Why does a patient in respiratory distress typically assume a sitting position?     A. Relieves bronchoconstriction and decreases lung compliance     B. Increases venous return to the heart and improves lung perfusion     C. Increases lung volumes and surface area for diffusion in the upper lobes     D. Drains fluid out of the lung bases into the abdomen to aid gas exchange	<ul> <li>Which of these should be included in the primary assessment?</li> <li>A. A full set of vital signs</li> <li>B. Evaluation of the ABCs for immediate life-threats</li> <li>C. Obtaining the chief complaint and a SAMPLE history</li> <li>D. Rapid palpation of the head, chest, abdomen, and limbs</li> </ul>	<ul> <li>Which of these is an audible sound suggesting airway or ventilatory impairment that can be heard without a stethoscope during the primary assessment?</li> <li>A. Bruit</li> <li>B. S3, S4</li> <li>C. Pleural friction rub</li> <li>D. Expiratory grunting</li> </ul>
<ol> <li>An adult with blunt chest trauma is agitated and in severe respiratory distress. After confirming a patent airway, you note unequal chest expansion and JVD. The patient keeps removing the oxygen mask stating, "I can't breathe!" Which of these should be assessed next during the primary assessment to differentiate the life-threat?</li> <li>A. Take a blood pressure</li> <li>B. Assess bilateral lung sounds</li> <li>C. Obtain a capnography reading</li> <li>D. Perform direct laryngoscopy to detect occult foreign body aspiration</li> </ol>	<ul> <li>5. Which immediate life-threat requires assessment and resuscitation during the "B" breathing/gas exchange phase of the primary assessment?</li> <li>A. Two isolated rib fractures with an SpO<sub>2</sub> of 95% on room air</li> <li>B. Facial trauma with teeth and blood obstructing the upper airway</li> <li>C. Good bilateral lung sounds, JVD, hypotension and muffled heart tones</li> <li>D. Paradoxical chest wall movement and SpO<sub>2</sub> &lt; 90% on 95% O<sub>2</sub></li> </ul>	<ul> <li>6. Which immediate life-threat must be found and resuscitated during the "B" (breathing) phase of the primary survey?</li> <li>A. Altered mental status and snoring respirations</li> <li>B. Unilateral absence of breath sounds, good radial pulse, flat neck veins</li> <li>C. Blood bubbling from an open chest wound, dyspnea, bilaterally absent breath sounds</li> <li>D. Cool, mottled extremities, weak carotid pulse, tachycardia</li> </ul>
<ul> <li>7. Which of these is a sign of <i>inadequate ventilatory</i> status in a 3 y/o child?</li> <li>A. RR of 12 with subcostal retractions</li> <li>B. Fast femoral pulse with cool extremities</li> <li>C. Capnography reading of 38 with square waveform</li> <li>D. Inspiration that sounds twice as long as expiration on auscultation</li> </ul>	<ul> <li>8. Which of these reflects adequate ventilatory/oxygenation status in an adult?</li> <li>A. RR of 32 and SpO<sub>2</sub> of 93%</li> <li>B. Cap refill &lt; 2 sec and strong peripheral pulses</li> <li>C. Conscious and anxious using accessory muscles</li> <li>D. Pink mucous membranes &amp; bilateral vesicular breath sounds</li> </ul>	<ul> <li>9. Which of these is a sign of <i>inadequate ventilatory</i> status in an adult?</li> <li>A. Cool, mottled extremities</li> <li>B. SpO<sub>2</sub> of 95% on high flow oxygen</li> <li>C. Breathing only with the diaphragm</li> <li>D. Capnography reading 38 w/ square waveform</li> </ul>
<ul> <li>10. What is the physiologic purpose of pursed lip breathing?</li> <li>A. Increasing intrathoracic pressure with increase cardiac output</li> <li>B. Patient is adding their own PEEP to keep distal airways open longer</li> <li>C. Patient is slowing their respiratory rate to prevent hyperventilation</li> <li>D. Adding resistance to exhalation helps to retain CO<sub>2</sub> and maintain a normal pH</li> </ul>	<ul> <li>11. Which of these should be included as part of the inspection phase of the Primary assessment?</li> <li>A. Quick check of breath sounds</li> <li>B. Percussing the chest for tympany</li> <li>C. Listening to the patient's speech</li> <li>D. Feeling the chest for deformities or crepitus</li> </ul>	<ul> <li>12. Which of these will result from severe gastric distention due to air in children?</li> <li>A. Impaired ventilations</li> <li>B. Decreased cardiac output</li> <li>C. Increased intrathoracic pressure</li> <li>D. Abdominal compartment syndrome</li> </ul>

