

PRACTICE EXAM 8: NBRC CLINICAL SIMULATION EXAMINATION PREPARATION (100 QUESTIONS)

This original study exam contains 100 scenario-based multiple-choice questions organized from the NBRC Clinical Simulation Examination outline effective through December 31, 2027. The live CSE contains 22 branching clinical simulation problems and allows four hours; this study format does not reproduce the proprietary interface. Select the single best response for each item.

1. During a time-sensitive cardiopulmonary assessment, an adult patient with severe asthma is speaking in one-word phrases, has a silent chest, and is becoming drowsy despite repeated nebulized bronchodilator therapy. Which action should the therapist take now?

- A. Prepare for immediate endotracheal intubation and mechanical ventilation
- B. Obtain complete pulmonary function testing before changing therapy
- C. Begin routine postural drainage and chest percussion treatments
- D. Discharge the patient with an updated inhaled steroid prescription

2. As the therapist interprets updated bedside information, an adult patient with COPD exacerbation has pH 7.28, PaCO₂ 68 mm Hg, is alert, cooperative, and using accessory muscles. What is the preferred initial intervention?

- A. Apply a nonrebreather mask without reassessing ventilation
- B. Perform immediate bronchoscopy for retained secretions
- C. Initiate bilevel noninvasive positive-pressure ventilation
- D. Start incentive spirometry as the only respiratory treatment

3. In a respiratory-service case consultation, an intubated patient with status asthmaticus develops hypotension, rising peak pressure, and expiratory flow that does not return to baseline. Which response should receive immediate priority?

- A. Increase the mandatory respiratory rate to improve carbon dioxide removal
- B. Increase tidal volume to recruit additional underventilated alveoli
- C. Add external PEEP equal to the measured peak inspiratory pressure
- D. Disconnect briefly and allow complete exhalation before ventilator adjustment

4. After surveillance reveals a concerning clinical change, a stable outpatient with COPD reports increased dyspnea and has resting SpO₂ 88% on room air. Which test best establishes eligibility and prescription needs for home oxygen?

- A. Order a sputum culture before measuring oxygenation status
- B. Document arterial oxygenation at rest and titrate oxygen to response
- C. Perform a methacholine challenge to confirm reversible obstruction
- D. Measure maximal expiratory pressure as the primary assessment

5. Within an advanced NBRC-style practice case, an adult patient with asthma uses an albuterol inhaler several times every day and awakens with symptoms three nights weekly. What recommendation best addresses long-term control?

- A. Add or intensify inhaled corticosteroid-containing controller therapy
- B. Continue rescue albuterol alone because it relieves current symptoms
- C. Begin continuous home oxygen despite normal resting saturation
- D. Replace inhaled medication with routine antibiotic administration

6. During a time-sensitive cardiopulmonary assessment, an adult with established COPD receiving 2 L/min oxygen becomes somnolent. ABG shows pH 7.25, PaCO₂ 76 mm Hg, PaO₂ 58 mm Hg. What treatment is most appropriate now?

- A. Discontinue all oxygen until the carbon dioxide level normalizes
- B. Increase oxygen to 15 L/min without ventilatory assistance
- C. Support ventilation with bilevel NPPV while carefully titrating oxygen
- D. Schedule outpatient spirometry and reassess in several weeks

7. As the therapist interprets updated bedside information, during bronchodilator treatment for acute asthma, heart rate rises from 104 to 150/min and the patient reports chest pain. What should the therapist do?

- A. Continue the full dose because tachycardia always resolves spontaneously
- B. Double the dose to overcome severe bronchial smooth-muscle constriction
- C. Switch immediately to chest physiotherapy without further assessment
- D. Stop the treatment, assess the patient, and notify the provider

8. In a respiratory-service case consultation, an adult with established COPD has thick secretions, an ineffective cough, and coarse rhonchi that improve after coughing. Which plan most directly manages the underlying disorder?

- A. Increase sedative medication to reduce the work of breathing
- B. Restrict fluids and discontinue humidification to limit sputum
- C. Provide directed cough training with hydration and airway-clearance assistance
- D. Use high oxygen concentration as the sole secretion treatment

9. After surveillance reveals a concerning clinical change, an adult patient with severe COPD is intubated. Plateau pressure is 22 cm H₂O, peak pressure is 46 cm H₂O, and wheezing is present. What does this pattern suggest?

- A. Severe loss of chest-wall compliance without airway obstruction
- B. Increased airway resistance rather than reduced lung compliance
- C. A disconnected ventilator circuit causing loss of delivered pressure
- D. Normal airway mechanics requiring no further assessment

10. Within an advanced NBRC-style practice case, an adult with asthma has a personal-best peak expiratory flow of 500 L/min and a current value of 230 L/min with dyspnea. How should this result be classified?

- A. Green-zone control appropriate for routine maintenance only

- B. Normal variability that requires no treatment adjustment
- C. A restrictive defect confirmed without additional testing
- D. Red-zone airflow limitation requiring urgent action

11. During a time-sensitive cardiopulmonary assessment, a mechanically ventilated COPD patient has auto-PEEP and breath stacking. Which ventilator change most directly increases expiratory time?

- A. Reduce the respiratory rate while maintaining appropriate minute ventilation
- B. Increase the respiratory rate to shorten each respiratory cycle
- C. Lengthen inspiratory time by reducing the inspiratory flow setting
- D. Add an inspiratory pause to every mandatory breath

12. As the therapist interprets updated bedside information, an adult patient with an acute COPD exacerbation is improving on NPPV. Which finding most strongly supports continuing the current approach?

- A. Increasing somnolence with worsening respiratory acidosis
- B. Decreasing respiratory rate with improving pH and mental status
- C. Persistent vomiting with inability to protect the airway
- D. Progressive hypotension despite appropriate volume assessment

13. In a respiratory-service case consultation, an adult patient prescribed an inhaled corticosteroid reports hoarseness and oral white patches. Which instruction is most appropriate?

- A. Swallow water immediately before inhalation and avoid mouth rinsing
- B. Use a spacer when appropriate and rinse the mouth after each dose
- C. Stop all controller medication whenever symptoms are absent
- D. Take the medication only during sudden severe bronchospasm

14. After surveillance reveals a concerning clinical change, spirometry shows FEV1/FVC below the lower limit of normal with significant improvement in FEV1 after bronchodilator. What is the best interpretation?

- A. Restrictive ventilatory defect proven by spirometry alone
- B. Normal pulmonary function without evidence of airflow limitation
- C. Isolated diffusion impairment requiring no volume measurement
- D. Obstructive ventilatory defect with bronchodilator responsiveness

15. Within an advanced NBRC-style practice case, an adult with established COPD completing a six-minute walk develops SpO₂ 83% and marked dyspnea. Which action should the therapist take now?

- A. Encourage faster walking to complete the full distance on time
- B. Ignore saturation because only the final walking distance matters
- C. Stop or pause the test, ensure safety, and provide indicated oxygen
- D. Place the patient supine and immediately begin chest percussion

16. During a time-sensitive cardiopulmonary assessment, an adult patient with asthma has worsening wheeze after taking a nonselective beta blocker. Which explanation is most likely?

- A. Beta-2 receptor blockade can provoke bronchoconstriction and blunt rescue therapy
- B. The drug directly increases surfactant production and airway diameter
- C. The medication causes isolated diffusion impairment without bronchospasm
- D. The finding proves bacterial pneumonia rather than medication effect

17. As the therapist interprets updated bedside information, an adult patient with emphysema needs instruction in pursed-lip breathing. What is the main therapeutic goal?

