PLAINWORK

Respiratory Therapy Practice Questions

Free sample - 15 of 40 questions

- 40 single-best-answer questions on respiratory therapy
- A rationale and a checkable reference for every answer
- Printable workbook plus a separate answer key
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Sample questions with answers

Question 1

RESPIRATORY THERAPY

When attempting to pass a NPA into the patient's nare, you encounter and obstruction that does not allow for further movemment. What is the best action at this time?

A. Remove the NPA and try again in the opposite nare
B. Use an OPA as an alternative
C. Use a Magill forceps to place the NPA
D. Use a stylet to force the NPA in place

Answer: A - Remove the NPA and try again in the opposite nare
When encountering resistance or an obstruction while inserting a nasopharyngeal airway (NPA), you should never force it. The safest next step is to withdraw the tube and attempt insertion in the other nostril, which may have more patent anatomy.
Not B: An OPA is not the immediate alternative before trying the other nostril.
Not C: Magill forceps are used for oral intubation, not for forcing NPAs through nasal passages.
Not D: Forcing an NPA with a stylet can cause severe nasal trauma and bleeding.
Remember: Blocked in one nare? Try the other side.

Question adapted from Open RN, Respiratory Therapy, Chippewa Valley Technical College (CC BY 4.0, https://wtcs.pressbooks.pub/respiratorysurvey/chapter/2-1-airway-adjuncts/); rationale written by Plainwork.

Question 2

RESPIRATORY THERAPY

Which of the following are settings that must be set in Pressure Support Ventilation?

A. RR
B. Volume
C. Pressure Support
D. I-time

Answer: C - Pressure Support
Pressure Support Ventilation (PSV) is a spontaneous mode of ventilation where the patient determines the respiratory rate, inspiratory time, and tidal volume. The clinician only sets the pressure support level, PEEP, and oxygen concentration to assist the patient's spontaneous breaths.
Not A: Respiratory rate is determined entirely by the patient's spontaneous breathing efforts in PSV.
Not B: Tidal volume is variable and depends on patient effort, lung compliance, and set pressure.
Not D: Inspiratory time is patient-controlled, determined by their inspiratory flow demand and cycling criteria.
Remember: In Pressure Support, the patient controls the rate, volume, and time.

Question adapted from Open RN, Respiratory Therapy, Chippewa Valley Technical College (CC BY 4.0, https://wtcs.pressbooks.pub/respiratorysurvey/chapter/3-1-pressure-support-ps-synchronized-intermittent-mechanical-ventilation-simv/); rationale written by Plainwork.

Question 3

RESPIRATORY THERAPY

Given a gas at 30 degrees Celsius with an absolute humidity of 18mg/L of gas, what is the relative humidity? RH = AH/Capacity x 100

A. 59.3%
B. 60%
C. 54.2%
D. .593%

Answer: A - 59.3%
At 30 °C the saturated water-vapor capacity is ≈30 mg/L. Relative humidity = (18 mg/L ÷ 30 mg/L) × 100 ≈ 59.3%, matching option A.
Not B: Rounded too high; calculation yields 59.3%, not exactly 60%.
Not C: Underestimates RH; 54.2% is far below the correct value.
Not D: Misplaces decimal; should be 59.3%, not 0.593%.
Remember: RH ≈ (absolute humidity ÷ 30 mg/L at 30 °C) × 100.

Question adapted from Open RN, Respiratory Therapy, Chippewa Valley Technical College (CC BY 4.0, https://wtcs.pressbooks.pub/respiratorysurvey/chapter/3-2-lab-activities-2/); rationale written by Plainwork.

Question 4

RESPIRATORY THERAPY

A client's oxygen saturation is measured via pulse oximetry using a finger probe. The radial pulse does not coincide with the pulse displayed on the oximeter. How should the health care provider respond?

A. Repeat the measurements using an earlobe probe.
B. Document the findings in the client's chart.
C. Assume the client has hypoxic tissue injury.
D. Notify the most responsible provider.