<ul> <li>13. Which of these should be anticipated in extremely obese patients?</li> <li>A. Lungs are easier to ventilate</li> <li>B. They desaturate quickly if supine and need to be upright</li> <li>C. They naturally hyperventilate so low EtCO<sub>2</sub> values are normal</li> <li>D. Extra lung tissue augments sound transmission making breath sounds easier to hear</li> </ul>	<ul> <li>14. Which of these is accurate regarding cyanosis?</li> <li>A. There are two categories: internal &amp; external</li> <li>B. It is one of the first signs of anemia along with restlessness and anxiety</li> <li>C. It is a late sign of hypoxia that develops when 5 Gm of Hb is desaturated</li> <li>D. It is impossible to assess in those with heavily pigmented skin</li> </ul>	<ul> <li>15. Where is skin color is best evaluated to assess for central cyanosis?</li> <li>A. Nailbeds</li> <li>B. Knee caps</li> <li>C. Wrists and neck</li> <li>D. Lips and conjunctiva</li> </ul>
<ul> <li>16. What does pulse oximetry measure?</li> <li>A. Adequacy of ventilations</li> <li>B. Amount of CO<sub>2</sub> in the blood</li> <li>C. % of hemoglobin bound with a gas</li> <li>D. Amount of O<sub>2</sub> dissolved in blood plasma</li> </ul>	<ul> <li>17. How can the oxygen saturation of red blood cells be non-invasively monitored in the field?</li> <li>A. Capnography</li> <li>B. Pulse oximetry</li> <li>C. Peak flow monitor</li> <li>D. End tidal CO<sub>2</sub> detector</li> </ul>	<ul> <li>18. Which of these is an acceptable use for pulse ox monitors?</li> <li>A. Substituting for the capnography reading</li> <li>B. Detecting the total oxygen content of the blood</li> <li>C. Detecting oxygenation impairment distal to a limb injury</li> <li>D. Measuring the quality &amp; rhythmicity of peripheral pulses</li> </ul>
<ul> <li>19. Which is an accurate assumption about pulse ox readings?</li> <li>A. The SpO<sub>2</sub> reading is a good measure of organ tissue and cellular oxygenation</li> <li>B. If the SpO<sub>2</sub> is 90%, the pO<sub>2</sub> is 60 and the pt is bordering on severe hypoxia</li> <li>C. Use peripheral sensors on vasoconstricted pts to get the best reflection of their oxygen status</li> <li>D. Central sensors are a figment of the System's imagination – they are never needed</li> </ul>	<ul> <li>20. An adult has been rescued from a burning building and is very confused, c/o a severe headache and nausea. The pt is tachycardic and flushed; RR 24 with adequate depth; breath sounds are clear bilaterally; SpO<sub>2</sub> 99%. Which of these reflects the best choice of care?</li> <li>A. The pt is not hypoxic and does not need O<sub>2</sub></li> <li>B. The SpO<sub>2</sub> is misleading due to CO poisoning; give O<sub>2</sub> 15 L/NRM</li> <li>C. Give O<sub>2</sub> at 2 L/NC to vasoconstrict cerebral vessels and reduce the headache</li> <li>D. Give ondansetron. If the nausea resolves, transport BLS with no further treatment.</li> </ul>	<ul> <li>21. Which of these will influence the affinity of hemoglobin for O<sub>2</sub>, the context in which pulse ox readings must be interpreted, and the amount of O<sub>2</sub> delivered to cells?</li> <li>A. Acid-base status</li> <li>B. The blood glucose level</li> <li>C. The number of white blood cells</li> <li>D. The osmolarity of plasma proteins</li> </ul>