- A. Increase inspiratory flow to shorten all phases of breathing
- B. Create high intrathoracic pressure during forced inspiration
- C. Replace prescribed oxygen during episodes of severe hypoxemia
- D. Prolong exhalation and reduce dynamic airway collapse

18. In a respiratory-service case consultation, an adult with established COPD with chronic hypercapnia has SpO₂ 84% on room air. Which oxygen strategy is safest initially?

- A. Withhold oxygen because any increase will eliminate respiratory drive
- B. Begin controlled low-flow oxygen and titrate to an appropriate target
- C. Apply maximal oxygen indefinitely without monitoring gas exchange
- D. Use heliox as a substitute for oxygen in severe hypoxemia

19. After surveillance reveals a concerning clinical change, an adult with asthma receiving continuous albuterol develops tremor, tachycardia, and falling serum potassium. Which response is appropriate?

- A. Reassess treatment intensity and notify the provider of systemic toxicity
- B. Increase the albuterol dose because hypokalemia indicates undertreatment
- C. Add a second continuous beta agonist without cardiac monitoring
- D. Discontinue monitoring because these findings are unrelated to therapy

20. Within an advanced NBRC-style practice case, an adult patient with COPD has increasing dyspnea, unilateral absent breath sounds, and sudden pleuritic pain. Which diagnostic study should be obtained urgently?

- A. Schedule routine overnight oximetry for suspected sleep apnea
- B. Perform a slow vital capacity test before any imaging
- C. Obtain immediate chest imaging to evaluate for pneumothorax
- D. Order only a sputum Gram stain for bacterial infection

21. During a time-sensitive cardiopulmonary assessment, a ventilated asthma patient has severe airflow obstruction. Which initial strategy best limits dynamic hyperinflation?

- A. Use a lower rate, high inspiratory flow, and adequate expiratory time
- B. Use a high rate, long inspiratory time, and large tidal volume
- C. Eliminate expiratory time by adding a prolonged inspiratory pause
- D. Target normal PaCO₂ immediately regardless of airway pressures

22. As the therapist interprets updated bedside information, an adult patient with COPD asks why pulmonary rehabilitation is recommended. Which benefit should the therapist emphasize?

- A. It permanently reverses emphysematous destruction of alveolar walls
- B. It improves exercise tolerance, symptom control, and self-management
- C. It eliminates the need for all maintenance inhaled medications
- D. It guarantees normal spirometry after a short training program

23. In a respiratory-service case consultation, an adult patient using a metered-dose inhaler actuates the device after completing inspiration. Which correction is most important?

- A. Inhale rapidly before actuation and exhale immediately afterward
- B. Spray several doses into the mouth before beginning to breathe
- C. Begin a slow deep inhalation while actuating the canister once
- D. Breathe normally through the nose while actuating the inhaler

24. After surveillance reveals a concerning clinical change, an adult patient with COPD and copious secretions becomes acutely dyspneic after eating. Breath sounds are markedly diminished on the right. What focused assessment should be performed first?

- A. Perform elective full pulmonary function testing immediately
- B. Begin long-term smoking cessation counseling before examination
- C. Measure overnight apnea-hypopnea index as the first action
- D. Evaluate airway patency and possible aspiration or mucus obstruction

25. Within an advanced NBRC-style practice case, an adult patient with asthma improves after treatment. Which finding best demonstrates reduced airflow obstruction?

- A. Falling peak flow with increasing pulsus paradoxus
- B. Rising peak expiratory flow with less accessory-muscle use
- C. Increasing PaCO₂ with worsening drowsiness and fatigue
- D. Development of a silent chest despite less audible wheezing

26. During a time-sensitive cardiopulmonary assessment, an adult with established COPD with an artificial airway has dry, tenacious secretions. Which intervention most directly addresses this problem?

- A. Lower the humidifier temperature and discontinue water delivery
- B. Increase cuff pressure to prevent moisture reaching the trachea
- C. Replace humidification with routine sedative administration
- D. Verify and optimize heated humidification of inspired gas

27. As the therapist interprets updated bedside information, during an asthma exacerbation, PaCO₂ rises from 34 to 45 mm Hg while distress worsens. How should this trend be interpreted?

- A. Possible respiratory muscle fatigue and impending ventilatory failure
- B. Expected improvement because normal PaCO₂ proves adequate ventilation
- C. Isolated metabolic alkalosis unrelated to the respiratory condition
- D. Evidence that bronchodilator therapy has completely resolved obstruction

28. In a respiratory-service case consultation, an adult with established COPD is being evaluated for ventilator liberation. Which combination most supports a spontaneous breathing trial?

- A. Escalating vasopressor needs, severe hypoxemia, and deep sedation
- B. Untreated pneumothorax with rapidly increasing airway pressures
- C. Hemodynamic stability, adequate oxygenation, and ability to initiate breaths
- D. Absent respiratory drive while receiving continuous paralysis

29. After surveillance reveals a concerning clinical change, an adult patient with chronic bronchitis is prescribed an airway-clearance device. Which finding best indicates the therapy is effective?

- A. New hemoptysis with worsening oxygenation after every treatment
- B. Greater sputum expectoration with improved breath sounds and dyspnea
- C. Increasing fatigue with declining expiratory flow and consciousness

D. No secretion movement despite correct technique and adequate effort

30. Within an advanced NBRC-style practice case, an adult with asthma has inspiratory stridor rather than expiratory wheeze. What should the therapist suspect first?

- A. Diffuse lower-airway bronchospasm responsive only to albuterol
- B. Chronic emphysema with irreversible small-airway collapse
- C. Pleural effusion producing bilateral upper-airway narrowing
- D. Upper-airway obstruction requiring prompt airway evaluation

31. During a time-sensitive cardiopulmonary assessment, an adult with established COPD on volume ventilation has increasing peak pressure but unchanged plateau pressure. What should be checked first?

- A. Pulmonary edema as the only possible cause of the pressure change
- B. Tidal volume measurement because resistance cannot affect peak pressure
- C. Airway secretions, tube patency, circuit kinking, and bronchospasm
- D. Pleural fluid because plateau pressure must remain normal in stiffness

32. As the therapist interprets updated bedside information, an adult patient with asthma asks how to monitor control at home. Which plan is most appropriate?

- A. Use symptoms and peak-flow zones within a written action plan
- B. Rely only on yearly chest radiographs to detect every exacerbation
- C. Take antibiotics whenever peak flow falls slightly below personal best
- D. Stop controller therapy whenever the green zone is reached

33. In a respiratory-service case consultation, an adult with established COPD has chronic exertional dyspnea but normal resting SpO₂. Which assessment best evaluates oxygen need during activity?

- A. A single resting blood pressure measurement without exercise
- B. Routine bronchoscopy performed before any functional testing

- C. Sputum cytology as the primary measure of exertional oxygenation
- D. Supervised exertional oximetry such as a six-minute walk test

34. After surveillance reveals a concerning clinical change, an adult patient with asthma has poor response to an inhaled bronchodilator. Inspection shows an empty canister. Which action is most defensible?

- A. Diagnose refractory asthma before checking medication availability
- B. Continue actuating the empty device until symptoms improve
- C. Replace the inhaler and review dose tracking and technique
- D. Add oxygen as a substitute for the missing bronchodilator dose

35. Within an advanced NBRC-style practice case, an adult with established COPD with bullous disease suddenly deteriorates after aggressive manual ventilation. Which complication is most concerning?

- A. Barotrauma producing a pneumothorax
- B. Improved collateral ventilation eliminating air trapping
- C. Resolution of bullae from positive-pressure ventilation
- D. Isolated upper-airway edema without pressure-related injury

36. During a time-sensitive cardiopulmonary assessment, after blunt chest trauma, a patient has severe dyspnea, hypotension, distended neck veins, and absent left breath sounds. What should be recommended immediately?

