

Name:_____ Oasis:_____

Questions

CEPCP

**Professional Development:
ETCO₂ Monitoring**

ETCO₂ Questions Package

1)

Blood entering the pulmonary circuit from the systemic circuit contains on average ____ mmHg CO₂.

- a) 36
- b) 46
- c) 40
- d) 56

2)

Increasing the rate and/or depth of breathing will typically make the ETCO₂?

- a) increase
- b) decrease
- c) remain high
- d) no change

3)

When alveolar CO₂ levels fall, the CO₂ levels in the blood leaving the lungs typically.

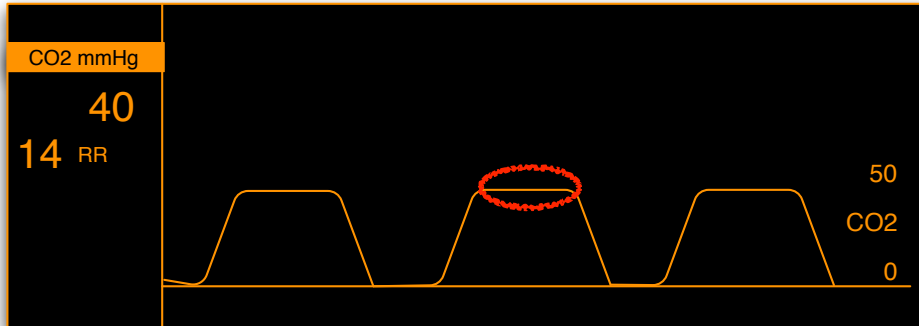
- a) increase
- b) decrease
- c) remain high
- d) no change

4)

During which of the following circumstances does ETCO₂ values not reflect a patients ventilatory status well?

- a) during hyperventilation
- b) during slow respirations
- c) when cardiac output is low
- d) when cardiac output is high

5)



The circled part of the picture above reflects;

- a) dead space air
- b) mixed air
- c) inhalation
- d) alveolar air

6)

The circled part of the picture above indicates which part of the respiratory cycle?

- a) inhalation
- b) exhalation
- c) the pause after exhalation
- d) the pause after inhalation

7)

When assembling the ETCO₂ circuit with an advanced airway, the filter should be placed;

- a) directly on the BVM
- b) directly on the advanced airway
- c) on the exhalation port of the BVM
- d) between the ETCO₂ monitor and the BVM

8)

You are attending to a VSA in a neighborhood bar. The patient had just started his second beer of the night when he suddenly stood up, said he didn't feel well and collapsed to the floor. The intubation was challenging due to his large size but you are pretty sure the tube went where it needed to go. The compliance is so-so and it is a bit unclear if it is the chest or he belly that moves when the BVM is squeezed. During auscultation you hear distant breath sounds. You attach the ETCO₂ adaptor and get a reading of 15 mmHg. There is a shallow waveform. You should;

- a) Continue monitoring the ETCO₂ over the next few breaths, if the value drops off despite good CPR, remove the advanced airway as it is probably the beer giving a false CO₂ reading.
- b) Immediately remove the advanced airway, the low value is consistent with a false reading from the beer.
- c) Secure the advanced airway, a reading of 15 mmHg is positive confirmation that the ETT is placed correctly.
- d) Decrease the rate and depth of ventilations.

9)

What change of the ETCO₂ value would indicate a ROSC?

- a) a sudden decrease in the value
- b) a sudden increase in the value
- c) any value greater than 20 mmHg
- d) ETCO₂ values will not indicate a ROSC

10)

What is the average amount that CO₂ levels in the blood will drop from where the blood enters the lungs to where it leaves the lungs?