Answer: A - Repeat the measurements using an earlobe probe.
When a pulse oximeter's displayed heart rate does not match the patient's actual radial pulse, the reading is unreliable, often due to poor peripheral perfusion. Switching to an alternative site, such as the earlobe, provides a more accurate measurement.
Not B: Inaccurate or unreliable vital signs should not be documented without first verifying their accuracy.
Not C: A mismatched pulse indicates a motion or perfusion artifact, not definitive hypoxic tissue injury.
Not D: Notifying the provider is premature before troubleshooting and obtaining an accurate, reliable measurement.
Remember: If the pulse doesn't match, relocate the probe to the ear.

Question adapted from Open RN, Respiratory Therapy, Chippewa Valley Technical College (CC BY 4.0, https://wtcs.pressbooks.pub/respiratorysurvey/chapter/4-1-patient-assessment/); rationale written by Plainwork.

Question 5

RESPIRATORY THERAPY

The respiratory therapist is caring for a patient who has a long history of chronic obstructive pulmonary diseases. What evidence should the respiratory therapist assess for the long-standing hypoxemia?

A. Respiratory pattern
B. Thoracic expansion
C. Diaphragmatic excursion
D. Fingernails and the bases

Answer: D - Fingernails and the bases
Chronic hypoxemia leads to digital clubbing, which is assessed by examining the fingernails and their bases for loss of the normal angle. This physical sign is a classic indicator of long-standing oxygen deprivation.
Not A: Reflects acute distress or work of breathing rather than chronic hypoxemia.
Not B: Measures chest wall movement and lung volume, not chronic hypoxemia.
Not C: Measures diaphragmatic mobility, which is reduced in COPD but doesn't indicate hypoxemia.
Remember: Clubbed fingernails point to chronic hypoxemia.

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Question 6

RESPIRATORY THERAPY

When conducting the patient interview to explore the chief complaint, the respiratory therapist identifies that it is best to use which style of questioning for data collection?

A. Complex questions
B. Closed-ended questions
C. Open-ended questions
D. Simple questions

Answer: C - Open-ended questions
Open-ended questions encourage patients to describe their symptoms in their own words, providing detailed, unbiased qualitative data essential for thoroughly exploring the chief complaint and establishing rapport.
Not A: These confuse patients, leading to inaccurate information and poor communication.
Not B: These limit responses to yes-or-no answers, restricting detailed symptom exploration.
Not D: These do not necessarily encourage detailed, narrative descriptions of symptoms.
Remember: Open-ended questions let patients tell their own story.

Question adapted from Open RN, Respiratory Therapy, Chippewa Valley Technical College (CC BY 4.0, https://wtcs.pressbooks.pub/respiratorysurvey/chapter/3-1-patient-safety-and-communication/); rationale written by Plainwork.

Question 7

RESPIRATORY THERAPY

The client asked you to assist them to move up in bed. What is your next step?

A. Remove gloves, perform hand hygiene, put on new PPE to assist the client.
B. Assist the client move up in bed.
C. Put a gown on before assisting the client.
D. Inform client you will call for assistance.

Answer: A - Remove gloves, perform hand hygiene, put on new PPE to assist the client.
Before transitioning from a contaminated task to a clean task like assisting a patient in bed, healthcare workers must remove contaminated gloves, perform hand hygiene, and don new PPE to prevent cross-contamination.
Not B: Assisting immediately with contaminated gloves risks cross-contamination and violates standard precautions.
Not C: Adding a gown over dirty gloves violates proper PPE donning sequence and hygiene.
Not D: Calling for assistance is unnecessary unless the patient's physical needs require multiple staff.
Remember: New task, new PPE: always wash hands in between.

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Question 8

RESPIRATORY THERAPY

Which of the following patients shows an indication for NIV therapy?

