

PRACTICE EXAM 7: 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. While reassessing an evolving respiratory emergency, 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. What should the therapist do next?

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

2. During review of a newly documented bedside finding, an adult patient with COPD exacerbation has pH 7.28, PaCO₂ 68 mm Hg, is alert, cooperative, and using accessory muscles. Which intervention is the best initial choice?

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

3. At an interdisciplinary pulmonary-care conference, an intubated patient with status asthmaticus develops hypotension, rising peak pressure, and expiratory flow that does not return to baseline. What response is the immediate priority?

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

4. When continuous monitoring signals worsening function, 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. Perform a methacholine challenge to confirm reversible obstruction
- C. Measure maximal expiratory pressure as the primary assessment
- D. Document arterial oxygenation at rest and titrate oxygen to response

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

6. While reassessing an evolving respiratory emergency, 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. Which treatment is indicated 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. During review of a newly documented bedside finding, 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. Stop the treatment, assess the patient, and notify the provider
- B. Continue the full dose because tachycardia always resolves spontaneously
- C. Double the dose to overcome severe bronchial smooth-muscle constriction
- D. Switch immediately to chest physiotherapy without further assessment

8. At an interdisciplinary pulmonary-care conference, an adult with established COPD has thick secretions, an ineffective cough, and coarse rhonchi that improve after coughing. What plan most directly treats the underlying disorder?

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

9. When continuous monitoring signals worsening function, 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. A disconnected ventilator circuit causing loss of delivered pressure
- C. Normal airway mechanics requiring no further assessment
- D. Increased airway resistance rather than reduced lung compliance

10. In a complex clinical-simulation 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. Red-zone airflow limitation requiring urgent action
- B. Green-zone control appropriate for routine maintenance only

- C. Normal variability that requires no treatment adjustment
- D. A restrictive defect confirmed without additional testing

11. While reassessing an evolving respiratory emergency, a mechanically ventilated COPD patient has auto-PEEP and breath stacking. Which ventilator change most directly increases expiratory time?

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

12. During review of a newly documented bedside finding, 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. At an interdisciplinary pulmonary-care conference, an adult patient prescribed an inhaled corticosteroid reports hoarseness and oral white patches. Which instruction is most appropriate?

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

14. When continuous monitoring signals worsening function, 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. Obstructive ventilatory defect with bronchodilator responsiveness
- D. Isolated diffusion impairment requiring no volume measurement

15. In a complex clinical-simulation case, an adult with established COPD completing a six-minute walk develops SpO₂ 83% and marked dyspnea. What should the therapist do next?

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

16. While reassessing an evolving respiratory emergency, an adult patient with asthma has worsening wheeze after taking a nonselective beta blocker. Which explanation is most likely?

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

17. During review of a newly documented bedside finding, an adult patient with emphysema needs instruction in pursed-lip breathing. What is the main therapeutic goal?

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

18. At an interdisciplinary pulmonary-care conference, 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. When continuous monitoring signals worsening function, an adult with asthma receiving continuous albuterol develops tremor, tachycardia, and falling serum potassium. Which response is appropriate?

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

20. In a complex clinical-simulation 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. Order only a sputum Gram stain for bacterial infection
- D. Obtain immediate chest imaging to evaluate for pneumothorax

21. While reassessing an evolving respiratory emergency, a ventilated asthma patient has severe airflow obstruction. Which initial strategy best limits dynamic hyperinflation?

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

22. During review of a newly documented bedside finding, 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 eliminates the need for all maintenance inhaled medications
- C. It guarantees normal spirometry after a short training program
- D. It improves exercise tolerance, symptom control, and self-management

23. At an interdisciplinary pulmonary-care conference, an adult patient using a metered-dose inhaler actuates the device after completing inspiration. Which correction is most important?

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

24. When continuous monitoring signals worsening function, an adult patient with COPD and copious secretions becomes acutely dyspneic after eating. Breath sounds are markedly diminished on the right. Which focused assessment is needed immediately?

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

25. In a complex clinical-simulation 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. While reassessing an evolving respiratory emergency, 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. During review of a newly documented bedside finding, 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. At an interdisciplinary pulmonary-care conference, 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. When continuous monitoring signals worsening function, an adult patient with chronic bronchitis is prescribed an airway-clearance device. Which finding best indicates the therapy is effective?