- A. Routine spirometry to quantify the restrictive ventilatory defect
- B. Emergency decompression for suspected tension pneumothorax
- C. Incentive spirometry followed by discharge if pain improves
- D. Aerosolized bronchodilator as the definitive treatment

37. As the therapist interprets updated bedside information, a trauma patient has paradoxical chest-wall motion, hypoxemia, and severe pain. Which initial respiratory approach is most appropriate?

- A. Bind the chest tightly to eliminate all outward chest movement
- B. Delay oxygen until arterial blood gas results are available
- C. Use forceful chest percussion over the unstable segment
- D. Provide oxygen, analgesia support, and ventilatory assistance as needed

38. In a respiratory-service case consultation, following trauma, bubbling suddenly stops in a chest drainage system while the patient becomes dyspneic. Which response should receive immediate priority?

- A. Clamp the chest tube near the patient and leave it clamped
- B. Increase suction to the maximum setting without inspection
- C. Inspect the tubing for kinks, dependent loops, or obstruction
- D. Remove the tube immediately without notifying the provider

39. After surveillance reveals a concerning clinical change, a facial-trauma patient has gurgling respirations, blood in the mouth, and declining consciousness. Which step should occur first?

- A. Obtain a complete smoking history before touching the airway
- B. Suction the airway and prepare for definitive airway management
- C. Apply a nasal airway despite possible midface or basilar injury
- D. Begin incentive spirometry to prevent postoperative atelectasis

40. Within an advanced NBRC-style practice case, a burn patient initially has normal oxygen saturation but soot around the mouth, hoarseness, and progressive stridor. Which response should be selected?

- A. Recommend early intubation before upper-airway edema progresses
- B. Wait for severe desaturation because pulse oximetry excludes injury
- C. Begin routine chest physiotherapy as definitive airway treatment
- D. Give oral fluids and reassess the voice several hours later

41. During a time-sensitive cardiopulmonary assessment, an adult patient with acute cardiogenic pulmonary edema has severe dyspnea, diffuse crackles, and adequate blood pressure. Which respiratory intervention is most appropriate?

- A. Begin postural drainage to remove fluid from the alveoli
- B. Apply CPAP or bilevel positive pressure with supplemental oxygen
- C. Administer a mucolytic to dissolve pulmonary edema fluid
- D. Withhold positive pressure because it always worsens cardiac function

42. As the therapist interprets updated bedside information, an adult patient develops sudden dyspnea, pleuritic pain, tachycardia, and unexplained hypoxemia after surgery. Which diagnostic study should be recommended?

- A. Prompt evaluation for pulmonary embolism with appropriate imaging
- B. Routine methacholine challenge for exercise-induced asthma
- C. A sleep study as the first assessment of acute hypoxemia
- D. Sputum induction to diagnose bacterial bronchitis

43. In a respiratory-service case consultation, an adult patient with heart failure receives CPAP. Which change most strongly indicates benefit?

- A. Worsening hypotension with increasing confusion and cool extremities
- B. Increasing crackles with falling saturation despite maximal support
- C. Reduced respiratory effort with improved oxygenation and blood pressure stability
- D. New inability to protect the airway with repeated vomiting

44. After surveillance reveals a concerning clinical change, a pulmonary artery catheter shows elevated pulmonary capillary wedge pressure in a patient with bilateral crackles. What is the most likely mechanism?

- A. Primary bronchospasm causing isolated elevation of airway resistance
- B. Low-pressure permeability edema with normal cardiac filling pressure

- C. Upper-airway obstruction causing negative intravascular volume
- D. Hydrostatic pulmonary edema from left-sided cardiac dysfunction

45. Within an advanced NBRC-style practice case, an adult patient with myocardial ischemia develops hypoxemia and increased work of breathing. Which oxygen approach is appropriate?

- A. Give maximal oxygen indefinitely regardless of saturation
- B. Withhold oxygen even when saturation remains dangerously low
- C. Use heliox because it treats coronary artery obstruction directly
- D. Titrate supplemental oxygen to correct documented hypoxemia

46. During a time-sensitive cardiopulmonary assessment, an adult patient with pulmonary hypertension becomes severely hypoxemic after interruption of inhaled nitric oxide. Which step should occur first?

- A. Restore the prescribed therapy and assess for rebound pulmonary hypertension
- B. Permanently discontinue all pulmonary vasodilator therapy
- C. Substitute room air because nitric oxide commonly causes hypoxemia
- D. Perform chest percussion before restoring specialty gas delivery

47. As the therapist interprets updated bedside information, an adult patient with acute pulmonary edema is on NPPV but becomes hypotensive and obtunded. What recommendation should be communicated?

- A. Increase mask pressure indefinitely without evaluating circulation
- B. Discontinue reliance on NPPV and prepare for invasive airway support
- C. Continue unchanged because mental status does not affect NPPV safety
- D. Remove all ventilatory support and schedule outpatient follow-up

48. In a respiratory-service case consultation, an adult patient has an irregularly irregular tachycardia and acute dyspnea. Which bedside procedure should be obtained promptly?

- A. Perform a methacholine challenge during the active arrhythmia

- B. Delay rhythm evaluation until outpatient spirometry is complete
- C. Acquire a 12-lead ECG while assessing oxygenation and stability
- D. Begin postural drainage as the primary cardiac diagnostic test

49. After surveillance reveals a concerning clinical change, an adult patient with massive pulmonary embolism has hypotension and escalating oxygen requirements. Which finding makes this high risk?

- A. Normal blood pressure with resolving symptoms during observation
- B. Stable oxygenation on room air without respiratory distress
- C. An isolated chronic cough without acute cardiopulmonary change
- D. Hemodynamic instability indicating obstructive circulatory compromise

50. Within an advanced NBRC-style practice case, an adult patient with cardiogenic pulmonary edema improves after diuresis and CPAP. Which finding supports weaning CPAP?

- A. Stable oxygenation with reduced work of breathing on lower support
- B. Persistent severe distress and inability to tolerate any pressure reduction
- C. Progressive hypercapnia with worsening alertness and weak effort
- D. Falling blood pressure and recurrent frothy secretions during trials

51. During a time-sensitive cardiopulmonary assessment, an adult patient with Guillain-Barré syndrome has declining vital capacity and maximal inspiratory pressure with weak cough. Which step should occur first?

- A. Wait for profound hypoxemia because mechanics do not predict failure
- B. Use a bronchodilator as the sole treatment for muscle weakness
- C. Prepare for ventilatory support before overt respiratory arrest
- D. Begin a methacholine challenge to confirm airway hyperreactivity

52. As the therapist interprets updated bedside information, an adult patient with myasthenia gravis has shallow breathing, weak voice, and difficulty handling secretions. Which assessment is most useful for trending respiratory weakness?

- A. A single diffusion-capacity test after full clinical recovery
- B. Serial vital capacity and maximal inspiratory pressure measurements
- C. Routine peak flow alone without evaluating inspiratory strength
- D. Chest circumference as the primary measure of ventilation

53. In a respiratory-service case consultation, an adult patient with a high spinal cord injury has absent cough and recurrent mucus plugging. Which therapy best supports secretion clearance?

- A. Sedation to suppress coughing and reduce secretion movement
- B. Fluid restriction with removal of all airway humidification
- C. Continuous high oxygen concentration without airway clearance
- D. Mechanical insufflation-exsufflation with assisted coughing

54. After surveillance reveals a concerning clinical change, a stroke patient coughs and desaturates during oral feeding. What recommendation should be communicated?

