airway					
3.	**Using a manikin, demonstrate proper technique for determining correct airway size.					
4.	**Utilize a specified oral airway showing proper technique of insertion.					
	INSERTION OF ALTERNATIVE AIRWAY: LARYNGEAL MASK AIRWAY (LMA) OR ESOPHAGEAL-TRACHEAL COMBITUBE (ETC)					
5.	Attach the syringe to the LMA or ETC.					
6.	**Check the cuffs on the ETC or the mask on the LMA with appropriate amount of air.					
7.	Using the tongue-jaw lift with forward flexion of the head, advance the LMA or ETC to appropriate depth.					
8.	**Verify proper placement of the airway.					
9.	**Inflate the mask (LMA) or cuffs (ETC) with the appropriate volume of air.					
10.	**Attempt to ventilate. Watch for the rise and fall of the chest.					
	INSERTION OF ENDOTRACHEAL TUBE					
11.	Assume ventilation is in progress. Gather equipment necessary to intubate.					
12.	Select appropriate size endotracheal tube.					
13.	**Check endotracheal tube cuff.					
14.	Insert Stylet					
15.	Attach laryngoscope blade to handle and verify proper function.					
16.	Place head in correct position for intubation (sniffing position).					
17.	Hold laryngoscope in left hand and insert laryngoscope in right side of mouth moving tongue to the left (during manikin practice, keep the laryngoscope blade in the midline).					
18.	Visualize the epiglottis and vocal cords and insert the endotracheal tube without using upper teeth as fulcrum.					
19.	**IF YOU ARE UNABLE TO INTUBATE WITHIN 30 SECONDS, YOU MUST REOXYGENATE AND VENTILATE BEFORE FURTHER ATTEMPTS AT INTUBATION.					
20.	Advance the ET tube approximately 2 inches past the vocal cords under direct vision.					
21.	**Remove the stylet and inflate the cuff with the appropriate amount of air (5-10 mL).					

INTUBATION AND ALTERNATE AIRWAYS

22.	**Check placement of tube (auscultate, look for rise and fall of chest, order x-ray, $ETCO_2$ monitor).					
23.	**Properly secure the endotracheal tube in place, documenting the size of the tube and the marking at the lip line (in centimeters).					
24.	With a pressure manometer, measure and document intra-cuff pressure.					
a.	Knowledge/Comprehension Level: Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. What do the initials ETC and LMA stand for?
2. What is the airway of choice in an emergency situation?
3. List advantages and disadvantages of oral and nasal endotracheal tubes.
4. How should you evaluate and assess for correct endotracheal tube placement.
5. Describe the characteristics/features of an endotracheal tube.
6. Where should the tip of the endotracheal tube be positioned in relation to the carina?
7. List the indications for endotracheal intubation.
8. List all the equipment needed for endotracheal intubation.
9. Differentiate between the straight and curved blade used during intubation.
10. What is the maximum intra-cuff pressure that should be used?
11. Describe the following cuff inflation techniques:
    a. Minimal occluding volume
    b. Minimal leak technique
12. Describe the correct head position for intubation.
13. What is the Selleck Manuever and when is it indicated?
14. Describe the two most common complications of post extubation and how you would treat each.
15. What size endotracheal tubes should be used on adults?
16. What size endotracheal tubes should be used on children?
17. What size endotracheal tubes should be used on infants?
18. Name the four major causes of endotracheal tube or tracheal tube obstruction.

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PERFORMANCE EVALUATION #17 NAME:_____

CAPNOGRAPHY DATE:_____

INSTRUCTOR:_____

	0	1	2	3	NA
1. Gather appropriate equipment and supplies (Capnograph, cuvette or adapter & tubing, filter, drain bottle, calibration supplies, cannula)					
2. Enter room and perform "Initial Contact" (Scene & Primary Survey)					
3. Verify and interpret the physician's order					
4. Review the patient's chart and record all pertinent information (Diagnosis, indication, airway type, age…)					
5. Upon entering the room, ask for the patient by name and check the patient's name band for proper identification **					
6. Introduce yourself and your department a. Why are you there? b. Will it hurt? c. How long will it take? d. What do you expect from the patient?					
5. Wash your hands & apply Standard and Transmission based precautions **					
6. Interviews or assesses the patient as appropriate to identify any conditions preventing the use of the capnograph (excessive secretions)					
7. Explain the procedure and confirm patient understanding					
8. Assemble the equipment					
9. Set up capnometer following department policy and procedure a. Plug unit in b. Connect all necessary supplies and accessories c. Turn unit on and allow warm up d. After self check, determine if calibration is needed e. Calibrate as indicated					
10. Apply the capnometer to the patient a. Follow appropriate procedure for ET tube & trach tube (inline adapter on airway, no pulling on airway) b. Follow appropriate procedure for spontaneous breathing patient (cannula) c. Follow appropriate procedure for side stream (pump on) d. Follow appropriate procedure for main stream (pump off) e. Correct for high FiO_2 or Nitrous Oxide use f. Set alarms appropriately • High and low $PetCO_2$ • High & low respiratory rate					

	0	1	2	3	NA
11. Allow the unit to stabilize and evaluate the $PetCO_2$ reading a. Correlate to clinical assessment b. Correlate to an arterial blood gas ($PaCO_2$) c. Determine if deadspace is increased ($PaCO_2$ – $PetCO_2$)					
12. Assure patient safety **					
13. Document results properly a. Date, Time, $PetCO_2$, $PaCO_2$ b. Heart rate, respiratory rate, temp. c. Patient position & activity level d. Ventilator settings					
14. Wash hands					
15. Notify appropriate personnel of outcome					
16. Recommend appropriate changes if necessary					
17. Maintains and processes equipment as necessary a. Side stream: Check lines, drain bottles and filters b. Main stream: cleans cuvette as needed c. Printer: Paper & ink					
18. Knowledge/Comprehension Level (Can the student answer all oral review questions?)					