- A. Greater sputum expectoration with improved breath sounds and dyspnea
- B. New hemoptysis with worsening oxygenation after every treatment
- C. Increasing fatigue with declining expiratory flow and consciousness
- D. No secretion movement despite correct technique and adequate effort

30. In a complex clinical-simulation 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. Upper-airway obstruction requiring prompt airway evaluation
- D. Pleural effusion producing bilateral upper-airway narrowing

31. While reassessing an evolving respiratory emergency, 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. Airway secretions, tube patency, circuit kinking, and bronchospasm
- C. Tidal volume measurement because resistance cannot affect peak pressure
- D. Pleural fluid because plateau pressure must remain normal in stiffness

32. During review of a newly documented bedside finding, an adult patient with asthma asks how to monitor control at home. Which plan is most appropriate?

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

33. At an interdisciplinary pulmonary-care conference, 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. Supervised exertional oximetry such as a six-minute walk test
- D. Sputum cytology as the primary measure of exertional oxygenation

34. When continuous monitoring signals worsening function, 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. Replace the inhaler and review dose tracking and technique
- C. Continue actuating the empty device until symptoms improve
- D. Add oxygen as a substitute for the missing bronchodilator dose

35. In a complex clinical-simulation 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. While reassessing an evolving respiratory emergency, 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. Incentive spirometry followed by discharge if pain improves
- C. Aerosolized bronchodilator as the definitive treatment
- D. Emergency decompression for suspected tension pneumothorax

37. During review of a newly documented bedside finding, a trauma patient has paradoxical chest-wall motion, hypoxemia, and severe pain. Which initial respiratory approach is most appropriate?

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

D. Use forceful chest percussion over the unstable segment

38. At an interdisciplinary pulmonary-care conference, following trauma, bubbling suddenly stops in a chest drainage system while the patient becomes dyspneic. What response is the 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. When continuous monitoring signals worsening function, a facial-trauma patient has gurgling respirations, blood in the mouth, and declining consciousness. What step belongs first in the sequence?

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

40. In a complex clinical-simulation case, a burn patient initially has normal oxygen saturation but soot around the mouth, hoarseness, and progressive stridor. Which response should be selected?

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

41. While reassessing an evolving respiratory emergency, an adult patient with acute cardiogenic pulmonary edema has severe dyspnea, diffuse crackles, and adequate blood pressure. Which respiratory intervention is most appropriate?

- A. Apply CPAP or bilevel positive pressure with supplemental oxygen

- B. Begin postural drainage to remove fluid from the alveoli
- C. Administer a mucolytic to dissolve pulmonary edema fluid
- D. Withhold positive pressure because it always worsens cardiac function

42. During review of a newly documented bedside finding, an adult patient develops sudden dyspnea, pleuritic pain, tachycardia, and unexplained hypoxemia after surgery. Which diagnostic study should be recommended?

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

43. At an interdisciplinary pulmonary-care conference, 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. When continuous monitoring signals worsening function, 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. Hydrostatic pulmonary edema from left-sided cardiac dysfunction
- C. Low-pressure permeability edema with normal cardiac filling pressure
- D. Upper-airway obstruction causing negative intravascular volume

45. In a complex clinical-simulation 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. While reassessing an evolving respiratory emergency, an adult patient with pulmonary hypertension becomes severely hypoxemic after interruption of inhaled nitric oxide. What step belongs first in the sequence?

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

47. During review of a newly documented bedside finding, an adult patient with acute pulmonary edema is on NPPV but becomes hypotensive and obtunded. Which recommendation should the therapist offer?

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

48. At an interdisciplinary pulmonary-care conference, 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. Acquire a 12-lead ECG while assessing oxygenation and stability
- C. Delay rhythm evaluation until outpatient spirometry is complete
- D. Begin postural drainage as the primary cardiac diagnostic test

49. When continuous monitoring signals worsening function, an adult patient with massive pulmonary embolism has hypotension and escalating oxygen requirements. Which finding makes this high risk?

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

50. In a complex clinical-simulation case, an adult patient with cardiogenic pulmonary edema improves after diuresis and CPAP. Which finding supports weaning CPAP?

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

51. While reassessing an evolving respiratory emergency, an adult patient with Guillain-Barré syndrome has declining vital capacity and maximal inspiratory pressure with weak cough. What step belongs first in the sequence?

