

## PEM QUIZ: RESPIRATORY EMERGENCIES

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1. The most concerning physical finding in an infant with an acute respiratory infection or RAD exacerbation is:
  - a) tachypnea
  - b) grunting
  - c) abdominal breathing
  - d) retractions
  - e) wheezing
2. All of the following are consistent with the diagnosis of bacterial tracheitis EXCEPT:
  - a) high fever
  - b) preceding viral URI
  - c) minimal sputum production
  - d) stridor
  - e) drooling
3. What proportion of bronchiolitis cases are caused by RSV?
  - a) 15%
  - b) 35%
  - c) 50%
  - d) 70%
  - e) 90%
4. Which of the following is the most likely diagnosis in a 6-week-old infant with a ten-day history of mild cough, who on examination is quietly tachypneic and afebrile:
  - a) FB ingestion
  - b) RSV/ bronchiolitis
  - c) chlamydia pneumonia
  - d) congenital airway anomaly
  - e) pertussis
5. The BEST induction agent for intubation of infants greater than 3-months-old with respiratory failure due to bronchiolitis is:
  - a) versed
  - b) etomidate
  - c) thiopental
  - d) ketamine
  - e) fentanyl
6. In the absence of other concerning associated signs, APNEA is defined as a respiratory pause of greater than:
  - a) 10 seconds
  - b) 15 seconds
  - c) 20 seconds
  - d) 30 seconds
  - e) 1 minute

7. Of the following causes of upper airway obstruction, which is LEAST likely to result in an acute, precipitous deterioration in the ED?
- croup
  - epiglottitis
  - foreign body ingestion
  - retropharyngeal abscess
  - smoke inhalation/ thermal injury
8. Which of the following is the LEAST LIKELY cause of stridor in an infant or child < 6 years old?
- bacterial tracheitis
  - retropharyngeal abscess
  - foreign body aspiration
  - croup
  - peritonsillar abscess
9. Which of the following is NOT associated with the need for admission in the context of an asthma exacerbation?
- Poor social situation
  - Failure to respond to bronchodilators and steroids
  - Altered mental status or fatigue
  - Pneumothorax on CXR
  - Pneumomediastinum on CXR
10. TRUE or FALSE: the administration of beta-agonists via MDI with a spacer has been shown to be as effective as the use of a nebulizer for the reversal of acute bronchospasm *in all age groups* (infants, children and adults).
11. All of the following are currently considered standard treatments for bronchiolitis EXCEPT:
- hydration (oral or IV)
  - trial of albuterol (via MDI or nebulized)
  - trial of racemic epinephrine (nebulized)
  - steroids (oral, IV or IM)
  - supplemental oxygen as needed
12. Compared with the adult airway, which of the following is NOT characteristic of the pediatric airway:
- more easily visualized with a straight (eg. Miller) blade
  - narrowest portion located at the cricoid cartilage
  - more posterior location
  - smaller diameter and shorter length
  - more easily obstructed by edema, secretions or posterior displacement of the tongue
13. TRUE or FALSE: oral dexamethasone is as effective as IM dexamethasone in the treatment of croup.
14. RSV testing would be LEAST helpful in the management of which of the following patients:
- 3-week-old neonate with nasal congestion and mild cough
  - 6-month-old ex-preemie with BPD and cough/congestion
  - 4-month-old previously healthy infant with significant URI Sx's and wheezing but no fever
  - 5-month-old intubated for respiratory failure with a peri-bronchial infiltrate on CXR
15. All of the following support a clinical diagnosis of pertussis EXCEPT:
- prolonged course
  - age < 4-years-old
  - history of incomplete vaccination
  - temperature > 101
  - elevated WBC with marked lymphocytosis

16. The most common CXR finding in infants with bronchiolitis is:
- normal
  - hyperinflation
  - atelectasis
  - focal infiltrate
  - pneumothorax
17. TRUE or FALSE: antibiotics given for “Whooping Cough” (pertussis) shorten the course of symptoms.
18. All of the following statements are true of croup (viral laryngotracheobronchitis) EXCEPT:
- it is most commonly caused by parainfluenza virus
  - it can easily be confused with bacterial tracheitis
  - it primarily affects children aged 6-36 month
  - it is characterized by a barking cough, hoarse voice and inspiratory stridor
  - symptoms are often worst at night
19. Regarding pneumonia in the neonate, all of the following are TRUE EXCEPT:
- maternally-acquired Group B Strep (GBS) remains the most common bacterial pathogen
  - mortality is low when promptly diagnosed and appropriately treated
  - viral etiologies are common
  - full sepsis work-up, including LP, is mandatory
  - admission and IV ampicillin & cefotaxime (or gentamicin) is required in all cases
20. Which of the following is the most likely cause of pneumonia in a generally well-appearing 8-year-old with a gradually progressive cough over two weeks and bilateral crackles on lung exam?
- Mycoplasma*
  - S. pneumoniae*
  - Klebsiella*
  - Pertussis
  - Influenza
21. All of the following are true of croup EXCEPT:
- first-line treatment includes steroids
  - oral steroids are as effective as parenteral steroids
  - racemic epinephrine need only be given to children with stridor at rest (while not agitated) or who appear to be in significant respiratory distress
  - well-appearing children with croup, who have improved after receiving nebulized racemic epinephrine, can safely be discharged within 1-2 hours of treatment

**BONUS.** A 3-week-old infant with several days of mild diarrhea and decreased oral intake presents with severe tachypnea, cyanosis and lethargy. The initial oxygen saturation is 87%, breath sounds are clear throughout and the cardiac exam is normal. Peripheral perfusion is poor (CR > 4 sec.) and the administration of 100% oxygen by face mask results in a saturation of only 94%. A portable CXR is normal. Of the following tests, which is MOST likely to reveal a diagnosis?

- ECG
- ABG
- echocardiogram
- RSV
- methemoglobin level