SCORING - ***Students must pass all critical steps with a score of 2 or 3***

3 points	Describes and/or performs objectives perfectly without prompting and in appropriate time interval
2 points	Describes and/or performs objectives satisfactorily without prompting or with minimal assistance/or completes step slower than expected
1 point	Describes and/or performs objectives with assistance or prompting; appears unsure of task
0 point	Unable to perform objective adequately
NA	Objective not appropriate or unnecessary; some steps may not be done at all clinical agencies

ORAL REVIEW QUESTIONS

1. Explain the principle and theory of operation.
2. List the four main things that could cause a change in the $PetCO_2$ tracing.
3. Give clinical examples of when continuous capnography may be needed.
4. Name the two most common forms of capnometer, their advantages and disadvantages.
5. Explain what the normal value is for ($PaCO_2$ – $PetCO_2$) and what an elevated value indicates.
6. Explain what the following changes in $PetCO_2$ could be caused from.
    a. A slowly increasing $PetCO_2$
    b. A rapidly increasing $PetCO_2$
    c. An increasing baseline on the capnograph tracing
    d. A slowly decreasing $PetCO_2$
    e. A rapidly decreasing $PetCO_2$
    f. A $PetCO_2$ that rapidly drops to zero
    g. An abnormal rounding of the $PetCO_2$ tracing
6. List the major limitations of capnography.
7. Describe the maintenance involved in continuous $PetCO_2$ monitoring.

PERFORMANCE EVALUATION - #18
ARTERIAL BLOOD SAMPLING

NAME: _____
DATE: _____
INTSTRUCTOR: _____

		0	1	2	3	NA
1.	**Verify and interpret the physician's order.					
2.	Review the patient's chart and record all pertinent information: a. Order b. Anticoagulants c. Allergies to Betadine d. Current oxygen order e. Patient temperature f. Clotting times					
2.	Obtain the laboratory slip and/or specimen label per departmental protocol.					
3.	Wash hands.					
4.	**Follow universal precautions for handling blood and body fluids					
5.	**Prepare the ABG kit properly.					
6.	Obtain ice.					
7.	**Upon entering the room, ask for the patient by name and check the patient's name band for proper identification. The lab slip and/or specimen label should be checked with the name band for the following items: a. Patient's full name b. Account/medical record number					
8.	Introduce yourself and your department.					
9.	Perform a history and physical examination to evaluate if the order is appropriate. Assess the following information: a. Oxygen delivery device b. FiO_2 c. Liter flow d. Respiratory rate e. Respiratory Pattern f. Sensorium g. HR					
10.	Record appropriate information on the lab slip.					
11.	Position the patient.					
12.	**Select and assess the puncture site as follows: a. Visualize the course of the artery b. Estimate the depth c. Assess the skin color and temperature d. Perform the Allen's Test if the radial artery is used					
13.	Prepare the puncture site with Betadine and/or alcohol according to departmental policy.					
14.	**Perform the puncture. a. Use the correct angel and bevel position b. Penetrate the skin quickly c. Redirect needle using proper technique d. Collect 2-3 mL of blood					
15.	**Withdraw the needle and apply firm pressure to the area.					

16. **Insert needle into holder.					

ARTERIAL BLOOD SAMPLING

17.	Remove air bubbles, cap the sample, mix the sample, label, and place the sample on ice.					
18.	**Hold puncture site for appropriate amount of time. (Minimum of 5 minutes). Be certain that bleeding has stopped.					
19.	Clean patient care area.					
20.	**Ensure patient comfort and safety.					
21.	Wash hands.					
22.	Record and interpret the ABG result. Sign off ABG order in the chart per departmental policy.					
23.	Knowledge/Comprehension Level: Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. List three indications for arterial puncture.
2. List 4 potential hazards of arterial puncture, and explain how you would manage each one if they occurred.
3. What is the proper size (gauge) needle to use for each of the following patients?
   a. Small child
   b. Teenage child
   c. Small adult
   d. Average size adult
4. List the 3 common sites for arterial puncture of the adult.
5. Discuss the advantages and disadvantages of each site named in #4.
6. What effect may presence of excessive amounts of heparin in the sampling syringe, have on the pH, $PaCO_2$, or PaO_2.
7. What effect may the presence of air bubbles in the sample syringe have on the blood-gas results?
8. Why should an blood-gas sample be “iced” after it is drawn if it cannot be analyzed immediately?
9. What precautions would you take when drawing an arterial sample on a patient who is currently receiving anticoagulant therapy?
10. As you enter the room of your patient to draw an arterial sample, you notice that the patient is now being suctioned. Should you do the arterial puncture at this time? Why or why not?
11. After performing the Allen’s test on both wrists, you note that your patient has poor results on each side. What action should you take?
12. Describe how an Allen’s test is performed and what a positive test means.
13. After sampling blood from the radial artery, you notice that the patient’s pulse has disappeared. What may have happened, and what action will you take?
14. List four items of information that you will obtain from the patient’s chart prior to performing an arterial blood-gas sample?
15. State the normal values for the following lab tests:
    a. PT:
    b. PTT:
    c. Platelet count
16. Given an ABG result, state the acid-base status, the degree of compensation, and the oxygenation status.

PERFORMANCE EVALUATION - #19
ARTERIAL BLOOD GAS ANALYSIS

NAME: _____
DATE: _____
INSTRUCTOR: _____

BLOOD GAS ANALYZER USED: _____

		0	1	2	3	NA
1.	**Verify that the “Ready” indicator is on.					
2.	**Access sample aspiration port.					
3.	**Place syringe flush with the port.					
4.	**Press aspiration button or allow to aspirate if automatic function.					
5.	**Remove syringe when sample has been aspirated.					
6.	Clean port.					
7.	Document results.					
8.	Record per departmental protocol.					

Students must pass all critical steps with a score of 2 or 3

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PERFORMANCE EVALUATION - #20
BEDSIDE PULMONARY FUNCTION TESTING

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Perform calibration check a. Gather calibration syringe, room thermometer and pneumotach. b. Connect the pneumotach to the pressure tubing and to the calibration syringe. c. Press TEST. d. Press Cal (4). e. Complete the calibration check.					
2.	**Verify physician's order					
3.	**Upon entering the room, ask for the patient by name and check the patient's name band for proper identification.					
4.	Introduce yourself and your department.					
5.	Instruct the patient and confirm patient understanding.					
6.	Wash hands.					
7.	Prepare the patient for the test procedure and demonstrate the maneuver yourself.					
8.	**Enter patient data.					
9.	**Instruct patient to perform an FVC maneuver. a. Coach patient b. Evaluate test quality c. Review test data					
10.	Repeat the maneuver test until three acceptable tests are present.					
11.	**Instruct patient to perform a Flow Volume Loop. a. Coach patient b. Evaluate test quality c. Review test data					
12.	Repeat the Flow Volume maneuver until three acceptable tests are present.					
13.	**Instruct patient to perform a MVV Test. a. Coach patient b. Review test data					
14.	Perform Post-medication Testing if indicated					
15.	Print Results					
16.	Wash hands					
17.	Interpret and Evaluate Data					
18.	Knowledge/Comprehension Level: Can the student answer all oral review questions?					