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

52. During review of a newly documented bedside finding, 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. Routine peak flow alone without evaluating inspiratory strength
- C. Chest circumference as the primary measure of ventilation

D. Serial vital capacity and maximal inspiratory pressure measurements

53. At an interdisciplinary pulmonary-care conference, 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. Mechanical insufflation-exsufflation with assisted coughing
- D. Continuous high oxygen concentration without airway clearance

54. When continuous monitoring signals worsening function, a stroke patient coughs and desaturates during oral feeding. Which recommendation should the therapist offer?

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

55. In a complex clinical-simulation 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. While reassessing an evolving respiratory emergency, 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. Use lung-protective tidal volume based on predicted body weight

- C. Base tidal volume on actual body weight in an edematous patient
- D. Avoid monitoring plateau pressure during volume ventilation

57. During review of a newly documented bedside finding, 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. Reduce tidal volume while maintaining lung-protective ventilation goals
- D. Eliminate PEEP regardless of the patient's oxygenation response

58. At an interdisciplinary pulmonary-care conference, a postoperative patient has low-grade hypoxemia, bibasilar crackles, shallow breathing, and pain-limited inspiration. Which intervention is most appropriate?

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

59. When continuous monitoring signals worsening function, an adult patient with pneumonia has copious purulent secretions and worsening oxygenation. Which diagnostic information is most useful before narrowing antimicrobial therapy?

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

60. In a complex clinical-simulation 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. Pulmonary embolism proven solely by the tube depth marking
- C. Normal tube position requiring no immediate intervention
- D. Right mainstem intubation from excessive tube advancement

61. While reassessing an evolving respiratory emergency, a ventilated patient triggers a high-pressure alarm. A suction catheter cannot pass through the endotracheal tube. What clinical response should be selected?

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

62. During review of a newly documented bedside finding, 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. Remove all PEEP to minimize mean airway pressure
- C. Begin routine chest percussion over every dependent region
- D. Place the patient in the prone position with a trained team

63. At an interdisciplinary pulmonary-care conference, 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. When continuous monitoring signals worsening function, an immunocompromised patient develops diffuse infiltrates and escalating oxygen needs. Which approach is most appropriate?

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

65. In a complex clinical-simulation case, an adult patient with septic shock is tachypneic with metabolic acidosis. Why should the therapist avoid suppressing ventilation without support?

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

66. While reassessing an evolving respiratory emergency, 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. Discontinue humidification to prevent all future respiratory infections
- C. Perform a methacholine challenge to diagnose airway hyperresponsiveness
- D. Obtain an appropriate lower-respiratory specimen before targeted antibiotics when feasible

67. During review of a newly documented bedside finding, a tracheostomy patient suddenly has respiratory distress and no airflow through the tube. What is the first action?

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

68. At an interdisciplinary pulmonary-care conference, 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. Increase airway clearance and obtain cultures to guide antimicrobial therapy
- D. Discontinue hydration and mucolytic therapy during thick secretions

69. When continuous monitoring signals worsening function, a ventilated patient has PaO₂ 60 mm Hg on FiO₂ 0.80. What is the P/F ratio?

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

70. In a complex clinical-simulation 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 acidosis with respiratory compensation
- C. Primary metabolic alkalosis with respiratory compensation
- D. Normal acid-base status without a primary disturbance

71. While reassessing an evolving respiratory emergency, during a spontaneous breathing trial, a patient becomes diaphoretic, tachypneic, and tachycardic with falling saturation. What clinical response should be selected?

- A. Continue the trial until severe hypotension or cardiac arrest occurs
- B. Extubate immediately because distress demonstrates adequate respiratory drive

- C. Remove all oxygen to determine whether desaturation is clinically important
- D. Terminate the trial and return to prior support while identifying the cause

72. During review of a newly documented bedside finding, an adult patient receiving tube feeding develops sudden cough, hypoxemia, and new coarse crackles. What should the therapist suspect?

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

73. At an interdisciplinary pulmonary-care conference, 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. When continuous monitoring signals worsening function, an adult patient with carbon monoxide exposure has headache and confusion despite a normal pulse oximeter reading. Which test is required?

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

75. In a complex clinical-simulation case, an adult patient with suspected methemoglobinemia has cyanosis and saturation near 85% that changes little with oxygen. Which assessment is most appropriate?

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

76. While reassessing an evolving respiratory emergency, 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. Support ventilation and evaluate for medication-related respiratory depression
- C. Give additional sedative medication to reduce respiratory effort
- D. Delay assessment until routine morning pulmonary function testing

77. During review of a newly documented bedside finding, 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. At an interdisciplinary pulmonary-care conference, 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. When continuous monitoring signals worsening function, an adult patient has sudden severe hypoxemia after central-line placement with absent breath sounds on one side. What step belongs first in the sequence?