<ul> <li>22. Which of these patients can be harmed by hyperoxia and need careful titration of oxygen to a maximum SpO₂ of 94%?</li> <li>A. Patients requiring DAI</li> <li>B. Uncomplicated Acute MI</li> <li>C. Severe burns or epiglottitis</li> <li>D. Shock w/ severe hypoxia &amp; anaerobic metabolism</li> </ul>	<ul> <li>23. An adult experienced ROSC from VF. The pt is unconscious, remains intubated; and EtCO<sub>2</sub> has a square waveform and digital reading of 62 mmHg. The pt is breathing on their own. VS: BP 80/50; P 76; R 12; SpO<sub>2</sub> 92%. Which of these is indicated?</li> <li>A. O<sub>2</sub> to achieve an SpO<sub>2</sub> of 100%</li> <li>B. Hyperventilate to an EtCO<sub>2</sub> of 30</li> <li>C. O<sub>2</sub> just to achieve an SpO<sub>2</sub> of 94%</li> <li>D. Give 6 deep breaths to wash out the nitrogen and raise SpO<sub>2</sub> levels to 100%, then slow rate to 10 per minute</li> </ul>	<ul> <li>24. Which of these is the desired intervention to support ventilation/oxygenation in a pt with COPD who has an SpO<sub>2</sub> of 87% and is complaining of dyspnea on exertion?</li> <li>A. Give sufficient O<sub>2</sub> to titrate SpO2 levels to 88-92%</li> <li>B. Withhold all O2 so the ventilatory drive is not suppressed</li> <li>C. Quickly reverse respiratory acidosis with high flow O2 and a rapid RR to prevent hypokalemia</li> <li>D. Reverse chronic respiratory alkalosis by asking the patient to breath rapidly with shallow breaths</li> </ul>

<ul> <li>25. Why is CPAP indicated for a patient in pulmonary edema with good, but labored, ventilatory effort and an SpO<sub>2</sub> of 75%?</li> <li>A. To prevent the blood pressure from falling</li> <li>B. To allow the rapid replacement of surfactant</li> <li>C. To splint the lower airways open &amp; reduce work of breathing</li> <li>D. To increase venous return to the heart like a ResQPod in cardiac arrest</li> </ul>	<ul> <li>26. What capnography waveform change indicates incomplete or obstructed exhalation requiring bronchodilators?</li> <li>A. Loss of waveform entirely</li> <li>B. Square waveform half its normal height</li> <li>C. Increasingly narrower rectangular waveforms</li> <li>D. Sharkfin pattern with loss of rectangular plateau</li> </ul>	<ul> <li>27. Why is a 12 L ECG indicated for someone who presents with shortness of breath (SOB)?</li> <li>A. The 12 L could tell if the patient is in pulmonary edema or not</li> <li>B. You can't tell if it is a cardiac or respiratory cause without a normal 12 L</li> <li>C. Severe hypoxia from an acute exacerbation of COPD may cause cardiac ischemia</li> <li>D. The System just wants you to learn how to do them well so put leads on everyone</li> </ul>
<ul> <li>28. A tall, thin 28 y/o male presents with sudden onset of pleuritic pain in the upper right chest that does not radiate and mild shortness of breath after a rigorous game of basketball and severe coughing episode. He denies any PMH and takes no meds. Lung sounds are absent over the right upper lobe and clear over the remaining lobes on the right and left. VS: BP 132/82; P 88; R 24; RA SpO<sub>2</sub> 96%; EtCO<sub>2</sub> 35; waveform is square. Which of these should be suspected?</li> <li>A. Exercise induced asthma</li> <li>B. Acute pulmonary embolism</li> <li>C. Spontaneous pneumothorax</li> <li>D. FB obstruction of Rt mainstem bronchus</li> </ul>	29. A 42 y/o is complaining of extreme dyspnea with an acute onset of stabbing pleuritic chest pain over the right lateral chest (10/10) and a cough that started 20 min ago. The pt is anxious and restless, ventilations are shallow and they are speaking in short phrases. Breath sounds are clear bilaterally and they have hemoptysis. VS: BP 90/60; P 112, R 32; RA SpO <sub>2</sub> 84%; EtCO <sub>2</sub> 16 with square waveform. Skin is cool, pale, and moist with dusky nail beds; T 98.6° F. PMH: knee replacement surgery 4 days ago. The pt has been relatively immobile ever since. Which of these should be suspected?  A. Severe atelectasis  B. Pulmonary embolus  C. Spontaneous pneumothorax  D. Community acquired pneumonia	<ul> <li>30. An elderly adult has been feeling increasingly ill for the past three days with a fever (T 102° F) pleuritic chest pain and a productive cough of thick green sputum. Today, the patient became confused and disoriented. Exam: Skin hot and dry with poor turgor; cracked lips; crackles in the right middle and lower lobes with normal sounds in the remaining lobes. VS: BP 100/68; P 92, R 32, RA SpO<sub>2</sub> 90%; EtCO<sub>2</sub> 45 with square waveform. Which of these should be suspected?</li> <li>A. Pneumonia</li> <li>B. Tuberculosis</li> <li>C. Pulmonary embolus</li> <li>D. Non-cardiogenic pulmonary edema</li> </ul>