Students must pass all critical steps (**) with a score of 2 or 3

BEDSIDE PULMONARY FUNCTION TESTING
ORAL REVIEW QUESTIONS

1. List the predicted values for the following PFT parameters:
   a. Peak inspiratory flowrate
   b. Peak expiratory flowrate
   c. FVC
   d. FEV_1
   e. $FEF_{25 - 75\%}$
   f. $FEF_{200-1200}$
2. Differentiate between an obstructive and restrictive lung disease.
3. Describe changes in the flow-volume loop for restrictive and obstructive lung disease.
4. Label a flow volume loop indicating:
   a. Peak inspiratory flowrate
   b. Peak expiratory flowrate
   c. FVC
   d. $FEF_{25\%}$
   e. $FEF_{50\%}$
   f. $FEF_{75\%}$
   g. Flow axis
   h. Volume axis
5. Identify a super syringe & indicate the volume.
6. Draw the table of lung volumes and indicate the normal value for each.
7. Explain how to calculate the % change between pre- and post-bronchodilator testing.
8. Explain how % predicated is calculated.
9. List three factors that are entered into the PFT machine and used to predict patient values.

Revised 6/05

PERFORMANCE EVALUATION #21 NAME: _____
VENTILATORY ASSESSMENT DATE: _____
INSTRUCTOR: _____

	0	1	2	3	NA
1. Minute Ventilation a. Assemble proper equipment. b. Instruct the patient and confirm patient understanding. c. Interpret results.					
2. Frequency 1. Counts for appropriate time interval. 2. Knows normal respiratory rate for adult, child, infant.					
3. Tidal Volume a. Assemble proper equipment. b. Instruct the patient and confirm patient understanding. c. Interpret results.					
4. Vital Capacity (Slow) a. Assemble proper equipment. b. Instruct the patient and confirm patient understanding. c. Interpret results.					
5. Vital Capacity (Forced) a. Assemble proper equipment. b. Instruct the patient and confirm patient understanding. c. Interpret results.					
6. Maximal Inspiratory Force (MIP) or NIF a. Assemble proper equipment. b. Instruct the patient and confirm patient understanding. c. Interpret results.					
7. Peak Expiratory Flow a. Assemble proper equipment. b. Instruct the patient and confirm patient understanding. c. Interpret results.					
8. Rapid Shallow Breathing Index a. Assemble proper equipment. b. Interpret results.					
7. Knowledge/Comprehension Level: Can the student answer oral review questions.					

Student must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS
VENTILATORY ASSESSMENT

1. List two situations where ventilatory assessment may be indicated.
2. State the normal values for each of the following for a patient breathing spontaneously and not on a ventilator.
   a. VC
   b. f
   c. V_t
   d. $\%_E$
   e. MIP
   f. RSBI
3. Indicate the values for each of the following parameters that you would expect to see in a patient who is ready to begin weaning attempts:
   g. VC
   h. f
   i. V_t
   j. $\%_E$
   k. MIP
4. A Wright respirometer is accurate only between what levels of flowrates.
5. Describe how you would instruct a patient to perform a Resting Minute Volume (RMV) test.
6. Describe how you would instruct a patient to perform a Vital Capacity (VC) maneuver. (Be specific)
7. Describe how you would instruct a patient to perform a Maximum Inspiratory Pressure (MIP) maneuver. (Be specific)
8. State the formula for calculating a Rapid Shallow Breathing Index.

Revised 6/05

PERFORMANCE EVALUATION #22
24-HOUR SUCTION CATHETER

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Assess the patient: a. Listen for breath sounds. b. Record baseline heart rate/respirations, EKG, color, pulse oximeter.					
2.	Wash hands.					
3.	**Follow Standard Precautions for handling blood and body fluids.					
4.	**Increase the FiO_2 to 100%.					
5.	Unlock the suction port on the catheter.					
6.	**Turn on the suction machine and adjust vacuum pressure to the appropriate level.					
7.	Lavage per departmental policy.					
8.	Hyperinflate per departmental policy.					
9.	**Advance suction catheter until you reach the carina. Withdraw slightly and apply continuous suction as you withdraw the catheter.					
10.	Hyperinflate per departmental policy.					
11.	**Allow vital signs to stable.					
12.	Repeat steps 8-11 until the airway is clear.					
13.	Rinse the catheter with normal saline.					
14.	Return the oxygen concentration to previous setting.					
15.	Check to insure the lavage port on the suction catheter is closed.					
16.	Lock the suction port on the catheter.					
17.	Suction orally last, if needed.					
18.	Reassess breath sounds.					
19.	Wash hands.					
20.	Document procedure completely and accurately.					
21.	Knowledge/Comprehension Level: Student able to answer oral review questions					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS
24-HOUR SUCTION CATHETER

1. How do you select the appropriate size and length of suction catheter?
2. What must be assessed prior to use of a closed suction catheter?
3. List three indications for use of a closed suction catheter?
4. What procedure should be done prior to the suction procedure?
5. How do you know how far to advance the suction catheter?
6. What is the function of the black mark on the distal end of the catheter?
7. How long should vacuum be applied to a suction catheter inside the patient's airway?
8. Why can closed catheters be used repeatedly without changing?
9. What suction pressure should be used when suctioning with the 24 hours suction catheter?
10. What are the hazards of suctioning the airway?
11. Explain the effects of vagal stimulation that may occur while suctioning the airway.

Revised 6/05

PERFORMANCE EVALUATION #23
VENTILATOR SET-UP

NAME: _____
DATE: _____
INSTRUCTOR: _____

Ventilator Used: _____

		0	1	2	3	NA
1.	**Disassemble/Assemble ventilator circuit.					
2.	Trace the flow of gas through the ventilator circuit.					
3.	Identify the filters and how to disinfect/sterilize them.					
4.	Connect to AC power and oxygen and air inlet connections					
5.	Identify power switch and turn ventilator on.					
6.	Perform ventilator self test. a. Identify the tubing compliance factor and explain the significance. b. Explain how the leak test is performed.					
7.	Demonstrate the ability to adjust the following parameters: a. Modes: i. CMV – VC (Volume Control Ventilation) ii. SIMV – VC iii. CPAP with and without Pressure Support Ventilation iv. CMV – PCV (Pressure Control Ventilation) b. Tidal Volume (in VCV) c. Inspiratory Pressure (in PCV) d. Respiratory Rate e. Peak Inspiratory Flow Rate (if adjustable) f. PEEP g. PSV Level h. Pressure Sensitivity i. Flow Sensititivity j. FiO_2 k. Alarm Limits (if present) i. Apnea Parameters ii. High Pressure iii. Low Pressure/Circuit Disconnect iv. High Rate v. High Minute Volume vi. Low Minute Volume vii. High Tidal Volume viii. Low Tidal Volume ix. Low PEEP/CPAP l. Alarm Volume					
8.	Given desired ventilator settings, prepare ventilator for use.					
9.	Identify location of patient data and ventilator status displays.					
10.	Perform a static compliance measurement and calculate results.					