- 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. In a complex clinical-simulation 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. While reassessing an evolving respiratory emergency, a pediatric patient with acute asthma has severe retractions, minimal air movement, and declining alertness. What should the therapist do next?

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

82. During review of a newly documented bedside finding, 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. Begin forceful deep suctioning at fixed hourly intervals regardless of need
- C. Use an inhaled corticosteroid as guaranteed definitive treatment

D. Provide gentle nasal suction, oxygen as indicated, and supportive monitoring

83. At an interdisciplinary pulmonary-care conference, a pediatric patient with croup has stridor at rest and marked retractions. Which treatment is indicated?

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

84. When continuous monitoring signals worsening function, a pediatric patient with epiglottitis is sitting forward, drooling, and has inspiratory stridor. What should the therapist avoid?

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

85. In a complex clinical-simulation 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. Improved lung compliance causing tube migration outward
- D. Partial extubation or tube displacement

86. While reassessing an evolving respiratory emergency, 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. Yellow zone requiring action according to the asthma plan

- C. Red zone because every value below personal best is under 50%
- D. Normal zone that never requires medication adjustment

87. During review of a newly documented bedside finding, 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. At an interdisciplinary pulmonary-care conference, a pediatric patient with a tracheostomy has sudden distress, and suction cannot pass through the tube. What step belongs first in the sequence?

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

89. When continuous monitoring signals worsening function, an infant with congenital heart disease has abrupt cyanosis during crying. Which initial action may help during a hypercyanotic spell?

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

90. In a complex clinical-simulation 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. Stop all monitoring because these are unrelated to beta agonists
- C. Replace bronchodilator therapy with routine chest percussion
- D. Reassess severity, dose, delivery, and treatment response before continuing

91. While reassessing an evolving respiratory emergency, 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. During review of a newly documented bedside finding, a newly delivered infant remains apneic after initial warming, positioning, drying, stimulation, and airway assessment. Heart rate is 80/min. What step belongs first in the sequence?

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

93. At an interdisciplinary pulmonary-care conference, during neonatal positive-pressure ventilation, the heart rate remains 70/min and the chest is not moving. Which action should precede the remaining choices?

- 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. When continuous monitoring signals worsening function, 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. In a complex clinical-simulation 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. While reassessing an evolving respiratory emergency, 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. During review of a newly documented bedside finding, 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. Simple nasal congestion as the sole cause of differential saturation
- D. Persistent pulmonary hypertension with right-to-left ductal shunting

98. At an interdisciplinary pulmonary-care conference, a ventilated preterm infant suddenly deteriorates with asymmetric chest movement and decreased breath sounds on one side. What step belongs first in the sequence?

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

99. When continuous monitoring signals worsening function, a premature neonate receiving oxygen requires ongoing adjustment. What principle should guide therapy?

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

100. In a complex clinical-simulation case, a newly delivered infant on nasal CPAP has increasing work of breathing because the prongs are displaced and a large leak is present. What clinical response should be selected?

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

Practice Exam 7: Answer Key and Explanations

1. C — A silent chest with declining consciousness indicates critically reduced airflow and impending respiratory arrest, so definitive airway control cannot be delayed. For this reason, prepare for immediate endotracheal intubation and mechanical ventilation is the best response to the presented findings. The

competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

2. A — Acute hypercapnic acidosis with preserved cooperation is a classic indication for bilevel noninvasive ventilation and close reassessment. For this reason, initiate bilevel noninvasive positive-pressure ventilation is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

3. B — The waveform and hemodynamic change indicate severe dynamic hyperinflation; allowing exhalation promptly reduces trapped gas and intrathoracic pressure. For this reason, disconnect briefly and allow complete exhalation before ventilator adjustment is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

4. D — Objective resting oxygenation measurement and titration establish the severity of hypoxemia and the flow needed to correct it safely. For this reason, document arterial oxygenation at rest and titrate oxygen to response is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

5. D — Frequent rescue use and nocturnal symptoms indicate poor control and airway inflammation requiring controller therapy rather than reliance on short-acting relief. For this reason, add or intensify inhaled corticosteroid-containing controller therapy is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

6. C — The immediate problem is acute ventilatory failure with acidemia plus hypoxemia; ventilatory support and controlled oxygen address both threats. For this reason, support ventilation with bilevel nppv while carefully titrating oxygen is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

