**Chapter 2**

**Lifespan Changes in the Respiratory and Phonatory Systems**

**Multiple Choice Questions**

1. What are the periods in Boliek’s conceptual model of speech breathing?
   1. Adaptation
   2. Refinement
   3. Emergence
   4. All of the above
   5. A and B only
2. What is the level of the larynx in the neck of an infant relative to the cervical section of the vertebral column?
   1. C1 – C2
   2. C2 – C3
   3. C3 – C4
   4. C4 – C5
   5. C5 – C6
3. What is the length of the vocal folds in the adult female?
   1. 11 – 15 mm
   2. 17 – 21 mm
   3. 25 – 30 mm
   4. 2 – 3 mm
   5. 1 – 2 mm
4. What is the length of the vocal folds in the adult male?
   1. 11 – 15 mm
   2. 17 – 21 mm
   3. 25 – 30 mm
   4. 2 – 3 mm
   5. 1 – 2 mm
5. What is the average fundamental frequency range of an infant?
   1. 125 – 175 Hz
   2. 200 – 3 Hz
   3. 300 – 400 Hz
   4. 400 – 600 Hz
   5. 900 – 1100 Hz
6. What is the mean vital capacity of a teenage male?
   1. 2.12 liters
   2. 6.63 liters
   3. 5.03 liters
   4. 2.98 liters
   5. 3.55 liters
7. What is the mean expiratory reserve volume of a 50-year-old adult female?
   1. 1.22 liters
   2. .48 liters
   3. 1.50 liters
   4. .28 liters
   5. 3.44 liters
8. What is the thyroid angle in the larynx of a post-pubescent male?
   1. 90 degrees
   2. 120 degrees
   3. 30 degrees
   4. 200 degrees
   5. 150 degrees
9. How much does the male fundamental frequency change as a result of puberty?
   1. 2.5 semitones
   2. 2 octaves
   3. 1.5 semitones
   4. 1 octave
   5. 3 semitones
10. What causes reduction in secretions of the glandular epithelium, dehydration of the mucosa, tissue congestion, increased mucosal viscosity, and thinning of the vocal mucosa?
    1. Caffeine
    2. Aspirin
    3. Estrogen
    4. Progesterone
    5. Androgens
11. What is the extent of fundamental frequency change in females that results from taking prescribed testosterone?
    1. An average 100 Hz elevation
    2. An average 100 Hz drop
    3. Very little
    4. An average 200 Hz elevation
    5. An average 200 Hz drop
12. What is the typical shape of the epiglottis of an infant?
    1. V-Shaped
    2. Flat
    3. Omega
    4. Alpha
    5. Circular
13. What happens to the laryngeal cartilages as a result of the aging process?
    1. Muscular atrophy
    2. Ossification
    3. Thinning
    4. Fibrosis
    5. Neuronal decrease
14. What laryngeal joint appears to be the most affected by the aging process?
    1. Cricothyroid
    2. Thyroarytenoid
    3. Aryepiglottic
    4. Thyroepiglottic
    5. Cricoarytenoid
15. What tends to happen to the epithelium in aging females?
    1. Shorting
    2. Thickening
    3. Thinning
    4. Lengthening
    5. Narrowing
16. How does the voice change in post-menopausal women?
    1. F0 decreased
    2. Sustained phonation is disrupted
    3. Loudness decreases
    4. All of the above
    5. None of the above
17. What is senescence?
    1. Female voice perception
    2. Male voice perception
    3. Fluctuation in F0
    4. Fluctuation in I0
    5. Senile voice
18. What is the term that describes the aging larynx?
    1. Presbyterian
    2. Presbycousis
    3. Presbyphonia
    4. Presbyocular
    5. Presbylateralis
19. What is the average IC in a 25-year-old male?
    1. 2.61 liters
    2. 1.14 liters
    3. 3.62 liters
    4. 2.05 liters
    5. 1.55 liters
20. What is the average IC in a 25 year old female?
    1. 2.61 liters
    2. 1.14 liters
    3. 3.62 liters
    4. 2.05 liters
    5. 1.55 liters
21. The air in the lungs after all of the air is forced out.
    1. Residual volume
    2. Expiratory reserve volume
    3. Forced respiratory capacity
    4. Vital capacity
    5. Inspiratory capacity
22. What is/are characteristics of the infantile larynx?
    1. Epiglottis is omega shaped
    2. F0 range is 100 – 200 Hz
    3. Lamina propria is undifferentiated
    4. A & C
    5. B & C
23. If the average SPF0 range is 131 – 161 in males, what stage of voice change may he be in?
    1. 1
    2. 2
    3. 5
    4. 4
    5. 5
24. What is one of the critical decision points when evaluating an older client?
    1. Accurate measurement of the acoustic characteristics of the voice.
    2. Accurate measurement of the perceptual characteristics of the voice.
    3. Accurate estimation of the amount of voice use.
    4. Clarification of vocal characteristics caused by pathology or the aging process.
    5. The vocal needs of the client.
25. Does the general opinion of a person deteriorate in response to the aging of that person’s voice?
    1. Yes
    2. No
    3. Only in males
    4. Only in females
    5. There is no relationship

