

## GAS TRANSPORT VOCABULARY (handout)

<b>O<sub>2</sub></b>	<b>oxygen</b>
<b>CO<sub>2</sub></b>	<b>carbon dioxide</b>
<b>Hb</b>	<b>hemoglobin</b>
<b>HHb</b>	<b>Deoxyhemoglobin = Hb that has released its O<sub>2</sub> to tissues and is temporarily carrying H<sup>+</sup></b>
<b>HbO<sub>2</sub></b>	<b>oxyhemoglobin = Hb saturated with O<sub>2</sub></b>
<b>HbCO<sub>2</sub></b>	<b>carbaminohemoglobin = Hb carrying many molecules of CO<sub>2</sub></b>
<b>H<sup>+</sup></b>	<b>hydrogen ion = influences pH</b>
<b>HCO<sub>3</sub><sup>-</sup></b>	<b>bicarbonate ion = is the #1 way to transport CO<sub>2</sub>. is also a base to buffer and adjust pH.</b>
<b>H<sub>2</sub>CO<sub>3</sub></b>	<b>carbonic acid = the result of joining CO<sub>2</sub> and H<sub>2</sub>O or is the result of joining H<sup>+</sup> and HCO<sub>3</sub><sup>-</sup></b>
<b>CO</b>	<b>carbon monoxide = a colorless, odorless gas formed by the incomplete burning organic fuels such as gasoline, wood, coal, etc.</b>
<b>HbCO</b>	<b>carboxyhemoglobin = Hb carrying CO instead of O<sub>2</sub></b>
	<b>carbonic anhydrase = the enzyme in RBCs that speeds up the formation of carbonic acid by the union of CO<sub>2</sub> and H<sub>2</sub>O</b>

### FACTORS DECREASING AFFINITY OF Hb FOR O<sub>2</sub>

(Easy to remember these. Just ask yourself, “What are the conditions at metabolically active tissues where I want to release O<sub>2</sub>?” These are the conditions that ↓ affinity and facilitate the release of O<sub>2</sub>.)

<b>Factor</b>	<b>Change at tissue</b>	<b>Effect on affinity</b>	<b>Effect on ease of release.</b>
<b>P<sub>O2</sub></b>			
<b>P<sub>CO2</sub></b>			
<b>Temp</b>			
<b>pH</b>			