7. A — Marked tachycardia with chest pain is a potentially serious adverse response requiring treatment termination, assessment, and prompt communication. For this reason, stop the treatment, assess the patient, and notify the provider is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

8. B — Findings indicate retained mobile secretions, so cough optimization, hydration, and appropriate clearance techniques target the underlying problem. For this reason, provide directed cough training with hydration and airway-clearance assistance is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

9. D — A large peak-to-plateau gradient localizes the pressure increase to resistive airways, consistent with bronchospasm or tube obstruction. For this reason, increased airway resistance rather than reduced

lung compliance is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

10. A — The current value is 46% of personal best, placing it below 50% in the red zone and indicating severe obstruction. For this reason, red-zone airflow limitation requiring urgent action is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

11. C — Reducing frequency lengthens the total cycle and allows more time for exhalation, helping limit dynamic hyperinflation. For this reason, reduce the respiratory rate while maintaining appropriate minute ventilation is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

12. B — Improving ventilation, work of breathing, and alertness show effective noninvasive support; deterioration would favor intubation. For this reason, decreasing respiratory rate with improving pH and mental status is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

13. A — Local steroid deposition can cause dysphonia and candidiasis; proper delivery technique and mouth rinsing reduce exposure. For this reason, use a spacer when appropriate and rinse the mouth after each dose is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

14. C — A reduced ratio identifies airflow obstruction, while meaningful post-bronchodilator improvement demonstrates reversible airflow limitation. For this reason, obstructive ventilatory defect with bronchodilator responsiveness is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

15. B — Severe desaturation with symptoms requires safety intervention, clinical assessment, and oxygen titration rather than continued exertion. For this reason, stop or pause the test, ensure safety, and provide indicated oxygen is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

16. D — Nonselective beta blockade can constrict airways and reduce the effectiveness of beta-agonist bronchodilators in susceptible patients. For this reason, beta-2 receptor blockade can provoke bronchoconstriction and blunt rescue therapy is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

17. A — Pursed-lip breathing creates mild expiratory back-pressure and slows exhalation, which helps splint collapsible airways open. For this reason, prolong exhalation and reduce dynamic airway collapse is the best response to the presented findings. The competing choices would delay necessary care,

address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

18. B — Clinically important hypoxemia requires oxygen; controlled titration and reassessment reduce the risk of excessive oxygen while correcting danger. For this reason, begin controlled low-flow oxygen and titrate to an appropriate target is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

19. C — High-dose beta agonists can cause systemic effects including tachycardia and intracellular potassium shift, requiring reassessment. For this reason, reassess treatment intensity and notify the provider of systemic toxicity is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

20. D — Sudden unilateral findings and pleuritic pain suggest pneumothorax, which needs rapid imaging and potential pleural intervention. For this reason, obtain immediate chest imaging to evaluate for pneumothorax is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

21. C — Permissive hypercapnia with longer expiration reduces breath stacking and pressure injury while obstruction is treated. For this reason, use a lower rate, high inspiratory flow, and adequate expiratory time is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

22. D — Pulmonary rehabilitation improves functional status and coping through exercise, education, and behavior change without reversing structural lung damage. For this reason, it improves exercise tolerance, symptom control, and self-management is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

23. A — Coordinating actuation with a slow deep breath improves lower-airway deposition and reduces medication loss. For this reason, begin a slow deep inhalation while actuating the canister once is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

24. B — The acute unilateral change after eating raises concern for aspiration or obstruction, so airway assessment comes before nonurgent testing. For this reason, evaluate airway patency and possible aspiration or mucus obstruction is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

25. B — Objective flow improvement paired with reduced effort indicates response; quiet breath sounds with fatigue can signal deterioration. For this reason, rising peak expiratory flow with less accessory-muscle use is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

26. D — Bypassing the upper airway removes natural conditioning, so adequate heated humidification helps preserve secretion mobility. For this reason, verify and optimize heated humidification of inspired

gas is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

27. A — A rising or normalizing PaCO₂ during severe asthma can be ominous when effort and fatigue worsen, indicating declining ventilation. For this reason, possible respiratory muscle fatigue and impending ventilatory failure is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

28. C — Readiness requires improvement of the precipitating problem, stable gas exchange and circulation, and spontaneous respiratory capability. For this reason, hemodynamic stability, adequate oxygenation, and ability to initiate breaths is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

