

# RS- Biochemistry

Archive

Lecture 3

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**increase affinity between Hb and O<sub>2</sub>?**

- A- CO poisoning
- B- low pH
- C- high H<sup>+</sup> proton

**Ans:A**

**one is false?**

- H<sup>+</sup> bind to Hb increasing affinity to O<sub>2</sub>.
- CO<sub>2</sub> binding to Hb decreasing affinity to O<sub>2</sub>
- high PH will increase the affinity to O<sub>2</sub>.

**Ans:A**

**Hb O<sub>2</sub> curve shifted left in?**

- Decreased 2,3-DPG. \*\*
- high 2,3-DPG.
- high CO<sub>2</sub>.

**Ans:A**

**hb O<sub>2</sub> curve shifted left in?**

- A- Co poisoning.
- B- increased Co.

**Ans:A**

co shifted right in?

- A-Exercise.
- B-decreased CO.
- C-increase affinity to O<sub>2</sub>

Ans:A

which of the following about buffer are true:

- A) 20% of CO<sub>2</sub> is transported by carbaminoHb.
- B) 10% of CO<sub>2</sub> is transported as dissolved in plasma.
- C) Carbonic anhydrase has reverse direction in the lung that forms CO<sub>2</sub>.
- D) Acidosis is caused by CO<sub>2</sub> retention.
- E) 70% of CO<sub>2</sub> is transported as bicarbonate ions in the blood.

Ans : all of them are true

In high altitude?

- A)o<sub>2</sub> tension decrease
- B)induce hyperventilation
- C) stimulation of 2,3 DPG synthesis
- D)acidosis
- E)unloading oxygen
- F)All of above

Ans:F

Regarding the structure of heme in myoglobin and hemoglobin, all of the following statements are correct except:

- A. Heme has a similar structure in myoglobin and hemoglobin.
- B. Heme is a complex of porphyrin and ferric iron ( $Fe^{+3}$ ).
- C. A pyrrole ring is a group of four carbon atoms and a nitrogen atom bound together in a ring
- D. Heme binds oxygen through its central iron atom.
- E. Porphyrins are a group of organic compounds that have four pyrrole subunits interconnected via alpha-meth-ylene bridges ( $=CH-$ )

Ans: B

The carboxyl groups of 2,3-diphosphoglycerate (DPG) interact with which amino acid residues in hemoglobin?

- 1.) Lysine 82
2. Histidine 142
3. Lysine 2
4. Histidine 82
5. Arginine 141

Ans: 1

Which of the following statements is correct?

1. The distal histidine of myoglobin and hemoglobin is sterically repelled by the heme porphyrin ring.
2. Cytochrome b5 reduces the ferric iron of methemoglobin.
3. Oxyhemoglobin and deoxyhemoglobin have the same affinity for protons ( $H^+$ ).
4. Buffer effectiveness does not depend on their concentration.
5. Maintenance of blood pH relies solely on the bicarbonate buffering system.

Ans: 1