- A. Continue feeding rapidly to complete nutrition before reassessment
- B. Stop feeding and request a formal swallowing and aspiration evaluation
- C. Begin incentive spirometry while the patient continues swallowing
- D. Increase oxygen and ignore the recurrent cough during meals

55. Within an advanced NBRC-style practice case, a sedated patient has slow shallow respirations after opioid administration. Which immediate actions are appropriate?

- A. Support ventilation and recommend opioid reversal when indicated
- B. Administer additional opioid to normalize the respiratory rate
- C. Perform elective spirometry before providing ventilatory assistance
- D. Use a dry-powder bronchodilator as the only intervention

56. During a time-sensitive cardiopulmonary assessment, a septic patient has bilateral infiltrates, severe hypoxemia, and no evidence of left atrial hypertension. Which ventilator strategy is preferred?

- A. Use very large tidal volumes to normalize PaCO₂ immediately
- B. Base tidal volume on actual body weight in an edematous patient
- C. Use lung-protective tidal volume based on predicted body weight
- D. Avoid monitoring plateau pressure during volume ventilation

57. As the therapist interprets updated bedside information, a ventilated patient with ARDS has a plateau pressure of 34 cm H₂O. Which action should be considered?

- A. Increase tidal volume until carbon dioxide reaches a normal value
- B. Ignore plateau pressure because peak pressure is the only concern
- C. Eliminate PEEP regardless of the patient's oxygenation response
- D. Reduce tidal volume while maintaining lung-protective ventilation goals

58. In a respiratory-service case consultation, a postoperative patient has low-grade hypoxemia, bibasilar crackles, shallow breathing, and pain-limited inspiration. Which intervention is most appropriate?

- A. Begin long-term noninvasive ventilation without reassessing pain
- B. Restrict mobility and maintain continuous supine positioning
- C. Provide analgesia support, mobilization, deep breathing, and lung expansion
- D. Administer antibiotics solely because atelectasis is always infectious

59. After surveillance reveals a concerning clinical change, an adult patient with pneumonia has copious purulent secretions and worsening oxygenation. Which diagnostic information is most useful before narrowing antimicrobial therapy?

- A. Obtain an appropriate respiratory specimen for culture and sensitivity
- B. Perform routine methacholine challenge during acute respiratory distress
- C. Measure only peak expiratory flow and omit microbiologic testing
- D. Schedule an outpatient sleep study before treating infection

60. Within an advanced NBRC-style practice case, an intubated patient suddenly desaturates. Peak pressure rises, breath sounds are absent on the right, and the tube marking has changed. What should be suspected?

- A. Isolated metabolic acidosis without an airway complication
- B. Right mainstem intubation from excessive tube advancement
- C. Pulmonary embolism proven solely by the tube depth marking
- D. Normal tube position requiring no immediate intervention

61. During a time-sensitive cardiopulmonary assessment, a ventilated patient triggers a high-pressure alarm. A suction catheter cannot pass through the endotracheal tube. Which clinical response is indicated?

- A. Silence the alarm permanently and continue unchanged ventilation
- B. Increase the high-pressure limit without assessing tube patency
- C. Decrease oxygen concentration while waiting for routine rounds
- D. Treat the tube as obstructed and prepare for urgent replacement

62. As the therapist interprets updated bedside information, an adult patient with ARDS remains severely hypoxemic despite appropriate lung-protective ventilation and PEEP. Which adjunct may improve oxygenation?

- A. Increase tidal volume substantially above protective targets
- B. Place the patient in the prone position with a trained team
- C. Remove all PEEP to minimize mean airway pressure
- D. Begin routine chest percussion over every dependent region

63. In a respiratory-service case consultation, an adult patient has fever, productive cough, focal crackles, and a new lobar infiltrate. Which diagnosis is most consistent?

- A. Isolated obstructive sleep apnea without lower-airway disease
- B. Stable emphysema without an acute infectious process

- C. Community-acquired pneumonia with focal consolidation
- D. Tension pneumothorax causing diffuse bilateral infiltrates

64. After surveillance reveals a concerning clinical change, an immunocompromised patient develops diffuse infiltrates and escalating oxygen needs. Which approach is most appropriate?

- A. Promptly obtain targeted diagnostic studies while supporting oxygenation
- B. Delay all diagnostic testing until the patient becomes asymptomatic
- C. Assume bacterial infection and ignore opportunistic pathogens
- D. Perform only outpatient spirometry despite acute deterioration

65. Within an advanced NBRC-style practice case, an adult patient with septic shock is tachypneic with metabolic acidosis. Why should the therapist avoid suppressing ventilation without support?

- A. Tachypnea always indicates primary respiratory alkalosis requiring sedation
- B. Reducing ventilation will reliably correct the underlying lactic acidosis
- C. The high minute ventilation may be compensating for metabolic acidemia
- D. Compensatory breathing has no effect on arterial pH during shock

66. During a time-sensitive cardiopulmonary assessment, an adult patient receiving mechanical ventilation has new fever, purulent secretions, and a new infiltrate. Which action supports evaluation for ventilator-associated pneumonia?

- A. Replace the ventilator solely because infection cannot occur in the patient
- B. Obtain an appropriate lower-respiratory specimen before targeted antibiotics when feasible
- C. Discontinue humidification to prevent all future respiratory infections
- D. Perform a methacholine challenge to diagnose airway hyperresponsiveness

67. As the therapist interprets updated bedside information, a tracheostomy patient suddenly has respiratory distress and no airflow through the tube. What is the first action?

- A. Remove the inner cannula and assess for obstruction while oxygenating
- B. Increase cuff pressure without checking the tube lumen
- C. Begin oral feeding to stimulate cough and clear the airway
- D. Wait for radiography before taking any airway action

68. In a respiratory-service case consultation, an adult patient with cystic fibrosis has increased sputum, declining spirometry, and fever. Which treatment plan is most appropriate?

- A. Stop airway clearance because it spreads infection within the lungs
- B. Use oxygen alone as definitive treatment for the exacerbation
- C. Discontinue hydration and mucolytic therapy during thick secretions
- D. Increase airway clearance and obtain cultures to guide antimicrobial therapy

69. After surveillance reveals a concerning clinical change, a ventilated patient has PaO₂ 60 mm Hg on FiO₂ 0.80. What is the P/F ratio?

- A. 75 mm Hg
- B. 48 mm Hg
- C. 133 mm Hg
- D. 480 mm Hg

70. Within an advanced NBRC-style practice case, an adult patient has pH 7.30, PaCO₂ 30 mm Hg, and HCO₃⁻ 15 mEq/L. Which interpretation is best?

- A. Primary respiratory acidosis with renal overcompensation
- B. Primary metabolic alkalosis with respiratory compensation
- C. Normal acid-base status without a primary disturbance
- D. Primary metabolic acidosis with respiratory compensation

71. During a time-sensitive cardiopulmonary assessment, during a spontaneous breathing trial, a patient becomes diaphoretic, tachypneic, and tachycardic with falling saturation. Which clinical response is indicated?

- A. Continue the trial until severe hypotension or cardiac arrest occurs
- B. Terminate the trial and return to prior support while identifying the cause
- C. Extubate immediately because distress demonstrates adequate respiratory drive
- D. Remove all oxygen to determine whether desaturation is clinically important

72. As the therapist interprets updated bedside information, an adult patient receiving tube feeding develops sudden cough, hypoxemia, and new coarse crackles. What should the therapist suspect?

- A. Improved airway clearance from normal feeding tolerance
- B. Isolated upper-airway dryness without pulmonary involvement
- C. Aspiration of enteral feeding into the lower respiratory tract
- D. Resolution of pneumonia caused by increased gastric volume

73. In a respiratory-service case consultation, an adult patient with a pleural effusion has dyspnea and markedly diminished basilar breath sounds. Which procedure may be both diagnostic and therapeutic?