VENTILATOR SET-UP

11.	Explain when the following indicators and alarms would occur (if available on ventilator) and how to correct the problem: a. Apnea b. High Pressure c. Low Pressure/Circuit Disconnect d. High Rate e. High Minute Volume f. Low Minute Volume g. High Tidal Volume h. Low Tidal Volume i. Low PEEP/CPAP j. Ventilator Inoperative k. Low Oxygen Pressure l. Low Air Pressure m. Loss of A/C Power n. Low Battery					
12.	Select Waveforms: a. Display Pressure-Time waveform b. Display Volume-Time waveform c. Display Flow-Time waveform d. Display Pressure-Volume loop e. Display Flow-Volume loop f. Change scale of waveforms					
13.	Demonstrate how to set sigh parameters (if available)					
14.	Demonstrate how to determine the presence of Auto-PEEP and how to quantify.					
15.	Demonstrate how to select 100% oxygen for pre-/post-suctioning.					
16.	Knowledge/Comprehension Level: Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. Explain and differentiate between the different modes of mechanical ventilation.
2. Differentiate between a Volume-Controlled breath and a Pressure-Controlled Breath
3. Which waveform can be used to identify the presence of Auto-PEEP?
4. How is Auto-PEEP corrected?
5. Describe how flow triggering is established.
6. Calculate the dynamic and static compliance

Revised 06/05

PERFORMANCE EVALUATION - #24
VENTILATOR CIRCUIT CHANGE

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	Select and gather appropriate equipment.					
2.	Wash Hands.					
3.	**Follow Standard Precautions for handling blood and body fluids.					
4.	**Assemble equipment as much as possible prior to connecting to ventilator: a. Humidifier b. Oxygen analyzer adaptor c. Inspiratory limb d. Expiratory limb					
5.	**Verifies resuscitation bag is assembled correctly and functional a. Connect to flow meter.					
6.	**Change ventilator tubing while patient is being ventilated by another staff member.					
7.	**Monitor patient during tubing change: a. Color b. Heart rate c. SpO_2					
8.	**Tubing is changed within acceptable time limit.					
9.	**Asepsis of clean equipment is maintained during the connection of the tubing to the ventilator.					
10.	**Circuit integrity is verified by ventilator self-test or according to departmental policy.					
11.	**Return patient to ventilator and assess patient: a. Color b. Heart rate c. Respiratory rate d. SpO_2 e. Breath Sounds f. Non-invasive monitors					
12.	**Assess ventilator function with a complete ventilator check.					
13.	Dispose of or prepare for reprocessing equipment according to department policy.					
14.	**Verify patient comfort and safety.					
15.	Wash hands.					
16.	Documents procedure clearly, concisely, and accurately.					

Student must pass all critical steps with a score of 2 or 3

Revised 6/05

PERFORMANCE EVALUATION #25
ROUTINE VENTILATOR CHECK

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Verify current ventilator settings with Physician's order.					
2.	Review patient's chart/ventilator notes.					
3.	Wash hands.					
4.	Communicate to the patient name, department, and reason for visit.					
5.	**Assess the vital signs: a. Pulse b. Blood pressure c. Temperature d. Respiratory Rate e. Pulse Oximetry Level					
6.	**Inspect and assess patient status: a. Breath sounds b. Urine output c. Color d. Skin temperature e. Breathing pattern f. Non-invasive monitors g. IV's and medication h. Level of consciousness i. Edema j. Airway (ET tube or tracheosotmy tube) k. Hemodynamic values					
7.	**Check all ventilator settings and alarm limits.					
8.	Check HME or humidifier. Fill humidifier if needed.					
9.	Drain ventilator circuit per departmental protocol, if needed.					
10.	**Check airway temperature and adjust if necessary.					
11.	**Correlate pre-set values with those monitored: a. Tidal Volume (or PIP in PCV) b. FiO_2 c. Frequency d. Minute Ventilation e. Waveforms f. Pressure Support Level g. PEEP Level					
12.	Check ventilator circuit for leaks, obstruction, position.					
13.	Verifies appropriate alarm settings per departmental protocol.					
14.	**Check endotracheal/tracheostomy tube for: a. Leaks b. Position c. Cuff pressure					

15.	Perform oral care as needed: a. Change tape or ET tube holder b. Suction mouth c. Change tube position d. Inspect skin for breakdown					
16.	**Lavage/suction the patient per departmental protocol as needed.					
17.	**Administer adjunctive therapy as ordered: a. Aerosol therapy b. CPT c. Weaning parameters d. Arterial blood-gas analysis					
18.	17. Perform calculations according to department policy.					
19.	18. Check for presence of Auto-PEEP.					
20.	19. Cleans patient care area.					
21.	20. Assures patient comfort and safety.					
22.	**Notifies nurse/physician/therapist of changes in patient status.					
23.	**Checks for resuscitation equipment/suction equipment at the bedside and ensures proper function of equipment.					
24.	Documents neatly, accurately and completely.					
25.	Washes hands prior to leaving room.					
25.	Prepares and delivers clear, concise and accurate shift report.					
26. 26.	Knowledge/Comprehension Level a. Student can answer oral review questions					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. What is meant by ‘synchronization” of a patient to the ventilator?
   a. Patient pulls out intravenous line
   b. Patient self-extubates
   c. Patient pulls out arterial line and begins to bleed heavily.
   d. Nasogastric tube connections are pulled apart.
   e. Patient suddenly complains of chest pain.
2. State the normal values for all calculated values and given appropriate data calculate values and state conditions where value may be abnormal.
3. Define Auto-PEEP.
4. Describe how you correct for the presence of Auto-PEEP.
5. The student can identify waveforms and use the waveforms to identify problems with the patient-ventilator interface.
6. Student can identify the endotracheal or tracheostomy tube and knows size, cm markings, and location of tube.
7. Student demonstrates how to properly measure proper cuff pressure and adjust to appropriate level.
8. Student can identify non-invasive monitors used in RC and correlate values obtained to the patients condition.
9. The student can differentiate between compliance and airway resistance and can assess for changes

