

Question 1

A 3 year-old presents with a history of fever and cough over the past 24 hours. Findings on exam reveal: temperature of 102°F, apical heart rate of 157 beats/minute, and respiratory rate of 40 breaths/minute. Tachypnea in this child is most likely related to

Paradoxical respirations.

the child's febrile state. Correct

the child's age.

an airway obstruction.

Explanation:

In children, heart and respiratory rates will increase with fever. For every degree of fever the respiratory rate will increase 3-4 breaths/minutes and the heart rate will increase 8-10 beats/minute.

Question 2

When percussing the lower posterior chest, begin by:

standing on the side rather than directly behind the patient.

Correct: having the patient lie supine on the examining table.

carefully palpating any area the patient has reported pain.

using the ball or the ulnar surface of the hand.

Explanation:

When percussing the lower posterior chest, stand on the side rather than directly behind the patient. This position allows the ability to place the pleximeter finger more firmly on the chest and the plexor is more effective in making a better percussion note. If the patient is lying supine, the posterior chest will not be able to be percussed. Palpating painful areas is not percussion, so is not correct. Using the bony part of the palm at the base of the fingers or the ulnar surface is a technique used to detect tactile fremitus.

Question 3

The palpation technique used to assess respiratory expansion of the chest is placing the hands on the eighth or tenth ribs posteriorly with the thumbs close to the vertebrae, sliding the hand medially and grasping a small fold of skin between the thumbs. Then:

ask the patient to cough and note chest expansion.

ask the patient to take a deep breathe and note any delay in expansion during inhalation.

Correct have the patient hold his breath for 15 seconds then note chest expansion.

have the patient exhale forcefully noting expansion on expiration.

Explanation:

To assess the respiratory expansion of the chest, the examiner places his hands on the eighth or tenth ribs posteriorly with the thumbs close to the vertebrae, slides the hand medially and grasps a small fold of skin between the thumbs then asks the patient to take a deep breath. The thumbs should move evenly away from the vertebrae during inspiration and there should be no delay in expansion.

Question 4

When trying to differentiate between hemoptysis or blood streaked material, which one of the following observations is correct?

Hemoptysis is seen frequently in infants, children, and adolescents with allergic rhinitis.

Blood originating in the stomach is usually brighter than blood originating from the respiratory tract.

Incorrect Hemoptysis is common in children with cystic fibrosis.

Correct: Blood streaked material often originates from the gastrointestinal tract.

Explanation:

Hemoptysis is rare in infants, children, and adolescents, although common in those with cystic fibrosis. Blood originating in the stomach is usually darker than blood from the respiratory tract and may be mixed with food particles. Blood or blood-streaked material may originate in the mouth, pharynx, or less commonly from the gastrointestinal tract.

Question 5

When percussing the chest in a patient who has left sided heart failure, the sound emanated would be:

resonant. Correct

dull tympany.

Diffusely

hyperresonant. Incorrect

Explanation:

A patient with left sided heart failure experiences increased pressure in the pulmonary veins causing congestion and interstitial edema. Percussion sounds emitted would most likely be resonant. Consolidation in the lungs produces a dull sound on percussion. Tympany (low-high pitched musical sound) is usually audible when percussing a distended abdomen or when a pneumothorax is present. Chronic obstructive lung disease produces diffusely hyperresonant sound on percussion.

Question 6

The line that extends through the inferior angle of the scapula when the arms are at the sides of the body is the:

mid vertebral line.

scapular line.

Correct: midclavicular line.

mid-spinal line.

Explanation:

The line that extends through the inferior angle of the scapula when the arms are at the sides of the body is the scapular line.

Question 7

A condition associated with a chronic cough that produces copious amounts of purulent sputum is most likely:

tracheobronchitis.

chronic bronchitis.

Incorrect bronchiectasis.

Correct: laryngitis.

Explanation:

An acute viral illness that presents with a burning retrosternal discomfort and a dry cough is tracheobronchitis. An acute, mild illness often associated with viral nasopharyngitis and hoarseness is laryngitis. The initial cough is dry and nonproductive but may become productive over time. A chronic bronchitis cough is characteristically productive with mucoid to purulent sputum and may be blood tinged. Bronchiectasis produces a chronic cough with sputum that is copious and foul-smelling. It may be blood tinged.

Question 8

A patient who walked into the examination room, may be observed to be sitting and leaning forward in his chair. Lips were pursed during exhalation and arms are supported on the table. This position could be consistent with patients who have:

pneumonia.

chronic

obstructive pulmonary disease.

Correct: asthma.

croup.

Explanation:

People who have chronic obstructive pulmonary disease experience shortness of breath and dyspnea. Breathing with pursed lips and use of abdominal muscles help reduce shortness of breath and dyspnea. Leaning forward while seated and having arms supported on the table facilitate breathing. This position is not characteristic of the other diseases.

Question 9

Breath sounds heard over the periphery of the lung fields are:
bronchial.

abnormal.

bronchovesicular.

Incorrect vesicular. Correct

Explanation:

Bronchial, vesicular, and bronchovesicular breath sounds are considered normal. Vesicular breath sounds consist of a quiet, wispy inspiratory phase followed by a short, almost silent expiratory phase. They are heard over the periphery of the lung field. Bronchial breath sounds consist of a full inspiratory and expiratory phase with the inspiratory phase usually being louder. They are normally heard over the trachea and larynx. Bronchovesicular breath sounds consist of a full inspiratory phase with a shortened and softer expiratory phase. They are normally heard over the hilar region (center of the lungs near the heart).

Question 10

When percussing the posterior chest, which one of the following techniques would be omitted?

When comparing two areas on the chest, use the same percussion technique in both areas.

Percuss one side of the chest then the other at each level.

Percuss the areas over the scapulae.

Correct: If a louder note is needed, apply more pressure with the

pleximeter finger.

Explanation:

All of the percussion techniques listed are useful when percussing the chest except the areas over the scapulae. These areas are not percussed because the thickness of the muscle and bone alters the percussion notes over the lungs.

Question 11

When auscultating breath sounds in a patient who has left sided heart failure, the breath sounds are:

vesicular with late inspiratory crackles in the dependent portions of the lungs and resonant on percussion.

Correct: bronchial with late inspiratory crackles over the involved area and dull on percussion.

vesicular without adventitious sounds and resonant on percussion.

Incorrect: decreased with some audible wheezes and diffusely

hyperresonant on percussion.

Explanation:

A patient with left sided heart failure experiences increased pressure in the pulmonary veins causing congestion and interstitial edema. The breath sounds are vesicular with late inspiratory crackles in the dependent portions of the lungs and are resonant on percussion. Consolidation in the lungs produces bronchial breath sounds with late inspiratory crackles over the involved area and is dull on percussion. A normal lung has vesicular breath sounds without adventitious sounds and is resonant on percussion.