<ul> <li>31. Which of these is more likely to be prescribed for a pt with a respiratory rather than a cardiac condition?</li> <li>A. captopril (Capoten)</li> <li>B. clopidogrel (Plavix)</li> <li>C. losartan (Cozaar)</li> <li>D. montelukast (Singulair)</li> </ul>	32. Which of these is more likely to be prescribed for a pt with a cardiac rather than a respiratory condition?  A. atenolol (Tenormin) B. cromolyn sodium (Intal) C. salmeterol xinafoate (Serevent) D. triamcinolone acetonide (Azmacort)	33. Which of these prescribed drugs should prompt questions about a history of atrial fibrillation?  A. tiotropium (Spiriva) B. flunisolide (AeroBid) C. dabigatran (Pradaxa) D. hydrochlorothiazide/Hydrodiuril

34. A moderately obese 64 y/o is extremely SOB after walking to answer the door. The pt claims a productive cough of white-yellow sputum that lasts months at a time for the past two years and states that his feet and ankles began to swell a week ago. He cannot lie flat and must sleep on three pillows. PMH: Smoked two packs of cigarettes/day since age 14. Exam: JVD; breath sounds: generalized wheezing; skin is warm and dry with dusky nailbeds and there is pitting edema over both tibias; no fever; RA SpO <sub>2</sub> 88%; EtCO <sub>2</sub> 55 with sharkfin waveform. What should be suspected?  A. Pneumonia B. Emphysema C. Chronic bronchitis D. Pulmonary embolus	35. A 62 y/o is c/o dyspnea at rest that has gotten progressively worse over the past two days after coming down with a head cold. The pt denies chest pain or productive cough and states that they have had dyspnea on exertion for years. PMH: 40 pack years of cigarette smoking, denies allergies; ipratropium inhaler used occasionally for wheezing. The pt is thin with a barrel chest and is breathing with pursed lips. Breath sounds are bilaterally diminished in all lung fields. Skin and VS are WNL; no fever; nailbeds have clubbing; RA SpO <sub>2</sub> 88%; EtCO <sub>2</sub> 55 with sharkfin waveform. What should be suspected?  A. Pneumonia B. Emphysema C. Chronic bronchitis D. Pulmonary embolus	36. A 66 y/o obese adult is short of breath at rest. The patient denies chest pain but has had a continuous productive cough of yellow mucus for the past two years that has worsened over the past week. PMH: Smoked cigarettes since the age of 15. Exam: JVD; wheezing in all lung fields; dependent edema in both legs; peripheral cyanosis and clubbing of the nailbeds. VS: BP 160/86; P 92; R 24; SpO <sub>2</sub> 95% on home oxygen at 2 L/NC; EtCO <sub>2</sub> 55 with a sharkfin waveform; T 98.6° FWhat is the cause of the patient's JVD and ankle edema?  A. Cor pulmonale  B. Renal insufficiency  C. Acute left sided heart failure  D. Ascites resulting from a plasma protein deficit
<ul> <li>37. What technique should be used to palpate the chest for a rib fracture?</li> <li>A. Palpate each individual rib with the fingertips</li> <li>B. Tap the sternum and assess for radiating pain</li> <li>C. Compress downward on the sternum and inward on the lateral chest wall</li> <li>D. Place hands on each side of the chest and thumbs on the xiphoid process and squeeze</li> </ul>	38. Which is assessed using the maneuver of palpation when evaluating the pulmonary System?  A. Jugular vein distention B. AP/Lateral chest diameter C. Supraclavicular retractions D. Subcutaneous emphysema	<ul> <li>39. When using the technique of palpation to feel for tactile fremitus, what would increased vibrations over one area of the chest suggest?</li> <li>A. Pneumothorax</li> <li>B. Pleural effusion</li> <li>C. Consolidation, like pneumonia</li> <li>D. Expansion of apical blebs as in emphysema</li> </ul>
