

Northwest Community EMS System
February 2026 CE: Respiratory Emergencies
Credit Questions

Name (Print):		EMS Agency:		
EMS Educator:				
Date submitted	Score:	<input type="checkbox"/> Acceptable <input type="checkbox"/> Not acceptable	<input type="checkbox"/> Incomplete <input type="checkbox"/> Incorrect answers	Date returned w/ feedback
Resubmission received:	Score:	<input type="checkbox"/> Acceptable <input type="checkbox"/> Not acceptable	<input type="checkbox"/> Incomplete <input type="checkbox"/> Incorrect answers	Date returned w/ feedback:
# CE Hours awarded:			Date	

This packet should take 2 hours to complete – which earns the equivalent of the 2-hour live CE class.

Sources of information/answers

February 2026 CE PowerPoint PDF, NWCEMSS SOPs, and NWC EMSS Procedure Manual.

1. Approximately how many people in the United States have asthma?
 - A. 52 million
 - B. 93 million
 - C. 17 million
 - D. 28 million

2. Fill in the blank.

In 2023, _____ died from asthma. Nearly all of these deaths are _____ with the right tx.

3. List 7 triggers of an asthma attack:

4. Describe what happens during the “early” phase of an asthma attack.

5. Additionally, during the “early” phase of an asthma attack, there is abnormal activation of the parasympathetic nervous system, resulting in the release of acetylcholine. This results in the following 2 changes in the lungs:

- a. Bronchodilation and alveoli collapse
- b. Bronchoconstriction and mucus production
- c. Histamine release and bronchioles widen
- d. Scar tissue develops and microtears in capillaries cause bleeding

6. Describe the timing and what occurs in the airways during the “late” phase of an asthma attack.

7. True or false: Air trapping occurs during an asthma attack due to the fact that the airways are already narrowed and constricted, making it difficult to get air out, but in addition, during exhalation, the bronchiole walls collapse, further trapping air, leading to the retention of CO₂.
8. Which of the following accurately describes the ventilation/perfusion (V/Q) mismatch in an asthmatic patient?
- a. Perfusion (blood flow) to the lungs is poor, while ventilation remains adequate, resulting in not enough blood to pick up oxygen and eliminate CO₂, leading to metabolic acidosis.
 - b. Ventilation is poor in the air-trapped areas, but perfusion is normal, so blood passing through poorly ventilated areas picks up less O₂ and retains more CO₂.
 - c. Perfusion and ventilation to the lungs are both poor during an asthma attack, resulting in decreased respirations to try and retain what oxygen is available.
9. The ventilation/perfusion (V/Q) mismatch leads to which 2 conditions in an asthmatic patient?
- a. Hypercapnia and Hypoxia
 - b. Hypercapnia and Hypotension
 - c. Hypoxia and Hypocapnia
 - d. Low Hemoglobin and Hypoxia
10. As the patient tires, CO₂ levels rise, leading to respiratory acidosis. This is a clinical sign of what?
- a. Cardiac failure
 - b. Systemic Inflammatory Response Syndrome
 - c. Brain herniation
 - d. Impending respiratory failure
11. Match the mechanism to the signs and symptoms each will present with:
- | | |
|--|--|
| A. Smooth muscle contraction (bronchoconstriction) _____ | a. Increased WOB and shark-fin capno |
| B. Mucus plugging and edema _____ | b. Hyperinflated lungs, hypoxia, limited ability to speak, shark-fin capno |
| C. Air trapping _____ | c. Audible wheeze and chest tightness |
12. What category/classification of medication is Albuterol, and how does it work?

13. What category/classification of medication is Ipratropium Bromide, and how does it work?

14. What category/classification of medication is Epi (1:1), and how does it work?

15. What category/classification of medication is Magnesium, and how does it work?

16. List 3 benefits to C-PAP in the asthmatic patient:

17. List 3 differences in pediatrics vs adults when it comes to asthma and/or airway anatomy?

18. Put and **M** next to symptoms that are mild for a pediatric patient experiencing an asthma attack, and an **S** next to those symptoms describing a severe attack:

- | | |
|---|-------------------------------------|
| a. Speaks only in single-words _____ | f. Tripoding/can't lie down _____ |
| b. Mild tachypnea _____ | g. End-expiratory wheeze only _____ |
| c. Little to no use of intercostals _____ | h. Alert/playful/active _____ |
| d. Agitated/anxious/lethargic _____ | i. Head bobbing/nasal flaring _____ |
| e. Deep retractions _____ | j. SpO2 > 95% _____ |

19. What are the 3 sides/components of the Pediatric Assessment Triangle?

20. What percentage does tobacco use account for in COPD cases in high-income countries?

- | | |
|--------|--------|
| a. 60% | c. 70% |
| b. 45% | d. 81% |

21. List which sign or symptom is more typically found with emphysema or chronic bronchitis?

- | | |
|--|---------------|
| <input type="checkbox"/> Chronic & productive cough | A. Bronchitis |
| <input type="checkbox"/> Weak and thin | B. Emphysema |
| <input type="checkbox"/> Decreased lung sounds | |
| <input type="checkbox"/> "Barrel chest" | |
| <input type="checkbox"/> Obese | |
| <input type="checkbox"/> Lung sounds = wheeze, crackles or rales | |
| <input type="checkbox"/> Cyanosis | |
| <input type="checkbox"/> Pursed-lip breathing | |
| <input type="checkbox"/> Use of accessory muscles | |

