

# RS- Physiology

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Archive

Lecture 1

Medical card .

Name \_\_\_\_\_

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Collected By :

Mohammad Mousa

1-To increase the thoracic cavity and keep intrapleural pressure negative, all are correct EXCEPT ?

- A- Elasticity of the lung
- B- Surface tension
- C- Elasticity of the chest wall
- D- Lymphatic drainage
- E- Gravity

Answer: E

2-The cause of the negativity of the intrapleural pressure is?

- A) The pressure inside the alveoli during the respiratory cycle
- B) Dynamic harmonious antagonism between the chest wall and the lung
- C) Two different forces between the parietal layer which lines the thorax and visceral layer which covers the lungs

Answer: B

3-All the following factors would affect the intrapleural pressure EXCEPT?

- a) Elasticity of the chest wall
- b) Airways generation
- c) Lymphatic drainage

Answer: B

4 according to the physiological and pathological factors that affect the negativity of intrapleural pressure all are true except?

- A) at birth (zero)
- B) Valsalva's maneuver(positive)
- C) emphysema (less negative)
- D) stab wound without valve (positive)
- E) stab wound tension pneumothorax with valve(positive)

Ans: D

5 IPP become positive in all of the following except:

- A) Valsalva's maneuver
- B) haemo-thorax
- C) tension pneumothorax
- D) Muller's maneuver

Ans: D





Medical card .

Name \_\_\_\_\_ Surname \_\_\_\_\_

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# RS- Physiology

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Lecture 2

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Collected By :

Mohammad Mousa

1-All of the following is true regarding residual volume except ?

**Can be measured by spirometry**

2-The difference between normal inhalation and forced inhalation with maximum capacity is ?

- A)Inspiration reserve volume
- B)vital capacity
- C)Tidal volume

**Answer: A**

3-The volume of air the lungs can hold after maximum inhalation is called?

- A)Volume capacity
- B)Total lung capacity
- C)Tidal volume

**Answer: B**

4 Medicine question: FEV1?

- A-volume of air exhaled in one second
- B-normal ratio is FEV1:FVC is 30%
- C-3000 ml

**Answer: A**



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Lecture 3

Medical card .

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Collected By :

Mohammad Mousa



1- Which of the following matched pairs regarding pulmonary vascular resistance (PVR) is incorrect?

- A) Decreased lung volume below normal breathing - Decreased PVR
- B) Increased venous or arterial pulmonary pressure - Increased PVR
- C) Distension of capillary vessels - Decreased PVR

**Answer: A**

**(Explanation: Decreased lung volume below normal breathing actually increases PVR due to the compression of extra-alveolar vessels, which leads to higher resistance.)**

2- The average pulmonary capillary pressure is:

- A) 7 mmHg
- B) 25 mmHg
- C) 40 mmHg
- D) 15 mmHg

**Answer: A**



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Lecture 4

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Collected By :

Mohammad Mousa





1-Which of the following is correct regarding the ventilation-perfusion (V/Q) ratio in the lungs?

- A) Ventilation is equal to perfusion.
- B) Ventilation is greater than perfusion in the lung apex.

Answer: B

(Explanation: In the apex of the lungs, the V/Q ratio is higher because ventilation exceeds perfusion due to gravity's effect on blood flow.)

2-Which of the following is incorrect regarding the blood-gas barrier?

- A) It is thin to allow efficient gas exchange.
- B) It is thick, hindering gas exchange.
- C) It separates the air in the alveoli from the blood in the capillaries.
- D) It consists of alveolar and capillary walls.

Answer: B

3-Which of the following factors helps keep the alveoli dry?

- A) Positive interstitial fluid (ISF) pressure.
- B) High plasma colloid osmotic pressure.

Answer: B

4-All of the following are edema safety factors except:

- A) High pulmonary capillary hydrostatic pressure
- B) Presence of the surfactant
- C) Negative (ISF)
- D) High osmotic pressure of the plasma proteins

Answer: A

5-What physiological factor helps keep alveoli dry?

- A) High oncotic pressure of capillary blood
- B) Low hydrostatic pressure of interstitial fluid
- C) Elevated pH of alveolar lining
- D) Increased surface tension of alveolar walls

Answer: A

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Lecture 5

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Collected By :

Mohammad Mousa



1. Which of the following factors does NOT cause a leftward shift in the oxygen-hemoglobin dissociation curve?

- A) Decreased temperature
- B) Decreased 2,3-DPG levels
- C) Increased temperature
- D) CO poisoning

Answer: C

2. Which of the following conditions increases the P50 value, indicating a reduced affinity of hemoglobin for oxygen?

- A) Exercise
- B) CO poisoning
- C) Decreased temperature
- D) Alkalosis

Answer: A

3. In which of the following conditions does the oxygen-hemoglobin dissociation curve shift to the left?

- A) Decreased 2,3-DPG
- B) Increased 2,3-DPG
- C) Increased temperature
- D) Exercise