Revised 6/05

PERFORMANCE EVAULATION #26
ARRHYTHMIA RECOGNITION

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	Identify each of the following arrhythmias and explain how each is treated:					
a.	**Sinus Bradycardia					
b.	**Sinus Tachycardia					
c.	**Normal Sinus Rhythm					
d.	Atrial Flutter					
e.	Atrial Fibrillation					
f.	**Premature Ventricular Contractions (PVC)					
g.	Junctional Rhythm					
h.	First Degree Heart Block					
i.	Second Degree Heart Block (Mobitz type I)					
j.	Second Degree Heart Block (Mobitz type II)					
k.	Third Degree Heart Block					
l.	Bundle Branch Block					
m.	**Asystole (Cardiac Standstill)					
n.	**Ventricular Tachycardia					
o.	**Ventricular Fibrillation					
p.	**Pulseless Electrical Activity (PEA)					
q.	Premature Atrial Contractions (PAC)					
r.	Pacemaker					
s.	Myocardial Infarction					

Students must pass all critical steps with a score of 2 or 3
Revised 6/05

PERFORMANCE EVALUATION #27
ARTERIAL LINE SAMPLING

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Verify and interpret the physician's order.					
2.	Review the patient's chart and record all pertinent information.					
3.	Select and gather appropriate supplies/forms.					
4.	**Upon entering the room, ask for the patient by name and check the name band for proper identification.					
5.	Introduce yourself and your department.					
6.	Wash hands.					
7.	**Follow universal precautions for handling blood and body fluids.					
8.	**Identify the following components of the arterial line: a. Arterial sampling port b. Transducer c. Stopcock d. Pressure waveform.					
9.	**Flush arterial line and note square wave on monitor display.					
10.	**Turn transducer stopcock off to all ports (45 angle).					
11.	**Remove and discard sampling port cap or alcohol the cap if a permanent cap is used.					
12.	**Attach a syringe to sampling port and turn stopcock off to transducer.;					
13.	**Obtain appropriate amount of waste solution/blood per departmental policy.					
14.	**Turn stopcock off to all ports.					
15.	**Remove syringe and discard safely.					
16.	**Attach heparinized syringe to sampling port and turn stopcock off to transducer.					
17.	**Obtain 2-3 cc of blood per departmental policy.					
18.	**Turn stopcock off to sampling port.					
19.	Remove syringe.					
20.	**Remove air bubbles from sample.					
21.	**Cap sample, label, and place on ice.					
22.	**Flush arterial line.					
23.	**Attach a clean 5cc syringe to sampling port.					
24.	**Turn stopcock off to the arterial line and flush into syringe.					
25.	**Turn stopcock off to port and discard syringe.					
26.	**Flush the line.					
27.	**Return stopcock on transducer to original position.					
28.	**Attach a clean sampling port cap per departmental policy.					
29.	**Observe pressure waveform.					
30.	Wash hands.					
31.	Document procedure.					

ARTERIAL LINE SAMPLING

32.	Demonstrate safety measures/precautions during procedure: a. Strict aseptic technique during entire procedure. b. Checks that all stopcocks are in their original position after procedure is finished. c. Never disengage alarms. d. Always note pressure/waveforms before and after procedure. e. Circulation, movement and pulsation of extremity distal to the catheter site should be checked before and after the procedure. f. Never apply unnecessary pressure or force to the stopcock, transducer, or arterial line.					
33.	Knowledge/Comprehension Level: Student can answer all oral review questions					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. State the indications for placement of an arterial line.
2. What is the normal blood pressure?
3. What is the normal mean blood pressure?
4. How is the mean blood pressure calculated?
5. Define hypertension.
6. Define hypotension.
7. Given a picture of an arterial waveform, label the vertical and horizontal axis.
8. Describe the significance of the dicrotic notch.
9. What is a damped waveform?
10. Define afterload.
11. How much pressure should be placed on the IV infusion bag?
12. How will bubbles in the sample affect the ABG result?

Revised 6/05

PERFORMANCE EVALUATION - #28
NON-INVASIVE VENTILATION (BiPAP)

NAME: _____
DATE: _____
INSTRUCTOR: _____

Non-Invasive Ventilator Used: _____

	0	1	2	3	NA
1. Verifies, interprets, and evaluates physician's order.					
2. Selects, gathers and assembles Non-Invasive Ventilator (NIV) circuitry.					
3. Washes hands.					
4. Fills humidifier with sterile, distilled water (if used).					
5. Identifies patient.					
6. Introduces self and department.					
7. Assesses patient.					
8. Explains therapy and confirms patient's understanding.					
9. Measures for appropriate size of patient interface with sizing gauge and checks fit of selected interface to patient's face.					
10. Determines appropriate spacer (if needed).					
11. Activates power to Non-Invasive Ventilator.					
12. Adjusts NIV to ordered IPAP level, occludes circuit and verifies proper level on manometer or digital display.					
13. Adjusts NIV to ordered EPAP/CPAP level, occludes circuit, and verifies proper level on manometer or digital display.					
14. Adjusts NIV to ordered Respiratory Rate setting.					
15. Selects oxygen flow rate in liter/minute per orders.					
16. Adjusts NIV to ordered mode.					
17. Places interface on patient's face and adjust to ensure a comfortable fit.					
18. Instructs patient to breath through nose while keeping mouth closed.					
19. Confirms IPAP level and adjusts as required					
20. Confirms EPAP level and adjusts as required					
21. Verifies leak level.					
22. Sets high-pressure alarm setting to appropriate level.					
23. Sets low pressure alarm setting to between IPAP and EPAP levels.					
24. Sets alarm delay per departmental policy					
25. Assess patient. a. Comfort level. b. Respiratory Rate c. Exhaled Volume d. Heart Rate e. Blood Pressure					
26. Documents per departmental policy thoroughly and concisely.					
27. Prepares and delivers clear, concise and accurate shift report.					
27.					
28. Knowledge/Comprehensive Level: Can the student answer all oral review questions					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS
NON-INVASIVE VENTILATION