- A. Methacholine challenge performed during severe resting dyspnea
- B. Routine bronchodilator administration as definitive fluid removal
- C. Thoracentesis performed with appropriate imaging and monitoring
- D. Incentive spirometry to aspirate fluid from the pleural space

74. After surveillance reveals a concerning clinical change, an adult patient with carbon monoxide exposure has headache and confusion despite a normal pulse oximeter reading. Which test is required?

- A. Rely on standard pulse oximetry to exclude poisoning
- B. Measure carboxyhemoglobin using CO-oximetry
- C. Perform peak-flow testing as the definitive diagnostic study
- D. Measure only serum bicarbonate and ignore hemoglobin species

75. Within an advanced NBRC-style practice case, an adult patient with suspected methemoglobinemia has cyanosis and saturation near 85% that changes little with oxygen. Which assessment is most appropriate?

- A. Obtain CO-oximetry to measure methemoglobin directly
- B. Diagnose asthma solely from the fixed saturation reading
- C. Perform a six-minute walk before evaluating dyshemoglobinemia
- D. Use capnography as the only measurement of hemoglobin saturation

76. During a time-sensitive cardiopulmonary assessment, an adult patient with severe obesity develops postoperative hypoventilation after sedatives. Which intervention is the immediate priority?

- A. Encourage unsupported ambulation despite declining consciousness
- B. Give additional sedative medication to reduce respiratory effort
- C. Delay assessment until routine morning pulmonary function testing
- D. Support ventilation and evaluate for medication-related respiratory depression

77. As the therapist interprets updated bedside information, an adult patient on volume ventilation has tidal volume 500 mL, plateau pressure 25 cm H₂O, and total PEEP 10 cm H₂O. What is static compliance?

- A. 20 mL/cm H₂O
- B. 50 mL/cm H₂O
- C. 75 mL/cm H₂O
- D. 33 mL/cm H₂O

78. In a respiratory-service case consultation, an intubated patient has a persistent cuff leak and cannot maintain tidal volume. What should be assessed first?

- A. Increase ventilator volume indefinitely without checking the airway
- B. Cuff pressure, pilot balloon integrity, tube position, and cuff failure
- C. Pack the mouth tightly with gauze as definitive cuff repair

D. Ignore the leak if oxygen saturation is temporarily acceptable

79. After surveillance reveals a concerning clinical change, an adult patient has sudden severe hypoxemia after central-line placement with absent breath sounds on one side. Which step should occur first?

- A. Evaluate immediately for an iatrogenic pneumothorax
- B. Schedule outpatient pulmonary rehabilitation before imaging
- C. Begin a sleep study while continuing the line procedure
- D. Assume atelectasis and delay assessment until the next day

80. Within an advanced NBRC-style practice case, an adult patient recovering from anesthesia has upper-airway obstruction with snoring and paradoxical chest movement. What is the first intervention?

- A. Administer oral medication while the airway remains obstructed
- B. Begin chest percussion to eliminate the upper-airway blockage
- C. Reposition the airway and apply a jaw thrust with oxygen support
- D. Delay intervention until an arterial blood gas is obtained

81. During a time-sensitive cardiopulmonary assessment, a pediatric patient with acute asthma has severe retractions, minimal air movement, and declining alertness. Which action should the therapist take now?

- A. Send the child home with instructions to use medication as needed
- B. Perform elective pulmonary function testing before treating distress
- C. Prepare for advanced airway support while continuing urgent bronchodilator therapy
- D. Begin routine chest percussion as the sole asthma intervention

82. As the therapist interprets updated bedside information, an infant with bronchiolitis has copious nasal secretions, moderate retractions, and poor feeding. Which initial respiratory intervention is most appropriate?

- A. Administer routine antibiotics because bronchiolitis is always bacterial
- B. Provide gentle nasal suction, oxygen as indicated, and supportive monitoring
- C. Begin forceful deep suctioning at fixed hourly intervals regardless of need
- D. Use an inhaled corticosteroid as guaranteed definitive treatment

83. In a respiratory-service case consultation, a pediatric patient with croup has stridor at rest and marked retractions. Which treatment is indicated?

- A. Perform chest percussion to remove lower-airway secretions
- B. Give a mucolytic because croup is caused by thick bronchial mucus
- C. Delay treatment until complete spirometry can be performed
- D. Administer nebulized epinephrine and systemic corticosteroid therapy

84. After surveillance reveals a concerning clinical change, a pediatric patient with epiglottitis is sitting forward, drooling, and has inspiratory stridor. What should the therapist avoid?

- A. Agitating the child with an unplanned throat examination
- B. Preparing controlled airway management with an experienced team
- C. Providing calm oxygen support while minimizing distress
- D. Keeping emergency airway equipment immediately available

85. Within an advanced NBRC-style practice case, a pediatric patient on mechanical ventilation suddenly desaturates. The endotracheal tube is at a shallower depth than documented. What should be suspected?

- A. Stable tube position with isolated metabolic acidosis
- B. Normal variation requiring no airway assessment
- C. Partial extubation or tube displacement
- D. Improved lung compliance causing tube migration outward

86. During a time-sensitive cardiopulmonary assessment, a pediatric patient with asthma has a personal-best peak flow of 300 L/min and currently measures 180 L/min. Which zone is this?

- A. Green zone indicating at least 80% of personal best
- B. Red zone because every value below personal best is under 50%
- C. Normal zone that never requires medication adjustment
- D. Yellow zone requiring action according to the asthma plan

87. As the therapist interprets updated bedside information, a pediatric patient with pneumonia has increasing oxygen need and lethargy. What is the best next step?

- A. Escalate respiratory assessment and support while notifying the care team
- B. Continue routine care because lethargy is expected during recovery
- C. Delay reassessment until the next scheduled outpatient appointment
- D. Stop oxygen to determine whether the child can compensate independently

88. In a respiratory-service case consultation, a pediatric patient with a tracheostomy has sudden distress, and suction cannot pass through the tube. Which step should occur first?

- A. Increase cuff pressure and wait for the obstruction to dissolve
- B. Remove and replace the obstructed tracheostomy tube per emergency protocol
- C. Administer oral fluids through the mouth to thin secretions
- D. Perform spirometry before changing the artificial airway

89. After surveillance reveals a concerning clinical change, an infant with congenital heart disease has abrupt cyanosis during crying. Which initial action may help during a hypercyanotic spell?

- A. Encourage prolonged crying to increase pulmonary blood flow
- B. Place the infant flat with legs fully extended and withhold oxygen
- C. Begin forceful chest percussion over the precordium
- D. Calm the infant, provide oxygen, and use knee-chest positioning

90. Within an advanced NBRC-style practice case, a pediatric patient receiving albuterol develops significant tremor and tachycardia. What should the therapist do?

- A. Double every subsequent dose because systemic effects prove effectiveness
- B. Reassess severity, dose, delivery, and treatment response before continuing
- C. Stop all monitoring because these are unrelated to beta agonists
- D. Replace bronchodilator therapy with routine chest percussion

91. During a time-sensitive cardiopulmonary assessment, a preterm newborn has grunting, retractions, diffuse ground-glass opacities, and increasing oxygen need. Which condition is most likely?

- A. Transient upper-airway obstruction caused only by nasal secretions
- B. Meconium aspiration in a clear-fluid preterm delivery by definition
- C. Neonatal respiratory distress syndrome from surfactant deficiency
- D. Isolated congenital heart disease without pulmonary involvement

92. As the therapist interprets updated bedside information, a newly delivered infant remains apneic after initial warming, positioning, drying, stimulation, and airway assessment. Heart rate is 80/min. Which step should occur first?