29. A — Effective clearance mobilizes secretions and improves ventilation; adverse or absent response requires reassessment. For this reason, greater sputum expectoration with improved breath sounds and dyspnea is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

30. C — Stridor localizes obstruction to the upper airway and warrants rapid assessment rather than assuming typical bronchospasm. For this reason, upper-airway obstruction requiring prompt airway evaluation is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

31. B — An isolated rise in peak pressure reflects increased resistance between the ventilator and alveoli, so airway and circuit causes come first. For this reason, airway secretions, tube patency, circuit kinking, and bronchospasm is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

32. D — A written plan linking symptoms and personal-best peak flow to specific actions supports early recognition and appropriate escalation. For this reason, use symptoms and peak-flow zones within a written action plan is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

33. C — Exercise testing directly reveals exertional desaturation and permits titration under the conditions that provoke symptoms. For this reason, supervised exertional oximetry such as a six-minute walk test is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

34. B — Device and medication availability must be verified before labeling treatment failure; education prevents recurrence. For this reason, replace the inhaler and review dose tracking and technique is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

35. A — Fragile bullae and excessive pressure increase pneumothorax risk, so sudden deterioration requires immediate evaluation. For this reason, barotrauma producing a pneumothorax is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

36. D — The combination indicates obstructive shock from tension pneumothorax; decompression must not wait for routine testing. For this reason, emergency decompression for suspected tension pneumothorax is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

37. A — Flail chest care prioritizes oxygenation, pain control, pulmonary hygiene, and support based on ventilatory status. For this reason, provide oxygen, analgesia support, and ventilatory assistance as needed is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

38. C — Abrupt loss of expected drainage with deterioration suggests obstruction; rapidly checking the system can identify a reversible cause. For this reason, inspect the tubing for kinks, dependent loops, or obstruction is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

39. D — Contamination and reduced consciousness threaten airway patency, making suction and a secured airway the immediate priorities. For this reason, suction the airway and prepare for definitive airway management is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

40. B — Inhalation injury can cause rapidly progressive edema; early airway control is safer than attempting intubation after obstruction develops. For this reason, recommend early intubation before upper-airway edema progresses is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

41. A — Noninvasive positive pressure improves oxygenation and reduces preload and work of breathing in suitable alert patients. For this reason, apply cpap or bilevel positive pressure with supplemental oxygen is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

42. D — The acute postoperative pattern raises concern for pulmonary embolism, requiring timely diagnostic evaluation rather than unrelated pulmonary testing. For this reason, prompt evaluation for pulmonary embolism with appropriate imaging is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

43. C — Improved gas exchange and work of breathing without hemodynamic compromise supports continuation; instability requires escalation. For this reason, reduced respiratory effort with improved

oxygenation and blood pressure stability is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

44. B — Elevated left-sided filling pressure supports cardiogenic hydrostatic edema rather than isolated airway or permeability disease. For this reason, hydrostatic pulmonary edema from left-sided cardiac dysfunction is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

45. D — Documented hypoxemia should be corrected with titrated oxygen while the cardiac cause receives definitive treatment. For this reason, titrate supplemental oxygen to correct documented hypoxemia is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

46. C — Abrupt withdrawal can cause rebound elevation of pulmonary vascular resistance and rapid deterioration, so therapy restoration and assessment are urgent. For this reason, restore the prescribed therapy and assess for rebound pulmonary hypertension is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

47. A — Hemodynamic instability and inability to protect the airway are major signs of noninvasive support failure. For this reason, discontinue reliance on nppv and prepare for invasive airway support is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

48. B — A 12-lead ECG identifies the rhythm and helps guide urgent management while respiratory stability is supported. For this reason, acquire a 12-lead ecg while assessing oxygenation and stability is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

49. A — Shock or hypotension signals severe pulmonary vascular obstruction and requires immediate multidisciplinary escalation. For this reason, hemodynamic instability indicating obstructive circulatory compromise is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

50. C — Support can be reduced when the underlying process and gas exchange improve without recurrent distress. For this reason, stable oxygenation with reduced work of breathing on lower support is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

51. B — Serial decline in strength and cough predicts ventilatory failure; early airway planning is safer than waiting for collapse. For this reason, prepare for ventilatory support before overt respiratory arrest is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

52. D — Bedside respiratory mechanics and secretion handling reveal progression toward neuromuscular ventilatory failure. For this reason, serial vital capacity and maximal inspiratory pressure measurements is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

