

Chapter 2: Normal Voice: Anatomy and Physiology Throughout the Lifespan

Multiple Choice

1. The largest of the vertebrae are the
 - a. cervical
 - b. thoracic
 - c. lumbar
 - d. coccyx

2. The bifurcation of the trachea at the level of the fifth thoracic vertebra is known as the
 - a. pleural membrane
 - b. alveoli
 - c. carina
 - d. plural duct

3. When the thorax enlarges, the
 - a. lungs contract and exhalation begins
 - b. lungs enlarge and exhalation begins
 - c. lungs contract and inhalation begins
 - d. lungs enlarge and inhalation begins

4. Most voice disordered patients who report that they run out of air when speaking would benefit from
 - a. respiratory training exercises
 - b. speaking at high lung volumes
 - c. focusing on taking breaths at appropriate places in a phrase
 - d. speaking at low lung volumes

5. The reduced ability of the larynx to be palpated from side to side may be indicative of
 - a. degenerative changes
 - b. the presence of a mass
 - c. muscle tension dysphonia
 - d. all the above

6. Contraction of the interarytenoid muscles serve to
 - a. draw the arytenoids together
 - b. decrease the distance between the cricoid and thyroid cartilages
 - c. tilt the thyroid cartilage superiorly
 - d. pull the arytenoids apart

7. The true vocal folds are lubricated by
 - a. sacs found in the ventricles
 - b. glands found on the ventricular folds
 - c. the rima glottis
 - d. a and b

8. The mucosal wave
 - a. is comprised of the intermediate layer of the lamina propria
 - b. may be interrupted due to a space occupying lesion or edema
 - c. can be seen by the naked eye
 - d. is adhered tightly to the vocal ligament

9. When vocal folds lengthen, pitch normally
 - a. increases, due to contraction of the cricothyroid
 - b. decreases, due to contraction of the thyromuscularis
 - c. remains the same, due to contraction of the thyroarytenoid
 - d. increases, due to contraction of the interarytenoid

10. The movement and positioning of the velum changes the size and shape of
 - a. the pharynx
 - b. the oral cavity
 - c. the nasal cavity
 - d. all the above

11. The primary muscles of inspiration include the
 - a. external intercostals and diaphragm
 - b. external intercostals and internal intercostals
 - c. internal intercostals and abdominals
 - d. internal intercostals and diaphragm

12. The posterior cricoarytenoid muscles
 - a. adduct the vocal folds
 - b. are extrinsic laryngeal muscles
 - c. provide support to the lateral cricoarytenoid muscles
 - d. abduct the vocal folds

13. Structural changes across physiological systems that occur as a normal part of aging
 - a. result in a voice that sounds childlike
 - b. have no impact on voice
 - c. often result in psychogenic dysphonia
 - d. affect the accuracy, speed, and range of muscular movements

14. Vocal pitch
 - a. is a perceptual attribute correlated with loudness
 - b. is a perceptual attribute correlated with intensity
 - c. is a perceptual attribute correlated with frequency
 - d. is a perceptual attribute correlated with resonance

15. Breathy voice quality
 - a. is often associated with increased tension of the vocal folds
 - b. is often associated with incomplete glottal closure
 - c. is often associated with complete closure of the vocal folds
 - d. is often associated with high intensity

16. The “modal” register
 - a. is the register used for most of conversational speech
 - b. includes frequencies that span approximately 150 to 500 Hz for adult men
 - c. includes frequencies that span approximately 80 to 450 Hz for adult women
 - d. may also be referred to as falsetto voice

17. The vocal ligament
 - a. is attached posteriorly to the thyroid cartilage
 - b. is attached anteriorly to the thyroid cartilage
 - c. is attached posteriorly to the muscular process of the arytenoid cartilage
 - d. is attached anteriorly to the muscular process of the arytenoid cartilage

18. Breathing for life
 - a. has an inhalation to exhalation ratio of 2:1
 - b. is an active process
 - c. is the same as quiet breathing
 - d. involves a high volume of air at 25% of vital capacity

19. The intrinsic laryngeal muscles
 - a. connect the laryngeal cartilages to each other
 - b. connect the laryngeal cartilages to cartilages outside the larynx
 - c. connect the intrinsic laryngeal membranes to the intrinsic laryngeal ligaments
 - d. connect the laryngeal cartilages to intrinsic laryngeal ligaments

20. Total lung capacity
- is the volume of air remaining in the lungs and airways at the end of a resting tidal exhalation
 - is the amount of air inspired and expired during a single respiratory cycle
 - is the maximum volume of air that can be inspired
 - is the total volume of air contained in the lungs and airways after a maximum inspiration

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