- A. Begin effective positive-pressure ventilation
- B. Start chest compressions before providing ventilation
- C. Observe without intervention because the heart rate exceeds 60/min
- D. Administer routine aerosolized bronchodilator treatment

93. In a respiratory-service case consultation, during neonatal positive-pressure ventilation, the heart rate remains 70/min and the chest is not moving. What action belongs before the remaining options?

- A. Perform ventilation corrective steps to achieve visible chest movement
- B. Begin chest compressions despite ineffective ventilation
- C. Increase oxygen alone without correcting mask seal or airway position
- D. Stop ventilation and wait for spontaneous respiratory recovery

94. After surveillance reveals a concerning clinical change, after effective ventilation, a newborn's heart rate remains 50/min. What intervention is indicated?

- A. Continue stimulation alone because ventilation has already been attempted
- B. Begin coordinated chest compressions with ventilation and appropriate oxygen
- C. Perform postural drainage before starting circulatory support
- D. Stop positive-pressure ventilation while compressions are delivered

95. Within an advanced NBRC-style practice case, a premature neonate on CPAP has worsening oxygen need, recurrent apnea, and rising PaCO₂. What is the best response?

- A. Reduce monitoring because apnea is expected and never clinically important
- B. Discontinue all distending pressure despite worsening gas exchange
- C. Begin oral feeding to stimulate spontaneous ventilation
- D. Escalate ventilatory support and evaluate for surfactant and other causes

96. During a time-sensitive cardiopulmonary assessment, a newly delivered infant delivered through meconium-stained fluid is vigorous with good tone and respirations. Which approach is appropriate?

- A. Perform routine tracheal suctioning despite vigorous status
- B. Begin chest compressions before assessing the heart rate
- C. Provide routine initial care and ongoing clinical observation
- D. Administer surfactant solely because meconium is present

97. As the therapist interprets updated bedside information, a newly delivered infant has preductal SpO₂ persistently higher than postductal SpO₂ with severe hypoxemia. What condition should be considered?

- A. Isolated upper-airway dryness without circulatory involvement
- B. Normal transitional circulation requiring no further evaluation
- C. Persistent pulmonary hypertension with right-to-left ductal shunting
- D. Simple nasal congestion as the sole cause of differential saturation

98. In a respiratory-service case consultation, a ventilated preterm infant suddenly deteriorates with asymmetric chest movement and decreased breath sounds on one side. Which step should occur first?

- A. Evaluate immediately for pneumothorax and prepare for decompression
- B. Increase feeding volume and reassess after the next scheduled meal
- C. Perform elective pulmonary function testing before chest evaluation
- D. Assume normal ventilator adaptation without changing management

99. After surveillance reveals a concerning clinical change, a premature neonate receiving oxygen requires ongoing adjustment. What principle should guide therapy?

- A. Use 100% oxygen continuously regardless of measured saturation
- B. Withhold oxygen during documented severe hypoxemia
- C. Estimate oxygen need only from skin color without monitoring
- D. Use blended oxygen and titrate to the prescribed saturation target

100. Within an advanced NBRC-style practice case, a newly delivered infant on nasal CPAP has increasing work of breathing because the prongs are displaced and a large leak is present. Which clinical response is indicated?

- A. Increase set pressure without correcting the displaced interface
- B. Reposition the interface and reassess seal, pressure delivery, and response
- C. Remove monitoring because a large leak improves pressure delivery
- D. Begin chest compressions solely because the CPAP seal is poor

Practice Exam 8: Answer Key and Explanations

1. A — A silent chest with declining consciousness indicates critically reduced airflow and impending respiratory arrest, so definitive airway control cannot be delayed. Consequently, prepare for immediate endotracheal intubation and mechanical ventilation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

2. C — Acute hypercapnic acidosis with preserved cooperation is a classic indication for bilevel noninvasive ventilation and close reassessment. Consequently, initiate bilevel noninvasive positive-pressure ventilation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

3. D — The waveform and hemodynamic change indicate severe dynamic hyperinflation; allowing exhalation promptly reduces trapped gas and intrathoracic pressure. Consequently, disconnect briefly and allow complete exhalation before ventilator adjustment is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

4. B — Objective resting oxygenation measurement and titration establish the severity of hypoxemia and the flow needed to correct it safely. Consequently, document arterial oxygenation at rest and titrate oxygen to response is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

5. A — Frequent rescue use and nocturnal symptoms indicate poor control and airway inflammation requiring controller therapy rather than reliance on short-acting relief. Consequently, add or intensify inhaled corticosteroid-containing controller therapy is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

6. C — The immediate problem is acute ventilatory failure with acidemia plus hypoxemia; ventilatory support and controlled oxygen address both threats. Consequently, support ventilation with bilevel nppv while carefully titrating oxygen is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

7. D — Marked tachycardia with chest pain is a potentially serious adverse response requiring treatment termination, assessment, and prompt communication. Consequently, stop the treatment, assess the patient, and notify the provider is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

8. C — Findings indicate retained mobile secretions, so cough optimization, hydration, and appropriate clearance techniques target the underlying problem. Consequently, provide directed cough training with hydration and airway-clearance assistance is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

9. B — A large peak-to-plateau gradient localizes the pressure increase to resistive airways, consistent with bronchospasm or tube obstruction. Consequently, increased airway resistance rather than reduced lung compliance is the most appropriate response to the available evidence. The remaining options

would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

10. D — The current value is 46% of personal best, placing it below 50% in the red zone and indicating severe obstruction. Consequently, red-zone airflow limitation requiring urgent action is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

11. A — Reducing frequency lengthens the total cycle and allows more time for exhalation, helping limit dynamic hyperinflation. Consequently, reduce the respiratory rate while maintaining appropriate minute ventilation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

12. B — Improving ventilation, work of breathing, and alertness show effective noninvasive support; deterioration would favor intubation. Consequently, decreasing respiratory rate with improving pH and mental status is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

13. B — Local steroid deposition can cause dysphonia and candidiasis; proper delivery technique and mouth rinsing reduce exposure. Consequently, use a spacer when appropriate and rinse the mouth after each dose is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

14. D — A reduced ratio identifies airflow obstruction, while meaningful post-bronchodilator improvement demonstrates reversible airflow limitation. Consequently, obstructive ventilatory defect with bronchodilator responsiveness is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

15. C — Severe desaturation with symptoms requires safety intervention, clinical assessment, and oxygen titration rather than continued exertion. Consequently, stop or pause the test, ensure safety, and provide indicated oxygen is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

16. A — Nonselective beta blockade can constrict airways and reduce the effectiveness of beta-agonist bronchodilators in susceptible patients. Consequently, beta-2 receptor blockade can provoke bronchoconstriction and blunt rescue therapy is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

17. D — Pursed-lip breathing creates mild expiratory back-pressure and slows exhalation, which helps splint collapsible airways open. Consequently, prolong exhalation and reduce dynamic airway collapse is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

18. B — Clinically important hypoxemia requires oxygen; controlled titration and reassessment reduce the risk of excessive oxygen while correcting danger. Consequently, begin controlled low-flow oxygen and titrate to an appropriate target is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

19. A — High-dose beta agonists can cause systemic effects including tachycardia and intracellular potassium shift, requiring reassessment. Consequently, reassess treatment intensity and notify the provider of systemic toxicity is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

20. C — Sudden unilateral findings and pleuritic pain suggest pneumothorax, which needs rapid imaging and potential pleural intervention. Consequently, obtain immediate chest imaging to evaluate for pneumothorax is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