1. Explain the indications for Non-Invasive Ventilation therapy.
2. Explain contraindications for Non-Invasive Ventilation therapy.
3. Explain the clinical data and lab data that should be monitored and assessed prior to beginning Non-Invasive Ventilation therapy.
4. Explain the modes available on the Non-Invasive Ventilation unit.
5. Which controls are active in each mode?
6. Differentiate between the IPAP and EPAP controls.
7. How is PSV determined?
8. Explain the importance of setting the alarms correctly.
9. What is considered an “acceptable leak”?
10. Explain when the EPAP level should be increased.
11. Explain when the IPAP level should be increased.
12. Does the IPAP pressure change when you increase EPAP? What will happen to tidal volume if IPAP is not increased also?
13. Explain how to adjust FiO_2 level.
14. How can you assess the adequacy of the supplemental oxygen therapy being provided?
15. Identify the exhalation port on the device.
16. What flowrate is required to trigger on a breath?
17. What signs would indicate that the mask was putting too much pressure on the patient’s face?
18. How would you alleviate the above problem?
19. Does the “Vt” display give a constant number? Why or why not?
20. When and how would you wean a patient from NIPPV?
21. What other types of noninvasive devices were used in the pasts? List several.

Revised 6/05

PERFORMANCE EVALUATION - #29
PULSE OXIMETRY

NAME: _____
DATE: _____
INSTRUCTOR: _____

	0	1	2	3	NA
1. **Select and gather appropriate equipment.					
2. **Verify and interpret physician's order.					
3. Review patient's chart and record pertinent information.					
4. **Upon entering the room, introduce yourself and your department.					
5. **Ask for the patient by name and check the patients name band for proper identification.					
6. Explain the procedure and confirm patient understanding.					
7. **Wash Hands.					
8. **Set-up oximeter following department policy and procedure a. Plug in electrical outlet. b. Connect probe to monitor. c. Turn on unit. d. Prepare sensor site. e. Apply the probe to the selected area. f. Verify calibration.					
9. **Position the probe to obtain the best possible signal a. Assess tissue perfusion at the sensor site (color, temperature and capillary refill. b. Observe signal strength indicator or waveform.					
10. **Wait for the appropriate length of time for the oximeter to stabilize.					
11. **Obtain a SpO_2 measurement and properly document the following information: a. Date b. Time c. SpO_2 d. Pulse rate e. Patient position f. Activity level g. FiO_2 and oxygen delivery device h. Probe placement site and probe type i. Type or model of device used j. Results of simultaneously obtained arterial sample and directly measured COHB, MetHB, and SaO_2 k. Clinical appearance of patient (cyanosis, skin temp.ect.) l. Ventilator settings m. Agreement between the patient heart rate as determined by the pulse oximeter and by palpation, auscultation or by cardiac monitor					
12. **For continuous monitoring, set the following alarms and alarm volume controls and document settings: a. High/low SpO_2 alarm setting b. High/low pulse alarm setting. c. Alarm volume setting					

PULSE OXIMETRY

13.	**Clean or dispose of the probe and clean monitor after use per departmental policy					
14.	**Wash hands.					
15.	**Notify appropriate personnel of results.					
16.	**Recommend appropriate changes to oxygen delivery, if necessary.					
17.	Knowledge/Comprehension Level i. a. Can the student answer all oral review questions?					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. Explain the principle and/or theory of operation of pulse oximetry.
2. Give clinical examples of when continuous pulse oximetry may be indicated:
3. Describe clinical conditions that will affect the accuracy of the pulse oximeter.
4. List the two ways oxygen is carried in the blood and the normal values of each.
5. Explain how elevated carboxyhemoglobin or methemoglobin levels will affect the accuracy of the SpO_2 reading.
6. Explain how shifts in the oxygen dissociation curve may affect the oxygen saturation.
7. During continuous monitoring, how often should you assess the probe site?
8. How often should you change the probe site?
9. Where should the high and low SpO2/pulse alarm limits be set?
10. What is the expected correlation when a SpO_2 reading of an oximeter is compared to an arterial blood gas saturation run on a CO-oximeter?
11. What are the sites available for noninvasive SpO_2 monitoring?
12. What change would you expect to see in the SpO_2 readings of an oximeter, if your patient developed any of the following:
    a. Febrile:
    b. Acidotic:
    c. Alkalotic:
    d. Hypothermia
    e. Received massive transfusion of stored blood
13. How can you assess the correlation of the oximeter to the patient's heart rate?
14. You are called to the ER to set up an oximeter on a post-CPR patient with a blood pressure of 75/60. Is this the best means of evaluating the patient's oxygen status? Explain your answer?

Revised 6/05

PERFORMANCE EVALUATION - #30
TRACHEOSTOMY CARE

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Chart Review: a. Verify orders b. Progress notes c. Treatment sheet/ventilator record					
2.	2. Wash Hands.					
3.	Assess Patient: a. Identification of patient b. Introduction of self c. Explanation of procedures d. Evaluation (LOC, Respiratory, Cardiac)					
4.	Gather proper equipment for this airway: a. Proper suction size b. Proper spare tracheostomy tube c. Resuscitation bag and mask d. Oxygen equipment e. Pulse oximetry (if indicated)					
5.	**Follow Standard Precautions for handling blood and body fluids.					
6.	Assemble equipment using sterile technique.					
7.	Suction airway if needed.					
8.	Remove patient from ventilator or oxygen source only for minimal periods per tolerance.					
9.	Remove old dressings.					
10.	**Clean wound area using sterile technique.					
11.	Apply Ointment (if applicable).					
12.	Check, clean and/or change inner cannula. If inner cannula is disposable, dispose of properly.					
13.	Lock inner cannula in place properly.					
14.	Change tracheostomy tube ties (after 7 days as indicated).					
15.	Replace tracheostomy dressing per departmental policy.					
16.	Suction airway as needed.					
17.	**Verify proper placement of oxygen or ventilation equipment.					
18.	Check cuff pressure.					
19.	Cap Fenestrated Tube per physician order.					
20.	Clean and restock area.					
21.	Document clearly and neatly per departmental policy.					
22.	Notify proper personnel of complications or adverse reactions					