<ul> <li>40. What information is obtained by percussing the chest?</li> <li>A. Location of an airway obstruction</li> <li>B. Turbulence of airflow patterns in the bronchi</li> <li>C. Point of maximum impulse at the heart apex</li> <li>D. Whether the underlying region is filled with air, fluid or normal tissue</li> </ul>	<ul> <li>41. Which is assessed by using the maneuver of percussion when evaluating a chest injury?</li> <li>A. Crepitus</li> <li>B. Mediastinal shift</li> <li>C. Bruits and murmurs</li> <li>D. Pneumo vs. hemothorax</li> </ul>	42. What percussion note would be heard over hyperinflated lung or a pneumothorax?  A. Dull  B. Flat  C. Resonance  D. Hyperresonance
<ul> <li>43. Which is true and will impact the pitch, timing, location, or duration of breath sounds?</li> <li>A. Airways at the apex fill later than those in the base in the upright position.</li> <li>B. The diaphragm has a lower attachment anteriorly making that the best location to first hear crackles.</li> <li>C. Excess tissue dampens sound transmission, quieting breath sounds in obese patients.</li> <li>D. The trachea causes little airway resistance so has laminar airflow patterns with little sound.</li> </ul>	<ul> <li>44. Which is true and will impact the pitch, timing, location, or duration of breath sounds?</li> <li>A. Airways at the apex fill later than those in the base in the upright position.</li> <li>B. The diaphragm has a lower attachment anteriorly making that the best location to first hear crackles.</li> <li>C. Excess soft tissue amplifies sound waves enhancing breath sounds in obese patients.</li> <li>D. The trachea causes airway resistance producing turbulent airflow patterns.</li> </ul>	<ul> <li>45. Which is true and will impact the pitch, timing, location, or duration of breath sounds?</li> <li>A. Airways at the apex fill later than those in the base in the upright position.</li> <li>B. The diaphragm has a lower attachment in back making that the best location to first hear crackles.</li> <li>C. Excess soft tissue amplifies sound transmission, enhancing breath sounds in obese patients.</li> <li>D. The trachea causes little airway resistance so has laminar airflow patterns with little sound</li> </ul>

46. Which statement accurately describes the recommended technique for auscultating lung sounds?  A. Start at the auscultatory triangle in back B. Have the pt breathe quietly through their nose C. Listen first to the anterior chest, and if clear, omit listening to the back D. Have the pt take a deep breath, hold it and cough to assess the full ventilatory cycle	<ul> <li>47. Which statement accurately describes the recommended technique for auscultating lung sounds?</li> <li>A. Listen only to the anterior and lateral chest in comatose patients</li> <li>B. Have patients inhale deeply through their nose for each site examined</li> <li>C. Place the stethoscope head directly on skin over an intercostal space</li> <li>D. Avoid listening over areas covered by dense chest hair to minimize crackling noises</li> </ul>	48. Which statement accurately describes the recommended technique for auscultating lung sounds?  A. Begin over the upper back and work downward  B. Have patients breathe through their mouth for each site examined  C. Place the stethoscope head directly over a bony rib to augment sound  D. If critically ill, listen to anterior chest first and dependent sites last after pt is turned