21. A — Permissive hypercapnia with longer expiration reduces breath stacking and pressure injury while obstruction is treated. Consequently, use a lower rate, high inspiratory flow, and adequate expiratory time is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

22. B — Pulmonary rehabilitation improves functional status and coping through exercise, education, and behavior change without reversing structural lung damage. Consequently, it improves exercise tolerance, symptom control, and self-management is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

23. C — Coordinating actuation with a slow deep breath improves lower-airway deposition and reduces medication loss. Consequently, begin a slow deep inhalation while actuating the canister once is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

24. D — The acute unilateral change after eating raises concern for aspiration or obstruction, so airway assessment comes before nonurgent testing. Consequently, evaluate airway patency and possible aspiration or mucus obstruction is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

25. B — Objective flow improvement paired with reduced effort indicates response; quiet breath sounds with fatigue can signal deterioration. Consequently, rising peak expiratory flow with less accessory-muscle use is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

26. D — Bypassing the upper airway removes natural conditioning, so adequate heated humidification helps preserve secretion mobility. Consequently, verify and optimize heated humidification of inspired gas is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

27. A — A rising or normalizing PaCO₂ during severe asthma can be ominous when effort and fatigue worsen, indicating declining ventilation. Consequently, possible respiratory muscle fatigue and impending ventilatory failure is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

28. C — Readiness requires improvement of the precipitating problem, stable gas exchange and circulation, and spontaneous respiratory capability. Consequently, hemodynamic stability, adequate oxygenation, and ability to initiate breaths is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

29. B — Effective clearance mobilizes secretions and improves ventilation; adverse or absent response requires reassessment. Consequently, greater sputum expectoration with improved breath sounds and dyspnea is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

30. D — Stridor localizes obstruction to the upper airway and warrants rapid assessment rather than assuming typical bronchospasm. Consequently, upper-airway obstruction requiring prompt airway evaluation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

31. C — An isolated rise in peak pressure reflects increased resistance between the ventilator and alveoli, so airway and circuit causes come first. Consequently, airway secretions, tube patency, circuit kinking, and bronchospasm is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

32. A — A written plan linking symptoms and personal-best peak flow to specific actions supports early recognition and appropriate escalation. Consequently, use symptoms and peak-flow zones within a written action plan is the most appropriate response to the available evidence. The remaining options

would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

33. D — Exercise testing directly reveals exertional desaturation and permits titration under the conditions that provoke symptoms. Consequently, supervised exertional oximetry such as a six-minute walk test is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

34. C — Device and medication availability must be verified before labeling treatment failure; education prevents recurrence. Consequently, replace the inhaler and review dose tracking and technique is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

35. A — Fragile bullae and excessive pressure increase pneumothorax risk, so sudden deterioration requires immediate evaluation. Consequently, barotrauma producing a pneumothorax is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm. Following intervention, the therapist should repeat objective assessment and escalate continuing instability.

36. B — The combination indicates obstructive shock from tension pneumothorax; decompression must not wait for routine testing. Consequently, emergency decompression for suspected tension pneumothorax is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

37. D — Flail chest care prioritizes oxygenation, pain control, pulmonary hygiene, and support based on ventilatory status. Consequently, provide oxygen, analgesia support, and ventilatory assistance as needed is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

38. C — Abrupt loss of expected drainage with deterioration suggests obstruction; rapidly checking the system can identify a reversible cause. Consequently, inspect the tubing for kinks, dependent loops, or obstruction is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

39. B — Contamination and reduced consciousness threaten airway patency, making suction and a secured airway the immediate priorities. Consequently, suction the airway and prepare for definitive airway management is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

40. A — Inhalation injury can cause rapidly progressive edema; early airway control is safer than attempting intubation after obstruction develops. Consequently, recommend early intubation before upper-airway edema progresses is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

41. B — Noninvasive positive pressure improves oxygenation and reduces preload and work of breathing in suitable alert patients. Consequently, apply cpap or bilevel positive pressure with supplemental oxygen is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

42. A — The acute postoperative pattern raises concern for pulmonary embolism, requiring timely diagnostic evaluation rather than unrelated pulmonary testing. Consequently, prompt evaluation for pulmonary embolism with appropriate imaging is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

43. C — Improved gas exchange and work of breathing without hemodynamic compromise supports continuation; instability requires escalation. Consequently, reduced respiratory effort with improved oxygenation and blood pressure stability is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

44. D — Elevated left-sided filling pressure supports cardiogenic hydrostatic edema rather than isolated airway or permeability disease. Consequently, hydrostatic pulmonary edema from left-sided cardiac dysfunction is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

45. D — Documented hypoxemia should be corrected with titrated oxygen while the cardiac cause receives definitive treatment. Consequently, titrate supplemental oxygen to correct documented hypoxemia is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

46. A — Abrupt withdrawal can cause rebound elevation of pulmonary vascular resistance and rapid deterioration, so therapy restoration and assessment are urgent. Consequently, restore the prescribed therapy and assess for rebound pulmonary hypertension is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

47. B — Hemodynamic instability and inability to protect the airway are major signs of noninvasive support failure. Consequently, discontinue reliance on nppv and prepare for invasive airway support is

the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

48. C — A 12-lead ECG identifies the rhythm and helps guide urgent management while respiratory stability is supported. Consequently, acquire a 12-lead ecg while assessing oxygenation and stability is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

49. D — Shock or hypotension signals severe pulmonary vascular obstruction and requires immediate multidisciplinary escalation. Consequently, hemodynamic instability indicating obstructive circulatory compromise is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm. Ongoing management depends on the measured response.

50. A — Support can be reduced when the underlying process and gas exchange improve without recurrent distress. Consequently, stable oxygenation with reduced work of breathing on lower support is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

51. C — Serial decline in strength and cough predicts ventilatory failure; early airway planning is safer than waiting for collapse. Consequently, prepare for ventilatory support before overt respiratory arrest is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

52. B — Bedside respiratory mechanics and secretion handling reveal progression toward neuromuscular ventilatory failure. Consequently, serial vital capacity and maximal inspiratory pressure measurements is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

53. D — Cough-assist techniques create expiratory flow when respiratory muscle weakness prevents an effective natural cough. Consequently, mechanical insufflation-exsufflation with assisted coughing is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm. Ongoing management depends on the measured response.

54. B — Cough and desaturation during feeding suggest aspiration; stopping exposure and evaluating swallowing protects the airway. Consequently, stop feeding and request a formal swallowing and aspiration evaluation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

55. A — Opioid-induced hypoventilation requires immediate ventilatory support and consideration of naloxone while monitoring for recurrence. Consequently, support ventilation and recommend opioid reversal when indicated is the most appropriate response to the available evidence. The remaining

options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

56. C — ARDS management emphasizes lung-protective ventilation to limit overdistension and ventilator-induced injury. Consequently, use lung-protective tidal volume based on predicted body weight is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

57. D — Excess plateau pressure indicates high alveolar distending pressure; reducing tidal volume can limit injury. Consequently, reduce tidal volume while maintaining lung-protective ventilation goals is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

58. C — The pattern suggests postoperative atelectasis, best addressed by pain control, mobility, and coached lung expansion. Consequently, provide analgesia support, mobilization, deep breathing, and lung expansion is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

59. A — Culture data can identify the pathogen and guide targeted antimicrobial therapy while supportive care continues. Consequently, obtain an appropriate respiratory specimen for culture and sensitivity is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

60. B — Tube migration with unilateral ventilation and a changed depth mark strongly suggests mainstem intubation. Consequently, right mainstem intubation from excessive tube advancement is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

