

Respiratory Critical Care

David Chang, et al

Test Bank Chapter 02

Multiple Choice

1. What percentage of the thoracic volume change is achieved through diaphragmatic action when tidal breathing in the upright position?

- A. 25%
- B. 35%
- C. 50%
- D. 75%

Ans: C

2. The volume change that occurs as a result of thoracic expansion is an application of:

- A. Hook's law.
- B. Charles' law.
- C. Boyle's law.
- D. Poiseuille's law.

Ans: C

3. Normal exhalation is:

- A. passive.
- B. active, using the external intercostal muscles.
- C. active, using both the external intercostal and abdominal muscles.
- D. active, using the internal intercostal muscles.

Ans: A

4. Given a volume change of 500 mL with a pleural pressure change of 5 cm H₂O, what is the pulmonary compliance?

- A. 100 mL/cm H₂O
- B. 500 mL/cm H₂O
- C. 5 mL/cm H₂O
- D. 50 mL/cm H₂O

Ans: A

5. Which of the following is (are) a source of input power?

- I. Electricity
- II. Pneumatics

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III. Spring tension

A. I

B. II

C. I and II

D. I, II, and III

Ans: C

6. The term *drive mechanism* best describes:

A. the source of power for the ventilator.

B. how the ventilator converts input power to work.

C. the mechanism that controls the ventilator's drive mechanism.

D. the physical signal measured and used as feedback to control the ventilator's output.

Ans: A

7. The term *control circuit* best describes:

A. the source of power for the ventilator.

B. how the ventilator converts input power to work.

C. the mechanism that controls the ventilator's drive mechanism.

D. the physical signal measured and used as feedback to control the ventilator's output.

Ans: A

8. The control variable is best described as a variable that:

A. rises to a preset value and remains constant during inspiration.

B. is measured and used to control the ventilator's output.

C. initiates the start of inspiration.

D. determines the end of inspiration.

Ans: B

9. Which of the following are possible control variables?

I. Pressure

II. Flow

III. Volume

IV. Time

A. I

B. I and II

C. I, II, and III

D. I, II, III, and IV

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Ans: D

10. Which of the following best describes a limit variable?

- A. A variable that rises to a preset value and remains constant during inspiration
- B. A variable that is measured and used to control the ventilator's output
- C. A variable that initiates the start of inspiration
- D. A variable that determines the end of inspiration

Ans: A

11. Which of the following best describes a trigger variable?

- A. A variable that rises to a preset value and remains constant during inspiration
- B. A variable that is measured and used to control the ventilator's output
- C. A variable that initiates the start of inspiration
- D. A variable that determines the end of inspiration

Ans: C

12. Which of the following best describes a cycle variable?

- A. A variable that rises to a preset value and remains constant during inspiration
- B. A variable that is measured and used to control the ventilator's output
- C. A variable that initiates the start of inspiration
- D. A variable that determines the end of inspiration

Ans: D

13. Which of the following is the most common baseline variable?

- A. Pressure
- B. Flow
- C. Volume
- D. Time

Ans: A

14. Which of the following may be used as trigger variables?

- I. Pressure
- II. Flow
- III. Volume
- V. Time

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- A. I
- B. I and II
- C. I, II, and III
- D. I, II, III, and IV

Ans: D

15. If during inspiration the pressure increases to a preset value and doesn't change until exhalation, the pressure is termed a:

- A. cycle variable.
- B. trigger variable.
- C. limit variable.
- D. baseline variable.

Ans: C

16. Volume can become a limit variable if:

- A. volume control is selected.
- B. pressure control is selected.
- C. flow control is selected.
- D. an inspiratory pause is used.

Ans: D

17. Which of the following trigger variables is based on the electrical activity of the diaphragm?

- A. Flow triggering
- B. Pressure triggering
- C. NAVA
- D. Time triggering

Ans: C

18. A ventilator initiating inspiration based upon a preset change in flow is referred to as being:

- A. flow cycled.
- B. flow triggered.
- C. flow limited
- D. None of these is correct.

Ans: B

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19. The ventilator breath ending once time reaches a preset value best describes:

- A. time triggering.
- B. time limiting.
- C. time cycling.
- D. None of these is correct.

Ans: C

20. During spontaneous ventilation, elevated baseline pressure is termed:

- A. continuous positive airway pressure (CPAP).
- B. positive end-expiratory pressure (PEEP).
- C. the pressure limit.
- D. the pressure trigger.

Ans: A