22. During a COPD exacerbation, which of the following **2 statements** are true:

- A. Air trapping in the lungs → hyperinflated lungs → diaphragm flattens → significantly ↑ WOB
- B. Increased RR brings in more oxygen, thereby alleviating the respiratory distress
- C. Respiratory muscles fatigue, CO₂ levels rise, which leads to respiratory acidosis and resp failure
- D. The inflammatory response that occurs leads to bronchodilation and decreased mucus production

23. List 3 signs or symptoms that would indicate a COPD patient is in critical or severe distress?

- 1) _____
- 2) _____
- 3) _____

24. Fill in the blank:

"Studies consistently show that combination therapy improves lung function (FEV₁ – forced expiratory volume) more _____ than either drug alone."

25. List 4 benefits of CPAP for a COPD patient:

- a. _____
- b. _____
- c. _____
- d. _____

26. What are the 2 reasons EPI (1:1) is not used for treatment in COPD patients:

- 1) _____
- 2) _____

27. True or False: Influenza is contagious from about 1 day prior to symptoms to 5-7 days after symptoms start?

28. Which of the following describes pneumonia?

- a. A widespread lung infection that always impacts both lungs
- b. An infection in the lungs that impacts the bronchial tubes
- c. An infection in the air sacs of the lungs (one or both) causing them to fill with pus or fluid
- d. An acute respiratory syndrome where an inflammatory response triggers bronchoconstriction

29. List 4 patients (group, condition or type) that would place them at a higher risk of developing severe illness or complications from influenza or pneumonia?

30. Which of these would likely not be an appropriate intervention for a patient presenting with a respiratory infection?

- a. Administer epinephrine
- b. Give O2 via NRM or CPAP as indicated
- c. Consider need for Albuterol / Ipratropium
- d. Assess for SEPSIS

31. According to the chart titled Percent of Outpatient Visits for Respiratory Illness by Age Group, which age group sought medical attention at the highest percentage during the 2025-2026 flu season?

- a. 25 – 49 yr
- b. 0 – 4 yr
- c. 65+ age group
- d. 50 – 64 yr
- e. 5 – 24 yr

32. For a child with influenza, list 3 signs and symptoms in each group:

- a. 3 Common S/S: _____
- b. 3 GI S/S: _____
- c. 3 Behavioral S/S: _____

33. Label the sign/symptom with the condition it is describing. **A. Croup** **B. Epiglottitis**

- _____ Gradual onset, typically over 1-3 days
- _____ Tripod/leaning forward position
- _____ Typical age group 6 months – 3 years
- _____ Bacterial cause
- _____ High airway obstruction risk
- _____ Seal-bark cough

- _____ Typically high fever
- _____ Drooling
- _____ Viral cause
- _____ Onset is rapid/sudden, usually within hours
- _____ Often improves with O2

34. Based on a thorough assessment, your pediatric patient is presenting with a seal-bark cough, fever of 101F, has obvious intercostal retractions and is slightly cyanotic. What treatment is indicated?

- a. Nebulize EPINEPHERINE (1mg/10ml) 0.5mg (5ml) with 6L O2 via HHN or mask
- b. Nebulize EPI (1mg/1mL) 1mg with 15L O2 via HHN or mask
- c. Administer high flow O2 via CPAP
- d. Albuterol/Ipratropium neb via HHN or mask

35. EMS is transporting a sick 5 y/o with epiglottitis. The patient is not ventilating/oxygenating adequately. Which of the following interventions is not permissible?
- Position to optimally open airway, administer high flow O₂ via NC/mask
 - If in ventilatory failure: PPV 15L O₂ / Peds BVM, squeeze bag slowly
 - Unable to ventilate: temporarily stop ambulance, use least invasive peds airway adjunct, be prepared for status to worsen after unsuccessful ADV airway attempts
 - Drug assisted intubation

36. What is the mechanism of action/desired effect for nebulized EPI (1:10) in a croup patient?

37. List 7 signs/symptoms of severe bronchiolitis?

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | |

38. For the pediatric case study, what signs/symptoms is the child exhibiting for each component of the pediatric assessment triangle?

- Appearance:
- Work of breathing
- Circulation

39. (Case study) Based on the findings in the pediatric assessment triangle, and the patient's vital signs, what acuity would this patient fall into?

- Mild/Moderate
- Critical/Severe

40. (Case study) What treatment is indicated for the above patient?

- EPI (1:1) 0.3mg IM anterolateral thigh
- Albuterol/Ipratropium neb via HHN/mask
- Magnesium 25mg/kg IV
- Nebulize EPI (1:10) 0.5mg via HHN/mask