

Respiratory Distress Questions

1. Which of the following are NOT symptoms of an upper airway obstruction?
 - A. Gagging
 - B. Changes in voice quality
 - C. Noisy inspiration (stridor)
 - D. No audible speech, crying or cough
 - E. Crackles on auscultation
2. During a busy evening shift, you admit a 2 year old male who presents with a barking cough, stridor at rest, and moderate retractions. He is alert and oriented and calms with his mother. His vital signs on admission are temperature 38.5, heart rate 165, respiratory rate 65, blood pressure 90/45 and oxygen saturation of 92%. Which of the following should NOT be included in your initial management?
 - A. Oxygen
 - B. Keeping the patient NPO
 - C. Nebulized racemic epinephrine
 - D. Dexamethasone
 - E. Nebulized albuterol
3. What is the first medication that should be given to a patient with anaphylaxis and respiratory distress?
 - A. Diphenhydramine
 - B. Ranitidine
 - C. Solumedrol
 - D. Epinephrine
 - E. Albuterol
4. While on call in January, you admit a 10 month old previously healthy female who presents with cough, nasal congestion and fevers of 2 days duration and 1 day of tachypnea. She is fully immunized. On exam, her temperature is 39.2, heart rate 130, respiratory rate 55 and oxygen saturation of 93% on room air. Her lung exam reveals diffuse crackles and wheezes at the bases as well as moderate subcostal retractions, but no flaring, grunting or head bobbing. Which diagnostic test is most likely to demonstrate the cause of her respiratory distress?
 - A. Chest X Ray
 - B. Nasopharyngeal swab for viral panel
 - C. Blood culture
 - D. Urinalysis
 - E. CBC with differential
5. When performing an initial assessment of a patient in respiratory distress, the history should include all of the following elements **EXCEPT**:
 - A. Change in the quality of voice
 - B. Underlying medical conditions
 - C. Recent episodes of trauma
 - D. Previous episodes of respiratory distress
 - E. Detailed family history

Respiratory Distress Knowledge Answers

1. Which of the following are NOT symptoms of an upper airway obstruction?
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Gagging, choking, changes in voice quality and noisy inspiration are all symptoms of a partial upper airway obstruction. Patients with complete upper airway obstruction may have no audible speech, crying or coughing. Patients who present with both partial and complete airway obstruction should be managed quickly and to rapidly determine whether or not an advanced airway is needed. Agitation should be avoided and suctioning should only be performed if blood or debris is present. Airway swelling can be reduced with inhaled epinephrine and corticosteroids. Crackles on auscultation are associated with lower airway disease, and conditions such as pneumonia or atelectasis.

2. During a busy evening shift, you admit a 2 year old male who presents with a barking cough, stridor at rest, and moderate retractions. He is alert and oriented and calms with his mother. His vital signs on admission are temperature 38.5, heart rate 165, respiratory rate 65, blood pressure 90/45 and oxygen saturation of 92%. Which of the following should NOT be included in your initial management?
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The patient described in the scenario has moderate croup, as evidenced by his symptoms of barking cough, stridor at rest and moderate retractions. The management of moderate croup should include oxygen, nebulized racemic epinephrine with monitoring for 2 hours after this treatment is given and oral or IV dexamethasone. The patient should be kept NPO and closely monitored for deterioration and respiratory failure. Albuterol is used to treat lower airway obstruction due to bronchospasm and is unlikely to be helpful in this setting.

Respiratory Distress Knowledge Answers Continued

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- A. Diphenhydramine
 - B. Ranitidine
 - C. Solumedrol
 - D. Epinephrine
 - E. Albuterol

Epinephrine is the drug of choice for treatment of anaphylaxis and should be immediately given intramuscularly at a dose of 0.01mg/kg (of a 1 mg/mL or 1:1000 dilution). Epinephrine is the only medication that prevents or reverses upper and lower airway obstruction and prevents or reverses cardiovascular collapse. Diphenhydramine, ranitidine and solumedrol are adjunctive treatments for anaphylaxis and should not be given before epinephrine. Albuterol may be useful in relieving symptoms of bronchospasm not relieved by administration of epinephrine, but is also an adjunctive treatment.

4. While on call in January, you admit a 10 month old previously healthy female who presents with cough, nasal congestion and fevers of 2 days duration and 1 day of tachypnea. She is fully immunized. On exam, her temperature is 39.2, heart rate 130, respiratory rate 55 and oxygen saturation of 93% on room air. Her lung exam reveals diffuse crackles and wheezes at the bases as well as moderate subcostal retractions, but no flaring, grunting or head bobbing. Which diagnostic test is most likely to demonstrate the cause of her respiratory distress?
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The infant described in the vignette has clinical bronchiolitis and a nasopharyngeal swab for viral panel is most likely to reveal the cause of her respiratory distress. Chest X rays are not routinely indicated for patients with clinical bronchiolitis without significant hypoxia or respiratory distress and may lead to inappropriate administration of antibiotics. A blood culture and CBC with differential are indicated if the patient is under 3 months of age and has been febrile but are not likely to demonstrate the cause of the patient's respiratory distress. Finally, a catheterized urinalysis and urine culture are recommended as this patient is under 12 months and is febrile as there is a relatively high incidence of urinary tract infection in association with RSV, but will also likely not demonstrate the cause of her distress.

Respiratory Distress Knowledge Answers Continued

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 - C. Recent episodes of trauma
 - D. Previous episodes of respiratory distress
 - E. Detailed family history

When performing an initial assessment of a patient in respiratory distress, the history should be focused and rapid with the goal of quickly determining the severity of the patient's respiratory distress and need for emergent interventions. In pediatric patients, respiratory distress can quickly lead to cardiac compromise. Obtaining a detailed family history is unlikely to impact the initial management of a patient in respiratory distress, but clearly, once the patient is stabilized, more history can be obtained.