53. C — Cough-assist techniques create expiratory flow when respiratory muscle weakness prevents an effective natural cough. For this reason, mechanical insufflation-exsufflation with assisted coughing is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

54. D — Cough and desaturation during feeding suggest aspiration; stopping exposure and evaluating swallowing protects the airway. For this reason, stop feeding and request a formal swallowing and aspiration evaluation is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

55. A — Opioid-induced hypoventilation requires immediate ventilatory support and consideration of naloxone while monitoring for recurrence. For this reason, support ventilation and recommend opioid reversal when indicated is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

56. B — ARDS management emphasizes lung-protective ventilation to limit overdistension and ventilator-induced injury. For this reason, use lung-protective tidal volume based on predicted body weight is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

57. C — Excess plateau pressure indicates high alveolar distending pressure; reducing tidal volume can limit injury. For this reason, reduce tidal volume while maintaining lung-protective ventilation goals is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

58. A — The pattern suggests postoperative atelectasis, best addressed by pain control, mobility, and coached lung expansion. For this reason, provide analgesia support, mobilization, deep breathing, and lung expansion is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

59. B — Culture data can identify the pathogen and guide targeted antimicrobial therapy while supportive care continues. For this reason, obtain an appropriate respiratory specimen for culture and sensitivity is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

60. D — Tube migration with unilateral ventilation and a changed depth mark strongly suggests mainstem intubation. For this reason, right mainstem intubation from excessive tube advancement is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

61. A — Failure to pass a catheter indicates critical tube obstruction requiring immediate airway intervention. For this reason, treat the tube as obstructed and prepare for urgent replacement is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

62. D — Prone positioning can improve ventilation-perfusion matching and recruit dorsal lung regions in severe ARDS. For this reason, place the patient in the prone position with a trained team is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

63. C — The acute infectious symptoms and focal radiographic consolidation support pneumonia over chronic or pleural disorders. For this reason, community-acquired pneumonia with focal consolidation is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

64. B — Immunocompromise broadens the differential, so early targeted evaluation and respiratory support are essential. For this reason, promptly obtain targeted diagnostic studies while supporting oxygenation is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

65. A — Ventilatory compensation lowers PaCO₂ and helps defend pH; suppressing it can precipitate severe acidemia. For this reason, the high minute ventilation may be compensating for metabolic acidemia is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

66. D — Lower-airway sampling helps identify pathogens and guide therapy while infection-prevention measures remain important. For this reason, obtain an appropriate lower-respiratory specimen before targeted antibiotics when feasible is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

67. B — A blocked inner cannula is rapidly reversible; immediate removal and airway assessment take priority. For this reason, remove the inner cannula and assess for obstruction while oxygenating is the

best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

68. C — A pulmonary exacerbation requires intensified clearance, microbiologic assessment, antibiotics, and supportive care. For this reason, increase airway clearance and obtain cultures to guide antimicrobial therapy is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

69. C — 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. For this reason, 75 mm hg is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

70. B — Low bicarbonate and acidemia identify metabolic acidosis; the reduced PaCO₂ reflects compensatory hyperventilation. For this reason, primary metabolic acidosis with respiratory compensation is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

71. D — The patient shows intolerance; returning to support prevents exhaustion while reversible causes are evaluated. For this reason, terminate the trial and return to prior support while identifying the cause is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

72. A — The abrupt respiratory change during feeding suggests aspiration, requiring immediate airway and oxygenation assessment. For this reason, aspiration of enteral feeding into the lower respiratory tract is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

73. C — Thoracentesis samples and removes pleural fluid, potentially relieving compression while clarifying the cause. For this reason, thoracentesis performed with appropriate imaging and monitoring is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

74. A — Conventional pulse oximetry cannot distinguish oxyhemoglobin from carboxyhemoglobin; CO-oximetry directly measures the abnormal species. For this reason, measure carboxyhemoglobin using co-oximetry is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

75. D — CO-oximetry separates hemoglobin species and confirms methemoglobinemia when pulse oximetry is misleading. For this reason, obtain co-oximetry to measure methemoglobin directly is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

76. B — Sedative-related hypoventilation threatens ventilation and airway protection, requiring immediate support and reversal consideration. For this reason, support ventilation and evaluate for medication-related respiratory depression is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

77. D — Static compliance equals tidal volume divided by plateau pressure minus total PEEP: 500 divided by 15 is approximately 33 mL/cm H₂O. For this reason, 33 mL/cm H₂O is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

