Northwest Community EMS System
May 2024 CE: Airway and Chest Wall Diseases
Credit Questions

Name (Print):		EMS Agency:		
EMS Educator:				
Date submitted	Score:	☐ Acceptable ☐ Not acceptable	☐ Incomplete ☐ Incorrect answers	Date returned w/ feedback
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# 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

May CE PowerPoint PDF, NWCEMSS SOPs, NWCEMSS procedures, video links, copy of PCR discussed in class

1. Anatomical components of the "respiratory pump" include which of the following? Select all that apply. (PPT slide #10)

   ☐ Respiratory muscles

   ☐ Nerves innervating the respiratory muscles

   ☐ Ribs, spine, and sternum

   ☐ Heart and pulmonary structures

2. Optimal function of the respiratory pump requires these 3 things? (PPT slide #10)

   1. _____

   2. _____

   3. _____

3. Prehospital management of respiratory distress for patients with kyphosis and or scoliosis is supportive. List two interventions that EMS can use given the lack of specific interventions for chest wall deformity. (PPT slide #14)

   _____

   _____

4. Fat deposits in the abdomen and thorax of patients with obesity cause restriction in downward movement of the diaphragm and outward movement of the chest all. This results in production of a lower tidal volume with each breath. What alteration in vital signs should EMS expect as patients compensate for this? (PPT slide #15)

   _____

An obese patient requires intubation. They have grown very fatigued and pulse ox readings are worsening in spite of EMS interventions. Answer questions 5 – 8 regarding management of this patient

5. What oxygen delivery device will provide the most optimal pre-oxygenation for this patient? (SOP p 9)

   _____

6. How should the obese patient by positioned for the intubation procedure? (SOP p 9)

   _____

7. How many times may EMS attempt intubation of an obese patient, before switching to Igel? (SOP p 9)

_____

8. What two sites will provide EMS with the most reliable lung sounds for confirming accurate placement of ET tube on an obese patient? (SOP p 9)

_____ and _____

9. What two effects does the abnormal function of the CFTR protein produce in cystic fibrosis? (PPT slide #21)

_____ and _____

10. Common are two respiratory signs and symptoms common in patients with cystic fibrosis are: (PPT slide #21)

_____ and _____

11. Routine daily care of patients with cystic fibrosis is aimed at what? (PPT slide #23)

_____

12. Exacerbation of cystic fibrosis will reveal worsening of what 3 things? (PPT slide #25)

_____

_____

_____

13. List 3 actions or interventions EMS may employ in management of CF exacerbation. (PPT slide # 25)

_____

_____

_____

14. What change to lung tissue takes place in pulmonary fibrosis (PF)? (PPT slide # 26)

_____

resulting in _____

15. Signs and symptoms commonly seen in patients with PF include which of the following? Select all that apply. (PPT Slide # 26)

- ☐ Dyspnea
- ☐ Persistent dry cough
- ☐ Blueish discoloration to the skin
- ☐ Low energy and activity tolerance
- ☐ Cough productive of thick white mucus

16. Which of the following puts a person at risk for development of PF? Select all that apply. (PPT slide #27)

- ☐ Smoking
- ☐ Use of vape pens
- ☐ Agricultural vocation
- ☐ Urban dwelling (vs rural)
- ☐ Farming and or ranching
- ☐ Working in an environment where industrial dust and metal particles may be inhaled

17. Which of the following is accurate regarding patients living with PPF? (PPT slide #28)

- ☐ Monitor pulse ox readings at home
- ☐ Exacerbation of symptoms is common
- ☐ Require supplemental O2 twenty-four hours a day
- ☐ Require regular, frequent interventions to loosen airway mucus
- ☐ Pulse ox readings are normally below those for the general, healthy population
- ☐ Diagnosis may be delayed if S&S are assumed to be due to aging or being out of shape

18. List 3 signs and symptoms should alert EMS to possible exacerbation of PF? (PPT slide #30)

_____

_____

_____

19. What finding specific to a change in SpO2 should alert EMS to a patient experiencing an exacerbation of PF and likely need for intervention? (PPT slide #30)

_____

20. What should EMS expect to learn regarding timing of a patient's symptoms, when they are experiencing an exacerbation of their PF? (PPT slide #30)

_____

21. What was the goal for successful intubations from each department for 2023? (slide 34)

a. 79% b. 70%

c. 50% d. 67%

22. What is the most common adverse event encountered during the intubation of critically ill patients? (slide 36)

_____

23. What are 3 complications of oxygen desaturation during an intubation attempt? (slide 36)

_____ _____ _____

24.. List 3 key points or “gems” of preoxygenation and BVM ventilation: (slides 37 – 38)

_____ _____ _____

25. Which of the following is a goal of preoxygenation? (slide 39)

    a. Decreases odds of hypoxia during intubation attempt

    b. Allows EMS to take as long as needed for the intubation attempt

    c. Maintain high levels of nitrogen in the lungs

    d. To hyperventilate the patient

26. When a patient breathes 100% oxygen, this washes out the nitrogen and increases the oxygen in the lungs to appx. what volume? (Slide 42)

    a. 2,000 mL b. 1,000 mL c. 500 mL d. 3,000 mL

27. Increasing the volume of oxygen in the lungs greatly decreases your period of safe apnea (period before patient desaturates to unsafe levels)? (slide 43) **True** **False**

28. Functional Residual Capacity (FRC) is the most important store of _____ in the body.

29. What position promotes an increase in functional residual capacity?

    a. Trendelenburg position

    b. Head elevated at least 30 degrees

    c. Supine

30. List the 4 benefits of Apneic Oxygenation: (slide 46)

    1. _____

    2. _____

    3. _____

    4. _____

31. Put these steps of oral airway insertion in order: (slide 49)

    _____ Flange should rest on patient’s lips

    _____ Distal tip rests behind bas of tongue in the oropharynx

    _____ Depress tongue with tongue blade

    _____ Insert airway along curvature of tongue

    _____ Verify tongue/lips are not caught between teeth and airway

32. Once BLS airways are in place, what is the next step for preoxygenating? (slide 51)

a. Assist ventilations with BVM
b. Insert I-Gel
c. Apply 15L O_2 via $EtCO_2$ nasal cannula
d. Provide oxygen via NRB mask

33. CPAP significantly delays desaturation during apnea? (slide 52) **True** **False**

CPAP helps recruit/open up collapsed alveoli to improve oxygenation? **True** **False**

34. Which of the following is NOT criteria that the patient must meet to be considered for CPAP? (slide 52)

a. RR ≥ 10 b. Alert c. Good ventilatory effort d. Unresponsive

35. What optional piece of equipment limits flow through the BVM to help deliver safe, effective ventilations? (slide 57)

a. Sotair device b. ResQPod c. HEPA filter d. PEEP valve

36. According to the NASEMSO Prehospital Airway Guidelines, EMS should pay attention to avoid what? (slide 58)

a. hypertension and elevated glucose
b. increased ICP and tachycardia
c. bradycardia and hypercapnia
d. hypotension and hypoxemia

37. Once the patient is successfully preoxygenated for 3 minutes, the next step is _____ ?

38 – 40. For a patient in respiratory distress with a tracheostomy, put the following steps in order for assessment/treatment:

_____ Manually attempt to ventilate through tube

_____ If can't replace trach tube, insert ETT until cuff just passes stoma

_____ If trach/ETT not patent after changing, or won't pass, ventilate mask to mouth

_____ Attempt to pass suction catheter through trach tube (and suction)

_____ If suction won't pass and double lumen: remove inner cannula, suction, clear inner cannula, replace
single lumen: remove and replace trach tube