61. D — Failure to pass a catheter indicates critical tube obstruction requiring immediate airway intervention. Consequently, treat the tube as obstructed and prepare for urgent replacement is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

62. B — Prone positioning can improve ventilation-perfusion matching and recruit dorsal lung regions in severe ARDS. Consequently, place the patient in the prone position with a trained team is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

63. C — The acute infectious symptoms and focal radiographic consolidation support pneumonia over chronic or pleural disorders. Consequently, community-acquired pneumonia with focal consolidation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

64. A — Immunocompromise broadens the differential, so early targeted evaluation and respiratory support are essential. Consequently, promptly obtain targeted diagnostic studies while supporting oxygenation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

65. C — Ventilatory compensation lowers PaCO₂ and helps defend pH; suppressing it can precipitate severe acidemia. Consequently, the high minute ventilation may be compensating for metabolic acidemia is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

66. B — Lower-airway sampling helps identify pathogens and guide therapy while infection-prevention measures remain important. Consequently, obtain an appropriate lower-respiratory specimen before targeted antibiotics when feasible is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

67. A — A blocked inner cannula is rapidly reversible; immediate removal and airway assessment take priority. Consequently, remove the inner cannula and assess for obstruction while oxygenating is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

68. D — A pulmonary exacerbation requires intensified clearance, microbiologic assessment, antibiotics, and supportive care. Consequently, increase airway clearance and obtain cultures to guide antimicrobial therapy is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

69. A — The P/F ratio equals arterial oxygen tension divided by inspired oxygen fraction: 60 divided by 0.80 equals 75 mm Hg, indicating severe oxygenation impairment. Consequently, 75 mm hg is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

70. D — Low bicarbonate and acidemia identify metabolic acidosis; the reduced PaCO₂ reflects compensatory hyperventilation. Consequently, primary metabolic acidosis with respiratory compensation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm. Ongoing management depends on the measured response.

71. B — The patient shows intolerance; returning to support prevents exhaustion while reversible causes are evaluated. Consequently, terminate the trial and return to prior support while identifying the cause is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

72. C — The abrupt respiratory change during feeding suggests aspiration, requiring immediate airway and oxygenation assessment. Consequently, aspiration of enteral feeding into the lower respiratory tract is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

73. C — Thoracentesis samples and removes pleural fluid, potentially relieving compression while clarifying the cause. Consequently, thoracentesis performed with appropriate imaging and monitoring is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

74. B — Conventional pulse oximetry cannot distinguish oxyhemoglobin from carboxyhemoglobin; CO-oximetry directly measures the abnormal species. Consequently, measure carboxyhemoglobin using co-oximetry is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm. Following intervention, the therapist should repeat objective assessment and escalate continuing instability.

75. A — CO-oximetry separates hemoglobin species and confirms methemoglobinemia when pulse oximetry is misleading. Consequently, obtain co-oximetry to measure methemoglobin directly is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm. Following intervention, the therapist should repeat objective assessment and escalate continuing instability.

76. D — Sedative-related hypoventilation threatens ventilation and airway protection, requiring immediate support and reversal consideration. Consequently, support ventilation and evaluate for medication-related respiratory depression is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

77. D — Static compliance equals tidal volume divided by plateau pressure minus total PEEP: $500 \div 15$ is approximately 33 mL/cm H₂O. Consequently, 33 mL/cm H₂O is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

78. B — A systematic airway assessment identifies underinflation, system failure, malposition, or cuff damage before unsafe compensation. Consequently, cuff pressure, pilot balloon integrity, tube position, and cuff failure is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

79. A — Unilateral findings after line placement strongly suggest pneumothorax and require urgent confirmation and treatment. Consequently, evaluate immediately for an iatrogenic pneumothorax is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

80. C — Basic positioning and manual airway opening are immediate, reversible measures while further airway support is prepared. Consequently, reposition the airway and apply a jaw thrust with oxygen support is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

81. C — Minimal air movement with neurologic decline signals impending respiratory failure and requires immediate escalation. Consequently, prepare for advanced airway support while continuing urgent bronchodilator therapy is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

82. B — Supportive care and gentle secretion removal address common physiologic problems without unnecessary or traumatic interventions. Consequently, provide gentle nasal suction, oxygen as indicated, and supportive monitoring is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

83. D — Stridor at rest indicates significant upper-airway obstruction; epinephrine provides rapid improvement while steroids reduce edema. Consequently, administer nebulized epinephrine and systemic corticosteroid therapy is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

84. A — Unplanned pharyngeal manipulation can precipitate complete obstruction; airway management should occur in a controlled setting. Consequently, agitating the child with an unplanned throat examination is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

85. C — A changed depth marking with deterioration strongly suggests displacement and requires immediate airway evaluation. Consequently, partial extubation or tube displacement is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm. Ongoing management depends on the measured response.

86. D — The value is 60% of personal best, which lies in the usual 50% to 79% yellow range. Consequently, yellow zone requiring action according to the asthma plan is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

87. A — Rising support needs and altered mental status indicate deterioration and possible respiratory failure. Consequently, escalate respiratory assessment and support while notifying the care team is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

88. B — An impassable tracheostomy with distress indicates obstruction; restoring a patent airway is urgent. Consequently, remove and replace the obstructed tracheostomy tube per emergency protocol is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

89. D — Calming, oxygen, and knee-chest positioning can improve systemic resistance and pulmonary blood flow while definitive care is mobilized. Consequently, calm the infant, provide oxygen, and use knee-chest positioning is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

90. B — Systemic beta-agonist effects require reassessment of benefit, dose, and safety rather than automatic continuation or escalation. Consequently, reassess severity, dose, delivery, and treatment response before continuing is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

91. C — Prematurity, respiratory distress, and diffuse reticulogranular imaging strongly support surfactant-deficient respiratory distress syndrome. Consequently, neonatal respiratory distress syndrome from surfactant deficiency is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

92. A — Apnea with heart rate below 100/min requires effective positive-pressure ventilation; ventilation is the key neonatal resuscitation step. Consequently, begin effective positive-pressure ventilation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

93. A — An ineffective breath must be corrected before compressions because neonatal bradycardia is commonly caused by inadequate ventilation. Consequently, perform ventilation corrective steps to achieve visible chest movement is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

94. B — A heart rate below 60/min after effective ventilation requires coordinated compressions and ventilation. Consequently, begin coordinated chest compressions with ventilation and appropriate oxygen is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

95. D — Worsening ventilation, oxygenation, and apnea indicate CPAP failure and require prompt escalation and diagnostic reassessment. Consequently, escalate ventilatory support and evaluate for surfactant and other causes is the most appropriate response to the available evidence. The remaining

options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

96. C — A vigorous newborn does not require routine tracheal suctioning; standard care and observation are appropriate. Consequently, provide routine initial care and ongoing clinical observation is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

97. C — A meaningful preductal-postductal difference suggests ductal right-to-left shunting and elevated pulmonary vascular resistance. Consequently, persistent pulmonary hypertension with right-to-left ductal shunting is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

98. A — Sudden unilateral findings during positive-pressure ventilation strongly suggest an air leak requiring urgent evaluation. Consequently, evaluate immediately for pneumothorax and prepare for decompression is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

99. D — Blended, monitored oxygen corrects hypoxemia while limiting unnecessary hyperoxia and related injury. Consequently, use blended oxygen and titrate to the prescribed saturation target is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.

100. B — Correct interface position and seal first so prescribed distending pressure reaches the patient effectively. Consequently, reposition the interface and reassess seal, pressure delivery, and response is the most appropriate response to the available evidence. The remaining options would postpone essential care, treat a finding not established, or expose the patient to needless physiologic harm.