Lecture 14: Active Learning Questions

1. What is the pharynx?...the larynx?...the trachea? What are the common or lay terms for each of these structures? What are the 1st two branches of the trachea? What structures make up the most distal point of the respiratory system where gas exchange takes place?

2. What is the chief muscle of ventilation? What does this muscle do to initiate inhalation?...exhalation? Where specifically (anatomical site) is automatic breathing controlled?

3. What iron-containing protein molecule carries oxygen (O_2) in the blood? How many O_2's are carried by each protein molecule? What poisonous and potentially lethal gas binds with more than 200-fold greater affinity than O_2 to its iron-containing binding site? Name two sources of this poisonous and lethal gas.

4. What organs besides the lungs are adversely affected by cigarette smoke? What happens to cilia when they are exposed to cigarette smoke? Why do cigarette companies add ammonia to cigarettes? What is emphysema and what is a major cause?

5. E-cigarettes and vaping are viewed as benign by the lay public. What happens to methicillin-resistant Staphylococcus aureus (MRSA) when it is exposed to vapors from e-cigarettes? The solvents in which the nicotine and flavors are dissolved can breakdown or be transformed into carbonyls like formaldehyde. What is the risk of exposure to formaldehyde?
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