

Instructor's Response - Discussion Question - Module 12

Describe/discuss/explain how an obstructive airway disease might affect V/Q matching in the lungs. **Post your response by 9:00 PM on Day 4 of the Module.**

An obstructive airway disease compromises exhalation, meaning that more “used” air remains in the lungs. Accordingly, less “fresh” air reaches the alveoli. In effect, this would reduce fresh air flow to regions of the lung(s) distal to the obstruction(s). Such reduced fresh air flow would reduce V/Q; thus calling forth local adjustments in blood flow (a reduction of blood flow to “match” the reduced ventilation, to try to restore V/Q to a “normal” value) as shown on the left side of video 3, slide 7. There might also be a reaction of the local airway smooth muscle (video 3, slide 8, right side) but it likely won't have a significant effect on V/Q matching since dilation of local airways won't do any good because the obstruction is upstream.