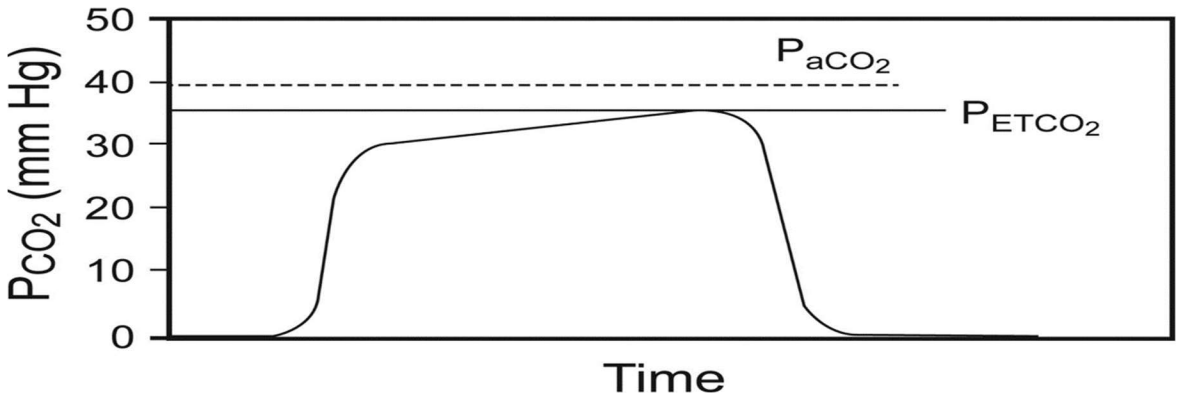
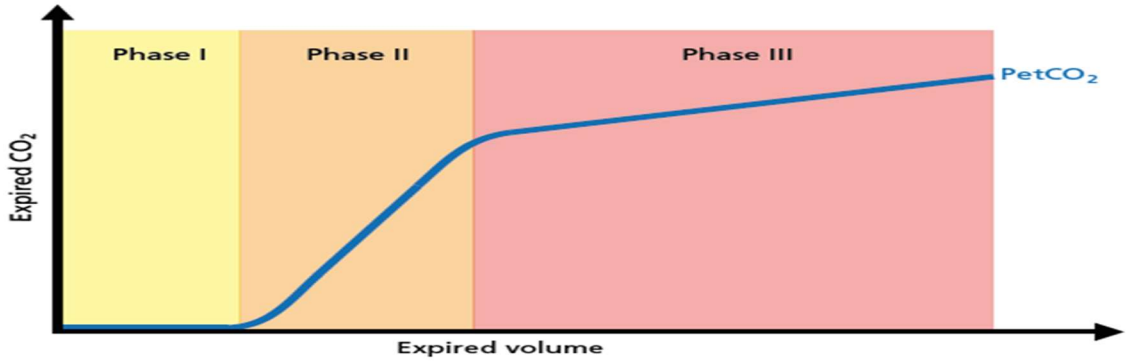
Capnometry

1) In the volumetric capnometry curve below, the P_{ETCO2} (exhaled CO_2) is 35 mmhg, the P_{aCO2} is 40 mmhg. According to the Enghoff equation, what is the the dead space fraction



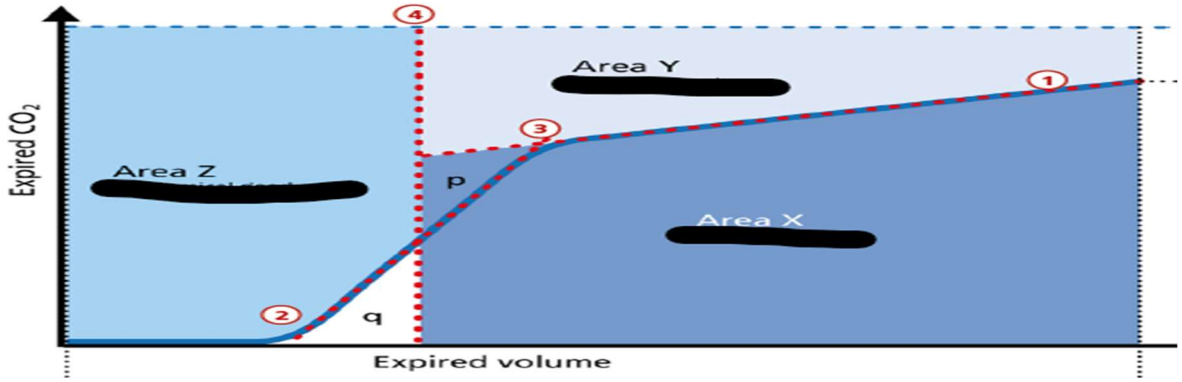
A) 10%
B) 12.5%
C) 15%
D) 20%

2) In the volumetric capnometry curve below, what does Phase I (yellow) represent?



