

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* (O₂) in the blood? How many O₂s are carried by each protein molecule? What *poisonous* and potentially *lethal gas* binds with more than *200-fold greater affinity* than O₂ 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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3. What *iron-containing protein molecule* carries *oxygen (O₂)* in the blood? How many O₂s are carried by each protein molecule? What *poisonous* and potentially lethal *gas* binds with more than *200-fold greater affinity* than O₂ 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*?