Answer: A

4. The oxygen-hemoglobin dissociation curve shifts to the left in which of the following conditions?

- A) CO poisoning
- B) Increased temperature
- C) Acidosis
- D) Increased 2,3-DPG

Answer: A

5. Which condition causes a rightward shift of the oxygen-hemoglobin dissociation curve?

- A) Exercise
- B) CO poisoning
- C) Alkalosis
- D) Decreased 2,3-DPG

Answer: A



6. Which of the following conditions increases the affinity of hemoglobin for oxygen?

- A) Increased temperature
- B) CO poisoning
- C) Increased 2,3-DPG
- D) Acidosis

Answer: B

7. Which of the following statements about hemoglobin's affinity for oxygen is FALSE?

- A) Leftward shifts of the dissociation curve indicate increased O<sub>2</sub> affinity
- B) Increased H<sup>+</sup> binding decreases O<sub>2</sub> affinity
- C) CO poisoning decreases O<sub>2</sub> affinity
- D) Decreased 2,3-DPG increases O<sub>2</sub> affinity

Answer: C

8. all of the following cause shifting the O<sub>2</sub> dissociation curve to the right except:

- A) decrease O<sub>2</sub>
- B) increase temperature (fever)
- C) acidosis
- D) fetal hemoglobin

Answer: D

9. All of the following cause shift to the left except:

Increased temperature

10: one of the following increase P<sub>50</sub>:

Exercise

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Lecture 6

Medical card .

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Collected By :

Ahmad Qawasmi



**Q1: Medicine question: FEV1?**

**A-volume of air exhaled in one second**

**B-normal ratio is FEV1:FVC is 30%**

**C-3000 ml**

**Ans: A**

**Q2: what happens when venous or arterial pressure rises ?**

**Capillary distension and recruitment**

**Q3: Alveolar gas equation is to measure?**

**A Pao<sub>2</sub>**

**B PAo<sub>2</sub>**

**Ans: B**

**Q4:what is the best way achieve more alveolar ventilation?**

**A By increasing respiratory rate**

**B By increasing tidal volume (volume rate)**

**Ans: B**





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Lecture 7

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Collected By :

Ahmad Qawasmi



Q1: if cutting of a complete section of brain stem above pons occur this lead to?

- A) death
- B) deep & slow respiration
- C) normal autonomic respiration but without voluntary control
- D) Apneusis

Ans: C

Q2: if bilateral vagotomy and damage of pneumotaxic center occur this lead to?

- A) death
- B) deep & slow respiration
- C) normal autonomic respiration but without voluntary control
- D) Apneusis

Ans: D

Q3: the true are :

- A) dorsal respiratory groups are for normal inspiration , but ventral respiratory for forced expiration.
- B) dorsal respiratory groups has expiratory neurons , but ventral respiratory groups has inspiratory.
- C) ventral respiratory groups has expiratory neurons only , but dorsal has inspiratory only.

Ans: A

Q4: Pattern of normal , depth breathing:

- A) ventral respiratory group
- B) pneumotaxic
- C) apneustic
- D) midbrain centre

Ans: C

Q5: One is false about respiratory centrally..

Vagotomy will inhibit activity (may be)

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Lecture 8

Medical card

Name \_\_\_\_\_

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Collected By:

Mohammad Mousa

Ahmad Qawasmi





Q1: Which of the following isn't a cause of Cheyne-Stokes respiration?

- A) After voluntary Hyperventilation
- B) After voluntary Hypoventilation
- C) heart failure

ANS: B

Q2: At onset of exercise hyperventilation, what is the stimulation of respiration?

- A) increase  $\text{CO}_2$  &  $\text{H}^+$
- B) increase temperature of blood
- C) impulse from proprioceptors
- D) decrease  $\text{O}_2$

ANS: C



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Lecture 9

Medical card

Name \_\_\_\_\_

Date of b \_\_\_\_\_

Gender \_\_\_\_\_

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Date of call \_\_\_\_\_

Collected By:

Mohammad Mousa

Ahmad Qawasmi



Q1: In high altitude?

- A)  $O_2$  tension decrease
- B) induce hyperventilation
- C) stimulation of 2,3 DPG synthesis
- D) alkalosis
- E) unloading oxygen
- F) All of above

ANS: F

Q2: At what concentration of deoxygenated hemoglobin in the blood does cyanosis typically become clinically apparent? (cyanosis threshold)?

- A) 2 g/dL
- B) 3 g/dL
- C) 4 g/dL
- D) 5 g/dL

Ans: D

Q3: histotoxic hypoxia include :

- A) high  $O_2$  level in the venous blood
- B) low  $O_2$  level in the venous blood

ANS: A

Q4: Hypoxemia cause hyperventilation by directly stimulating..

- A) central chemoreceptors
- B) aortic and carotid body chemoreceptors

Ans: B