A. Decreased oxygen levels; patient has a full stomach
B. COPD exacerbation, increased work of breathing (WOB)
C. Narcotic overdose
D. Gunshot wound to the face

Answer: B - COPD exacerbation, increased work of breathing (WOB)
Noninvasive ventilation is the primary evidence-based intervention for acute hypercapnic respiratory failure and increased work of breathing during a COPD exacerbation. It reduces the need for endotracheal intubation, shortens hospital stays, and decreases mortality.
Not A: A full stomach creates a severe aspiration risk, which contraindicates standard noninvasive positive-pressure ventilation.
Not C: Narcotic overdose causes central hypoventilation and impaired airway protection, requiring reversal or invasive intubation.
Not D: Severe facial trauma prevents an adequate mask seal and is an absolute contraindication to NIV.
Remember: NIV rescues the tired COPD lung; trauma and aspiration must be shunned.

Question adapted from Open RN, Respiratory Therapy, Chippewa Valley Technical College (CC BY 4.0, https://wtcs.pressbooks.pub/respiratorysurvey/chapter/1-1-non-invasive-positive-pressure-ventilation-nippv/); rationale written by Plainwork.

Question 9

RESPIRATORY THERAPY

Given a gas at 20 degrees Celsius with an absolute humidity of 11mg/L of gas, what is the relative humidity? RH = AH/Capacity x 100

A. 65%
B. 63.6%
C. 68.3%
D. 35%

> **Answer: B** - 63.6%
> At 20 °C the saturation water-vapor capacity is about 17.3 mg/L; 11 mg/L ÷ 17.3 mg/L × 100 ≈ 63.6 % relative humidity.
> **Not A:** Rounded up; the precise calculation yields 63.6 %, not 65 %.
> **Not C:** Employs an incorrect saturation capacity, resulting in 68.3 %.
> **Not D:** Uses a much lower saturation value, giving an unrealistically low RH.
> *Remember: 20 °C ≈ 17 mg/L; 11 ÷ 17 ≈ 0.64 → ≈ 64 % RH.*

Question adapted from Open RN, Respiratory Therapy, Chippewa Valley Technical College (CC BY 4.0, https://wtcs.pressbooks.pub/respiratorysurvey/chapter/3-2-lab-activities-2/); rationale written by Plainwork.

Question 10

RESPIRATORY THERAPY

Given a gas at 35 degrees Celsius with an absolute humidity of 35mg/L of gas, what is the relative humidity? RH = AH/Capacity x 100

A. 88.3%
B. 100%
C. .98%
D. 62%

> **Answer: A** - 88.3%
> At 35 °C the saturated absolute humidity is ≈39.5 mg/L; 35 mg/L ÷ 39.5 mg/L ×100 ≈ 88 %, matching option A.
> **Not B:** Absolute humidity is below saturation, so RH cannot be 100%.
> **Not C:** RH of .98% is far lower than the calculated value.
> **Not D:** 62% underestimates RH; correct calculation yields about 88%.
> *Remember: RH = (absolute humidity ÷ saturation humidity at that temperature) ×100*

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Question 11

RESPIRATORY THERAPY

What is the primary indication for a trach?

A. Long-term need for an artificial airway
B. When a patient has been orally intubated for more than 48 hours
C. Upper airway obstruction
D. Patient has lost their pharyngeal or laryngeal reflexes

Answer: A - Long-term need for an artificial airway
The primary indication for a tracheostomy is the anticipated long-term need for an artificial airway, typically exceeding 10 to 14 days. It enhances patient comfort, simplifies airway hygiene, and facilitates weaning from mechanical ventilation.
Not B: Tracheostomy is considered after 7 to 14 days of intubation, not 48 hours.
Not C: Acute upper airway obstruction is initially managed with endotracheal intubation or basic maneuvers.
Not D: Loss of protective reflexes indicates immediate endotracheal intubation, not an initial tracheostomy.
Remember: Tracheostomy is for the long haul; endotracheal is for the sprint.

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Question 12

RESPIRATORY THERAPY

A patient is switched to Pressure Support Ventilation settings: PSV FiO2 0.4, PEEP 5, PS 10 cmH2O. After the change, their tidal volumes are 180-200 mls (previously 320 mls on ACVC) and their RR is 28-32 bpm. What is the most appropriate change for the clinician to make?