**Matching Questions**

\_\_\_\_\_1. AOI A. Old voice

\_\_\_\_\_2. Breathiness B. High register

\_\_\_\_\_3. Senescence C. Infantile register

\_\_\_\_\_4. Pulse D. Last phase of Boliek’s Model

\_\_\_\_\_5. Omega shaped E. Evident in aging larynx

\_\_\_\_\_6. Falsetto F. Caused by a glottal gap

\_\_\_\_\_7. Adaptation G. Level of adult larynx

\_\_\_\_\_8. Increased ossification H. Length of the male vocal folds

\_\_\_\_\_9. C7 I. Low register

\_\_\_\_\_10. 17 mm to 21 mm J. Apnea of infancy

**True/False Questions**

1. The pitch, loudness, and quality of a person’s voice changes across the life span.
2. On balance infants and young children are abdominal breathers.
3. On balance older children and adults are also abdominal breathers.
4. Infant crying is not important to the development of human vocal communication.
5. Young children have reduced dynamic range and lower harmonic-to-noise ratios due to immature anatomic structures.
6. The female fundamental frequency drops by one octave as a result of puberty.
7. The voice of the post-pubescent female is slightly breathy because of a posterior glottal gap.
8. Oral contraceptives improve vocal quality during the menstrual cycle.
9. Ossification is more prevalent and more extensive in women that in men.
10. F0 increases in the aging male.
11. F0 increases in the aging female.
12. Speaker age can be judged by listening to the voice.
13. As age increases our opinion of the speaker decreases.
14. Boliek’s conceptual model of speech breathing includes inhalation, exhalation, and adaptation.
15. The length of the adult male vocal folds is 17 – 21 mm.
16. The average fundamental frequency in an adult male ranges from 125 – 175 Hz.
17. The male voice drops approximately one octave as a result of puberty.
18. Caffeine has a negative effect on phonation.
19. Progesterone has a positive impact on phonation.
20. The senile voice is called senescence.
21. The most critical joint in the larynx is the cricoarytenoid joint.
22. Synovial fluid is the lubricant of the laryngeal joints.
23. Elite voice users, performers, work to maximize the falsetto register.
24. The infantile epiglottis is alpha shaped.
25. The adult male larynx shows signs of aging in about the 4th decade of life.

**Short Answer Questions**

1. Describe Boliek’s conceptual model of speech breathing.

2. What are the parameters of the aging voice?

3. Describe the vocal characteristics associated with the premenstrual vocal syndrome.

4. Define the anatomical and acoustic changes triggered by pubescence in females and males.

5. Discuss the factors that influence change in the function and capacity of the respiratory system throughout life.

**CHAPTER 2**

**KEY**

|  |  |  |
| --- | --- | --- |
| **Matching** | **True/False** | **Multiple Choice** |
| 1. J | 1. T | 1. D |
| 2. F | 2. T | 2. C |
| 3. A | 3. F | 3. A |
| 4. I | 4. T | 4. B |
| 5. C | 5. F | 5. D |
| 6. B | 6. T | 6. E |
| 7. D | 7. T | 7. A |
| 8. E | 8. F | 8. A |
| 9. G | 9. T | 9. D |
| 10. H | 10. F | 10. D |
|  |  | 11. B |
|  |  | 12. C |
|  |  | 13. B |
|  |  | 14. E |
|  |  | 15. B |
|  |  | 16. D |
|  |  | 17. E |
|  |  | 18. C |
|  |  | 19. C |
|  |  | 20. A |
|  |  | 21. A |
|  |  | 22. E |
|  |  | 23. E |
|  |  | 24. E |
|  |  | 25. A |

**Short Answer Key:**

1. Describe Boliek’s conceptual model of speech breathing.

Refer to pages 63-67.

2. What are the parameters of the aging voice?

Refer to pages 77-83 and Tables 2.7 and 2.8.

3. Describe the vocal characteristics associated with the premenstrual vocal syndrome.

Refer to pages 75-76.

4. Define the anatomical and acoustic changes triggered by pubescence in females and males.

Refer to page 74 and Table 2.6.

5. Discuss the factors that influence change in the function and capacity of the respiratory system throughout life.

Refer to pages 63-68 and Tables 2.1 and 2.2.