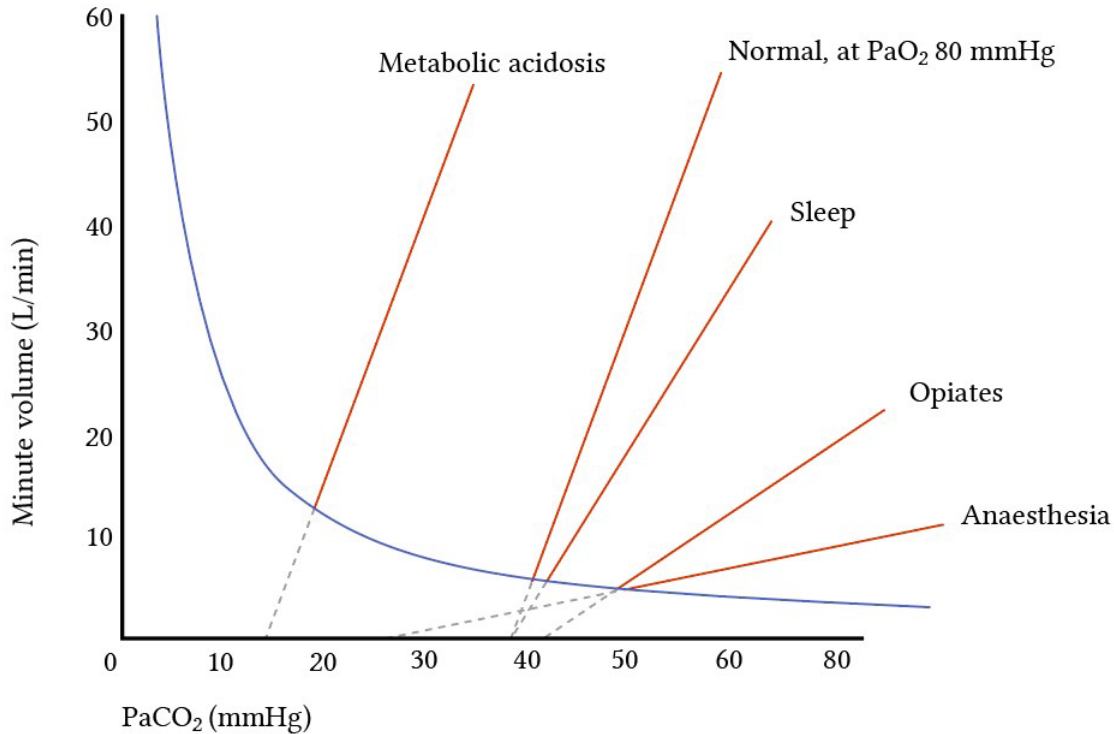


Relationship of alveolar vent to PaCO₂

I believe this keyword refers to the below curves and graph (shamelessly “borrowed” from the internet) in reference to how the body changes alveolar ventilation in response to changes in PaCO₂.



The blue hyperbolic curve is the relationship between alveolar ventilation and PaCO₂ in a steady state. You can use this curve to determine where a PaCO₂ will end up for a given alveolar ventilation. Like every other curve on the graph, this can be changed by the patient's situation and there is considerable variation between patient's as well.

The red line(s) are what minute ventilation a patient will attempt for a given PaCO₂ in a given situation in an effort to drive themselves back to that blue curve.

As you can see, many things patients do to themselves or have done to them can adjust both the slope (change in minute ventilation per change in PaCO₂) and intercept point (their apneic threshold...or apnoeic if you've been reading a lot of BJA recently).

Of note, this graph shows these lines as straight with an intercept along the x-axis implying a point of total apnea. Some patients demonstrate this behavior while others have a more hockey stick curve meaning some baseline level of ventilation despite very low PaCO₂, most likely a result of cortical takeover of breathing in awake patients.