A. Increase the PEEP to 10 cmH2O and monitor for tolerance.
B. Decrease the Pressure Support to 8 cmH2O and monitor for tolerance.
C. Increase the Pressure Support to 12 cmH2O and monitor for tolerance.
D. Decrease the PEEP to 5 cmH2O and monitor for tolerance.

Answer: C - Increase the Pressure Support to 12 cmH2O and monitor for tolerance.
The patient exhibits rapid, shallow breathing and inadequate tidal volumes on current pressure support settings, indicating insufficient ventilatory assistance. Increasing the pressure support level directly augments tidal volume, reduces the work of breathing, and helps normalize the respiratory rate.
Not A: Increasing PEEP targets oxygenation and alveolar recruitment, not immediate tidal volume augmentation in PSV.
Not B: Decreasing pressure support further reduces tidal volumes and worsens tachypnea and respiratory fatigue.
Not D: The baseline PEEP is already set at 5 cmH2O, so this change does nothing.
Remember: Low volume and fast rate? Boost pressure support to ventilate.

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Question 13

RESPIRATORY THERAPY

During rounds, the respiratory therapist evaluates a patient who has been receiving chest physiotherapy 4 times a day for 8 days. The patient's chart indicates that the patient's breath sounds reveal increased aeration to all lung fields, moderate non-productive cough, respiratory rate of 14/min, and the patient is ambulating. The respiratory therapist should recommend:

A. Autogenic drainage
B. Discontinuing therapy
C. Decreasing the frequency to 2x/day
D. Vibratory PEP therapy

Answer: B - Discontinuing therapy
The patient's clinical status has significantly improved, as evidenced by bilateral increased aeration, a normal respiratory rate, and active ambulation. Because the lungs are clear and the patient is mobile, chest physiotherapy is no longer indicated and should be discontinued.
Not A: Autogenic drainage is an active clearance technique not indicated for a recovered, mobile patient.
Not C: Decreasing frequency is inappropriate because the patient no longer requires any airway clearance therapy.
Not D: Vibratory PEP is unnecessary since the patient has clear breath sounds and is ambulating.
Remember: Clear breath sounds and active ambulation mean chest physiotherapy is done.

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Question 14

RESPIRATORY THERAPY

Interpret this ABG: 7.38/57/65/31

A. Partially compensated respiratory acidosis with moderate hypoxemia
B. Fully compensated respiratory acidosis with mild hypoxemia
C. Fully compensated metabolic alkalosis with mild hypoxemia
D. Partially compensated metabolic alkalosis with mild hypoxemia

Answer: B - Fully compensated respiratory acidosis with mild hypoxemia
The pH of 7.38 is within the normal range but on the acidic side, indicating full compensation. The elevated PaCO2 of 57 mmHg indicates respiratory acidosis, compensated by a high HCO3 of 31 mEq/L. A PaO2 of 65 mmHg represents mild hypoxemia.
Not A: The normal pH indicates full compensation, and a PaO2 of 65 mmHg is mild hypoxemia.
Not C: The pH is on the acidic side of normal, pointing to a primary respiratory acidosis.
Not D: The normal pH indicates full compensation, and the primary disorder is acidosis, not alkalosis.
Remember: Normal pH with abnormal CO2 and HCO3 means full compensation.

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Question 15

A patient in the ICU has aspiration pneumonia in the superior segments of the lower lobes. Which of the following positions would best facilitate oxygenation for this patient?

A. Reverse Trendelenburg
B. Gravity dependent
C. Fowlers
D. Prone

Answer: D - Prone
Prone positioning improves oxygenation in patients with posterior lung infiltrates, such as superior lower lobe aspiration pneumonia, by recruiting collapsed posterior alveoli, reducing V/Q mismatch, and redirecting perfusion to better-ventilated anterior regions.
Not A: Reverse Trendelenburg does not target posterior alveolar recruitment or optimize V/Q matching in these segments.
Not B: Gravity-dependent positioning worsens V/Q mismatch by directing blood flow to the damaged, dependent posterior segments.
Not C: Fowlers position causes abdominal contents to compress the diaphragm, failing to recruit posterior lower lobes.
Remember: Prone the patient to recruit posterior alveoli and improve oxygenation.

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