<ul> <li>49. Which statement is TRUE regarding auscultation of normal vesicular breath sounds?</li> <li>A. Inspiration sounds two times as long as expiration.</li> <li>B. Expiration sounds louder, longer and higher pitched than inspiration.</li> <li>C. Inspiration is almost inaudible due to laminar airflow in the bronchi.</li> <li>D. Inspiration sounds harsh and high pitched, like air being blown through a hollow pipe.</li> </ul>	<ul> <li>50. What pathology is suggested if bronchial breath sounds are heard over the lung periphery?</li> <li>A. Emphysema</li> <li>B. 70% pneumothorax</li> <li>C. Area of consolidation</li> <li>D. Hyper-reactive airway disease</li> </ul>	<ul> <li>51. What should be suspected if a spontaneously ventilating patient has no detectable breath sounds over one side of the chest?</li> <li>A. Consolidation of lung tissue</li> <li>B. Bronchodilation and transitional airflow</li> <li>C. Air or blood in the pleural space</li> <li>D. Fluid in the alveoli and terminal bronchioles</li> </ul>
<ul> <li>What pathophysiology produces crackles?</li> <li>A. Overinflation of alveoli due to air trapping</li> <li>B. Inflamed pleurae moving over one another</li> <li>C. Bronchoconstriction due to an inflammatory process</li> <li>D. Sudden opening of collapsed airways &amp; adjoining alveoli with equalization of gas pressures</li> </ul>	<ul> <li>What pathophysiology produces wheezing?</li> <li>A. Inflamed pleurae moving over one another</li> <li>B. Significant partial upper airway obstruction</li> <li>C. Air passing through bronchi fluctuating between closed &amp; barely open</li> <li>D. Sudden opening of collapsed airways &amp; adjoining alveoli with equalization of gas pressures</li> </ul>	<ul> <li>What pathophysiology produces stridor?</li> <li>A. Inflamed pleurae moving over one another</li> <li>B. Significant partial upper airway obstruction</li> <li>C. Air passing through bronchi fluctuating between closed &amp; barely open</li> <li>D. Sudden opening of collapsed airways &amp; adjoining alveoli with equalization of gas pressures</li> </ul>
<ul> <li>55. Which statement best describes crackles?</li> <li>A. Continuous, harmonic musical sounds</li> <li>B. Harsh, high-pitched crowing sounds</li> <li>C. Short, explosive discontinuous sounds like opening Velcro</li> <li>D. Coarse, grating sounds heard throughout inspiration and expiration like creaking leather</li> </ul>	<ul> <li>56. Which of these describes the sound of wheezes?</li> <li>A. Continuous, harmonic musical sounds</li> <li>B. Harsh, high-pitched crowing sounds</li> <li>C. Short, explosive discontinuous sounds like opening Velcro</li> <li>D. Coarse, grating sounds heard throughout inspiration and expiration like creaking leather</li> </ul>	<ul> <li>57. Which of these describes the sound of a pleural friction rub?</li> <li>A. Continuous, harmonic musical sounds</li> <li>B. Harsh, high-pitched crowing sounds</li> <li>C. Short, explosive discontinuous sounds like opening Velcro</li> <li>D. Coarse, grating sounds heard throughout inspiration and expiration like creaking leather</li> </ul>
<ul> <li>58. Which of these is true regarding crackles?</li> <li>A. They are heard more commonly on expiration</li> <li>B. They always mean that fluid has accumulated in the lower airways</li> <li>C. They will be generalized and symmetrical in LV failure w/ pulmonary edema</li> <li>D. They generally clear with coughing if due to HF, early pneumonia, or pulmonary fibrosis</li> </ul>	<ul> <li>59. Which of these indicates that a patient with a severe asthma attack is improving after therapy?</li> <li>A. Patient develops pulsus paradoxus</li> <li>B. Tachycardia transitions to bradycardia</li> <li>C. Diminished breath sounds transition to wheezing</li> <li>D. Peak flow readings go from the yellow to the red zone</li> </ul>	<ul> <li>60. Which of these is highly diagnostic for a patient in heart failure and should be assessed by EMS if the pt has undifferentiated wheezing or frothy sputum?</li> <li>A. S3 heart sound</li> <li>B. Myoclonus of the wrist</li> <li>C. Clubbing of the nailbeds</li> <li>D. White milky ring around the iris of the eye</li> </ul>