TRACHEOSTOMY CARE

SPECIAL CONSIDERATIONS:					
23. Disposable Inner Cannula a. Inspect cannula. b. Change cannula. c. Verify presence of spare inner cannulas.					
24. Reusable Inner Cannula a. Clean spare cannula available for ventilator patient. b. Original cannula returned to airway after cleaning. c. Spare cannula cleaned and stored in sterile container.					
25. Silver Jackson a. Verify proper size endotracheal tube adapter is present on resuscitation bag.					
26. Single Lumen (No inner cannula to change)					
27. Foam Type cuffed Tube: Evaluate the cuff Q shift					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. Describe the characteristics of each of the following tracheostomy tubes:
   a. Jackson
   b. Shiley
   c. Bivona
   d. Lanz
   e. Portex
2. Differentiate between the minimal leak technique and minimal occluding volume.
3. What is the maximal cuff pressure?
4. Name the four styles of tracheostomy tubes.
5. Name the components of the Tracheostomy Button.
6. What is a Passy-Muir Device?
7. What changes have to be made to the fenestrated tube to allow the patient to speak?
8. Describe the complications associated with a tracheostomy
9. Where is a tracheostomy usually performed?
10. What are the two types of tracheotomy procedures?
11. What is the primary indication for a tracheostomy?
12. List three tracheal injuries that can result from a tracheostomy tube?
13. List two ways speech is accomplished with a tracheostomy tube.
14. What would you do if a patient's tracheostomy tube became dislodged during routine care?
15. What is an obturator and what is it used for?
16. List two methods of weaning a patient from a tracheostomy tube.

Revised 6/05

PERFORMANCE EVALUATION #31
NEONATAL VENTILATOR

NAME: _____
DATE: _____
INSTRUCTOR: _____

NEONATAL VENTILATOR USED: _____

		0	1	2	3	NA
1.	**Obtain a physician's order for; a. FiO_2 b. Inspiratory and Expiratory Pressure Levels c. Respiratory Rate d. Inspiratory Time or I:E ratio					
2.	Wash Hands.					
3.	**Fill Humidifier.					
4.	**Plug the ventilator into electrical, air and O_2 connections.					
5.	**Turn on ventilator					
6.	**Select Mode.					
7.	**Select appropriate flowrate.					
8.	**Select FiO_2 on the blender.					
9.	**Adjust inspiratory pressure as ordered.					
10.	**Adjust PEEP level if ordered.					
11.	**Set the ventilator respiratory rate by manipulating the inspiratory and expiratory time controls or by setting directly.					
12.	**Set the high-pressure pop-off 5 cm H_20 higher than the ordered peak inspiratory pressure limit.					
13.	**Set the low-pressure alarm 2 cm H_20 below the peak inspiratory pressure limit.					
14.	**Set the alarm delay control at 5 seconds (the alarm may need to be set higher for lower respiratory rates).					
15.	Check the alarm delay control for proper function.					
16.	**Connect the infant to the ventilator.					
17.	**Assess the patient accurately and thoroughly and document: a. Color b. Vital Signs (heart rate, f, BP, SpO_2) c. Breath sounds d. Endotracheal tube size and placement e. Non-invasive monitors f. Apgar scores g. Work of breathing					
18.	**Assess ventilator function: a. Ordered PEEP and PIP maintained b. Humidifier functioning					
19.	**Secure the ventilator tubing.					
20.	Perform a ventilator check according to department policy. Document accurately and completely.					

NEONATAL VENTILATOR

21.	**Verify resuscitation bag and mask are functional and at the patients bedside.					
22.	**Ensure patient comfort and safety.					
23.	Cleans patient care area.					
24.	Wash Hands.					
25.	At shift change, provides an accurate and thorough report: a. Patient's name, gestational age, date of birth b. Diagnosis c. Apgar scores d. Patient and mother history/infant assessment e. Ventilator settings f. Equipment and non-invasive monitors/values g. Medications h. Lab values i. Endotracheal tube, size and placement level j. Diagnosis					
26.	Knowledge/Comprehension Level: Student can answer all oral review questions					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. How long does the alarm silence the audible alarm?
2. What is the normal respiratory rate, heart rate and blood pressure for a newborn
3. Given a respiratory rate and an I:E ratio, calculate the inspiratory and expiratory time.
4. Given an inspiratory and expiratory time, calculate the respiratory rate.
5. Given an inspiratory and expiratory time, calculate the I:E ratio.
6. How is ET tube size determined for a newborn?
7. Given the pressure limit and PEEP level, determine the ventilating pressure.
8. Explain how tidal volume is changed on a neonatal ventilator.
9. If the PEEP level is increased, explain how to maintain the current tidal volume and $PaCO_2$ level.
10. What conditions would cause the low-pressure alarm to sound?

REVISED 6/05

PERFORMANCE EVALUATION - #32
MANUAL VENTILATION VIA SELF-INFLATING RESERVOIR BAG-ET TUBE

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Ensure equipment is correctly assembled and functional: a. Self-inflating bag has oxygen supply tubing and reservoir attached. b. Connect oxygen tubing to flowmeter/blender. c. Set FiO_2 d. Adjust flow to the bag to least 10 L/min. e. NOTE: Excess pressure is vented via the pressure pop-off when the bag is squeezed and occluded at the same time.					
2.	**Secure the endotracheal tube with free hand.					
3.	**Connect the resuscitation bag to the ET tube.					
4.	**Squeeze and release the resuscitation bag at/or slightly above the respiratory rate set on the ventilator.					
5.	**Monitor the peak inspiratory pressure (PIP) of each breath with inline pressure manometer maintaining ordered PIP					
6.	**Visually assess the patient: a. Color b. Heart rate c. SpO_2 d. Chest excursion e. EKG					
7.	**Return the patient to the ventilator.					
8.	**Auscultate breath sounds and verify proper tube position.					
9.	**Ensure patient comfort and safety.					
10.	Clean patient care area.					
11.	Wash Hands.					
12.	Document procedure per departmental policy.					

Students must pass all critical steps with a score of 2 or 3

Revised 6/05

PERFORMANCE EVALUATION - #33
CAPILLARY BLOOD SAMPLING

NAME: _____
DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Verify and interpret physician's order.					
2.	Review the patient's chart for all pertinent information.					
3.	Collect necessary equipment: a. Gloves b. Heparinized capillary tube c. Lancet d. Alcohol wipe e. Band-aid f. 4x4 gauze pad g. Washcloth h. Disposable diaper					
4.	Upon entering the room, introduce yourself and your department to patient/family.					
5.	**Check the patient's name band for proper identification.					
6.	Explain procedure to family.					
7.	Wash hands.					
8.	**Follow Standard Precautions for handling blood and body fluids.					
9.	**Heat washcloth, and wrap around extremity for approximately one minute. Use the diaper or other type of protection to keep the bed from getting wet. a.					
10.	Desired sites include: a. Lateral edges of digits of the hand b. Lateral edges of heel					
11.	**Open and prepare equipment for use.					
12.	**Unwrap the extremity, note beginning transcutaneous or pulse oximetry readings.					
13.	Cleanse the site with alcohol and allow drying.					
14.	**Puncture the site with a slow, deliberate motion.					
15.	**Collect the blood in the capillary tube being careful not to get air bubbles in the sample.					
16.	When procedure is complete, apply band-aid to the puncture site, note ending transcutaneous or pulse oximetry readings.					
17.	Dispose of equipment properly.					
18.	**Ensure patient comfort and safety.					
19.	Remove gloves.					
20.	Wash hands.					
21.	Analyze sample according to departmental policy.					
22.	Return to the patient's room to record and interpret results.					
23.	Remove band-aid from puncture site.					
24.	Notify physician/preceptor to report results and suggest changes in respiratory care.					