A) Anatomical dead space
B) Transition phase
C) Plateau phase

3) In the volumetric capnometry curve below, which area represent the alveolar dead space?



A) Area X
B) Area Y
C) Area z

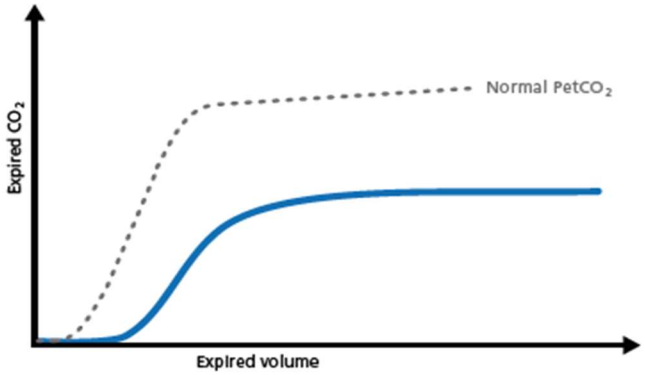
4) VCO2 (amount of CO2 exhaled/min) is increased in all the below conditions except:

A) Seizures
B) Fevers
C) Sepsis
D) Hypothermia

5) Normal VCO2 is:

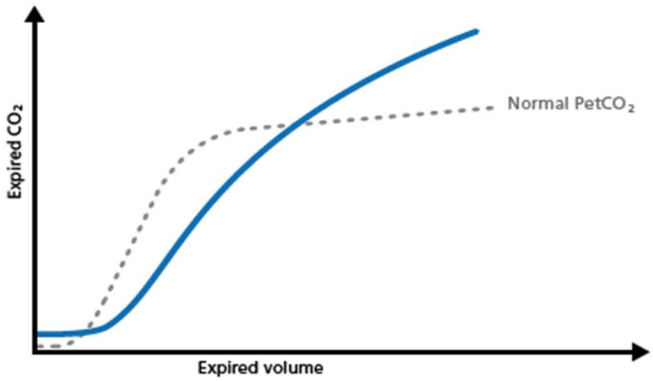
A) 2 – 2.5 ml/min/kg
B) 2.6 – 3 ml/min/kg
C) 3.1 – 3.5 ml/min/kg

6) A 35 year old female intubated post a caesarian section and hemorrhage that has stopped, her initial $PECO_2$ earlier (dashed line), now she is tachypneic, tachycardic, with swollen left calf, her new curve is in blue. What is the most likely diagnosis



A) ARDS
B) Pulmonary Embolism
C) Sepsis

7) Adult male intubated patient presents with blueness of the lips and fingernail beds (cyanosis), oxygen saturation (SaO_2) of 89%, and the x-ray shows overexpanded lungs. What does the volumetric capnography indicate?



A) PEEP too high
B) Pulmonary Embolism
C) Severe COPD

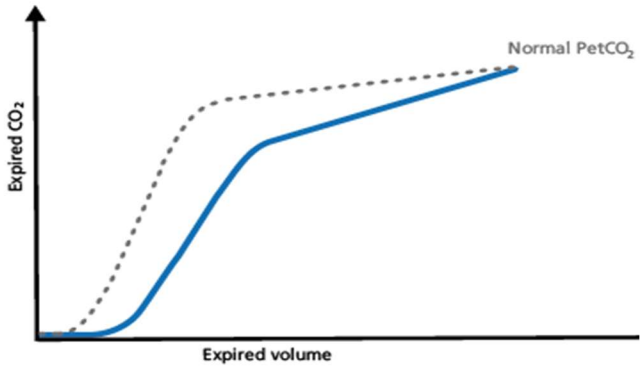
8) In the curve below, the dropping $PECO_2$ could be secondary to all except

A) Worsening cardiac output
B) Leaking endotracheal tube (ETT)
C) Hemorrhagic shock
D) Airway obstruction

9) What is the reason for the defect in the curve below?

A) Cardiac oscillation
B) Patient-Ventilator dyssnchrony
C) Artifact

10) male intubated patient presents with a hypoxic respiratory failure, crackling noises in the lungs, and a heart rate of 110 beats/min. What does the volumetric capnography indicate?



A) Cardiac arrest
B) ARDS
c) Septic shock