78. B — A systematic airway assessment identifies underinflation, system failure, malposition, or cuff damage before unsafe compensation. For this reason, cuff pressure, pilot balloon integrity, tube position, and cuff failure is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

79. A — Unilateral findings after line placement strongly suggest pneumothorax and require urgent confirmation and treatment. For this reason, evaluate immediately for an iatrogenic pneumothorax is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

80. C — Basic positioning and manual airway opening are immediate, reversible measures while further airway support is prepared. For this reason, reposition the airway and apply a jaw thrust with oxygen support is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

81. B — Minimal air movement with neurologic decline signals impending respiratory failure and requires immediate escalation. For this reason, prepare for advanced airway support while continuing urgent bronchodilator therapy is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

82. D — Supportive care and gentle secretion removal address common physiologic problems without unnecessary or traumatic interventions. For this reason, provide gentle nasal suction, oxygen as indicated, and supportive monitoring is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

83. A — Stridor at rest indicates significant upper-airway obstruction; epinephrine provides rapid improvement while steroids reduce edema. For this reason, administer nebulized epinephrine and systemic corticosteroid therapy is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

84. C — Unplanned pharyngeal manipulation can precipitate complete obstruction; airway management should occur in a controlled setting. For this reason, agitating the child with an unplanned throat examination is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

85. D — A changed depth marking with deterioration strongly suggests displacement and requires immediate airway evaluation. For this reason, partial extubation or tube displacement is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

86. B — The value is 60% of personal best, which lies in the usual 50% to 79% yellow range. For this reason, yellow zone requiring action according to the asthma plan is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

87. A — Rising support needs and altered mental status indicate deterioration and possible respiratory failure. For this reason, escalate respiratory assessment and support while notifying the care team is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

88. C — An impassable tracheostomy with distress indicates obstruction; restoring a patent airway is urgent. For this reason, remove and replace the obstructed tracheostomy tube per emergency protocol is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

89. A — Calming, oxygen, and knee-chest positioning can improve systemic resistance and pulmonary blood flow while definitive care is mobilized. For this reason, calm the infant, provide oxygen, and use knee-chest positioning is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

90. D — Systemic beta-agonist effects require reassessment of benefit, dose, and safety rather than automatic continuation or escalation. For this reason, reassess severity, dose, delivery, and treatment response before continuing is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

91. C — Prematurity, respiratory distress, and diffuse reticulogranular imaging strongly support surfactant-deficient respiratory distress syndrome. For this reason, neonatal respiratory distress syndrome from surfactant deficiency is the best response to the presented findings. The competing

choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

92. B — Apnea with heart rate below 100/min requires effective positive-pressure ventilation; ventilation is the key neonatal resuscitation step. For this reason, begin effective positive-pressure ventilation is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

93. A — An ineffective breath must be corrected before compressions because neonatal bradycardia is commonly caused by inadequate ventilation. For this reason, perform ventilation corrective steps to achieve visible chest movement is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

94. B — A heart rate below 60/min after effective ventilation requires coordinated compressions and ventilation. For this reason, begin coordinated chest compressions with ventilation and appropriate oxygen is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

95. D — Worsening ventilation, oxygenation, and apnea indicate CPAP failure and require prompt escalation and diagnostic reassessment. For this reason, escalate ventilatory support and evaluate for surfactant and other causes is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

96. C — A vigorous newborn does not require routine tracheal suctioning; standard care and observation are appropriate. For this reason, provide routine initial care and ongoing clinical observation is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.

97. D — A meaningful preductal-postductal difference suggests ductal right-to-left shunting and elevated pulmonary vascular resistance. For this reason, persistent pulmonary hypertension with right-to-left ductal shunting is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Objective measurements should be repeated after the intervention, with persistent instability communicated promptly.

98. B — Sudden unilateral findings during positive-pressure ventilation strongly suggest an air leak requiring urgent evaluation. For this reason, evaluate immediately for pneumothorax and prepare for decompression is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

99. A — Blended, monitored oxygen corrects hypoxemia while limiting unnecessary hyperoxia and related injury. For this reason, use blended oxygen and titrate to the prescribed saturation target is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk. Later decisions should reflect the documented response.

100. C — Correct interface position and seal first so prescribed distending pressure reaches the patient effectively. For this reason, reposition the interface and reassess seal, pressure delivery, and response is the best response to the presented findings. The competing choices would delay necessary care, address an unsupported diagnosis, or add avoidable cardiopulmonary risk.