CAPILLARY BLOOD SAMPLING

25.	Knowledge/Comprehension Level: Student can answer all oral review questions					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. Where should a capillary stick be performed?
2. What are the normal capillary values for a newborn?
3. What are the hazards of performing a capillary blood gas?
4. Why is the extremity warmed prior to doing a capillary stick?
5. To what temperature should the extremity be warmed?
6. How do air bubbles in the sample affect the capillary results?

Revised 6/05

PERFORMANCE EVALUATION #34 NAME: _____
7200 Ventilator Set Up DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
1.	**Identify and name the filters on the 7200ae.					
11.	**Explain how each filter is sterilized.					
12.	**Trace the gas flow through the ventilator circuit.					
13.	**Identify the following a. Alarm volume control b. On – off switch c. EST button					
14.	**Perform a TEST					
15.	**Identify how options available on the 7200 ae can be quickly identified.					
16.	Answer oral review questions.					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. Name the four ventilator tests on the 7200ae ventilator and which ones are therapist initiated.
2. Explain each of the following including length of time needed to run the tests:
   a. POST
   b. QUEST
   c. TEST
   d. Lamp Test
3. What do the initials POST, QUEST and TEST stand for?
4. During the EST, explain how the leak test is performed.
5. Explain what the tubing compliance factor means.
6. Explain when TEST and QUEST should be performed.
7. Explain what should be done if TEST or QUEST fails.
8. Which key is depressed when you wish to bypass QUEST to perform a TEST?
9. Which key is depressed to bypass the nebulizer during QUEST/TEST?
10. Explain why the patient's exhaled gas is heated back to body temperature when returning to the ventilator.

PERFORMANCE EVALUATION #35 NAME: _____
7200ae Ventilator Initiation DATE: _____
INSTRUCTOR: _____

	0	1	2	3	NA
1. **Demonstrate the ability to adjust the following parameters a. Tidal volume b. Respiratory rate c. Peak flowrate d. PEEP e. Sensitivity f. FiO_2 g. Mode selector h. Flow waveform i. Low pressure alarm j. High pressure alarm					
2. **Connect to the test lung and adjust the following parameters: a. Apnea parameters b. Audible alarm volume					
3. **Identify the location of the patient data, alarm data and ventilator data on the keyboard.					
4. **Demonstrate how to measure the static or plateau pressure during volume ventilation a. Observe the pressure-time, volume-time and flow-time waveforms.					
5. **Turn on and off the 100% oxygen.					
6. **Select the waveforms. a. Change the scale on each of the waveforms. b. Identify the components of the waveforms.					
7. Answer oral review questions					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. Identify the control variable.
2. Identify the trigger variable.
3. Identify the cycle variable.
4. Identify the limit variable.
5. Identify the baseline variable.
6. Which parameter changes with changes in the patient's compliance and/or Raw?
7. Explain how the following is calculated.
   a. Dynamic compliance
   b. Static compliance
   c. Airway resistance
8. Explain how to calculate the volume lost in the ventilator circuit given the TCF.
9. Explain two problems associated with volume ventilation.
10. Explain which parameter changes will affect the PIP.
11. Explain where the high and low pressure alarms should be set.

Given the following, establish the appropriate settings on the 7200ae ventilator

Patient is 70 Kg
TCF: 3 mL/cm H_2O
Mode: CMV
Tidal volume: 700 mL
Respiratory Rate: 12/min
Peak Flowrate: 60 L/min
Sensitivity: -2 cm H20
FiO_2: .24
PEEP: +10 cm H20
Flow waveform: Decelerating

Set the high and low pressure alarm appropriately.

PERFORMANCE EVALUATION #36
7200ae Ventilator Initiation (2)

NAME: _____
DATE: _____
INSTRUCTOR: _____

	0	1	2	3	NA
1. **Place the patient in A/C–VC.					
2. **Place the patient in CPAP mode.					
3. **Activate Pressure Support Ventilation.					
4. **Activate Flow Triggering.					
5. Answer oral review questions.					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. Explain where to set the high and low pressure alarm.
2. Explain the two parameters set in Function #50 Flow-by.
3. Explain the parameter set in Function #10 PSV.
4. Explain the flow waveform pattern seen in PSV.
5. Explain which modes you can use PSV.
6 Explain in which modes you can use Flow-by.
7. Classify the following modes of ventilation:
   a. CMV–VC
   b. CPAP
8. Explain which flow waveform pattern gives you
   a. The shortest inspiratory time
   b. The highest PIP
   c. The highest MAP

PERFORMANCE EVALUATION #37 NAME: _____
840 Ventilator DATE: _____
INSTRUCTOR: _____

		0	1	2	3	NA
6.	**Place the patient in A/C–VC.					
7.	**Place the patient in CPAP mode.					
8.	**Activate Pressure Support Ventilation.					
9.	**Activate Tube Compensation Ventilation.					
10.	Answer oral review questions.					

Students must pass all critical steps with a score of 2 or 3

ORAL REVIEW QUESTIONS

1. Explain Tube Compensation.
2. Explain differences between the 7200 and 840 ventilator.

A/C- VC

V_t 700 mL
f 15/min
Flow Sensitivity 3 LPM
FiO_2 .25
Peak Flowrate 60 L/min
Decelerating Flow Pattern
Pressure sensitivity -2 cm H_2O
PEEP +5 cm H_2O

Set Apnea Parameters
Set alarms appropriately

Spontaneous Breathing

Patient 75 kg
FiO_2 .25
PEEP +5 cm H_2O
Pressure sensitivity -2 cm H_2O
Flow sensitivity 3 LPM
Peak Flowrate 60 L/min
Select Tube Compensation
Set Apnea Parameters
Set alarms appropriately