_____ mm Hg

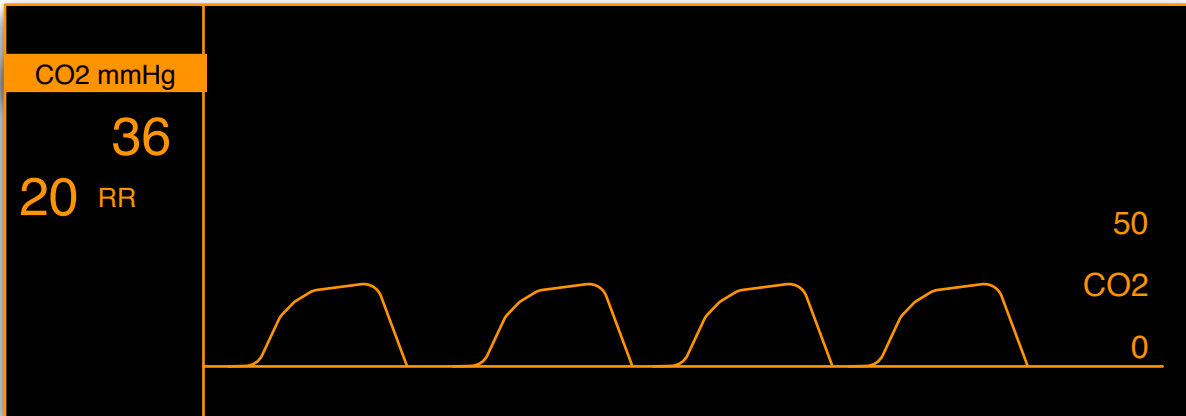
11)

An ETCO₂ value greater than 70 mmHg is categorized as;

- a) respiratory failure
- b) respiratory depression
- c) pre-arrest
- d) agonal breathing

12)

You are treating a patient who is complaining of chest pain. The description of the pain is vague but you suspect it may be of a cardiac nature so you decide to administer ASA. Approximately 10 minutes after the ASA administration the ETCO₂ waveform changes from normal to;



What do you suspect may have happened?

13)

You are en-route to the hospital with a shooting victim. Because of significant bleeding into the airway you have intubated the patient. You are ventilating at approximately 14 breaths / minute with an appropriate tidal volume. The ETCO₂ monitor shows a normally shaped waveform with a value of 22 mmHg. You should;

- a) increase the respiratory rate
- b) decrease the respiratory rate
- c) keep the rate the same but increase the tidal volume
- d) keep ventilating at the same rate and depth

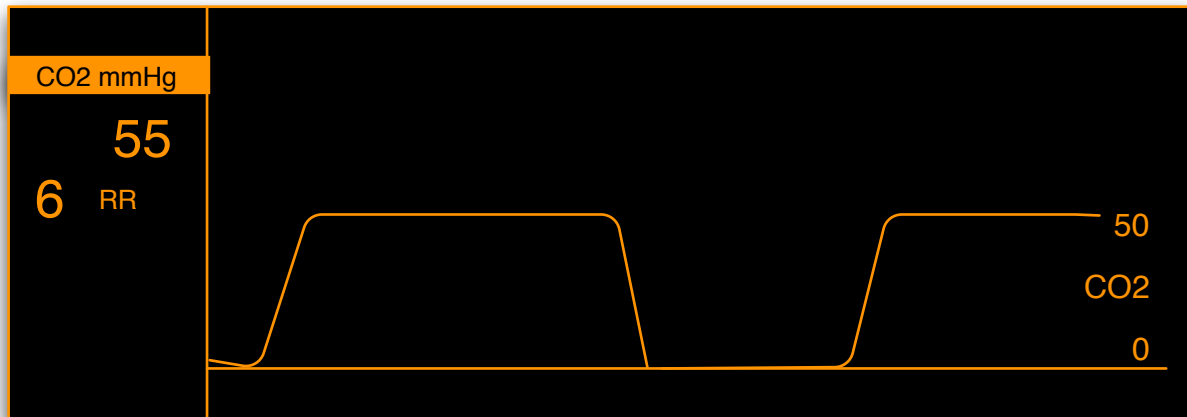
14)

In 'shallow breathing' respiratory depression the following is true;

- a) ETCO₂ is low / PaCO₂ is high
- b) ETCO₂ and PaCO₂ is high
- c) ETCO₂ and PaCO₂ is low
- d) ETCO₂ is high / PaCO₂ is low

15)

You have attended to a possible drug overdose. The patient has admitted to taking several pills of oxycontin that was 'given to them by a friend'. When you arrive the patient is unresponsive with an SpO₂ of 82%. With verbal rousing and oxygen administration the patient awakes and the SpO₂ increases to 100%. As soon as the patient is not spoken to he again 'nods off' but the sats stay at 100%. The ETCO₂ is as below;



The ETCO₂ monitoring suggests;

- a) slow and shallow breathing
- b) respiratory depression
- c) respiratory failure
- d) normal breathing

16)

What is the appropriate intervention for the above patient?

- a) no intervention required as long as the SpO₂ is within normal values
- b) increase oxygen flow to the NRB
- c) either rouse the patient and see if that increases the RR or assist with BVM
- d) elevate the legs to improve cardiac output

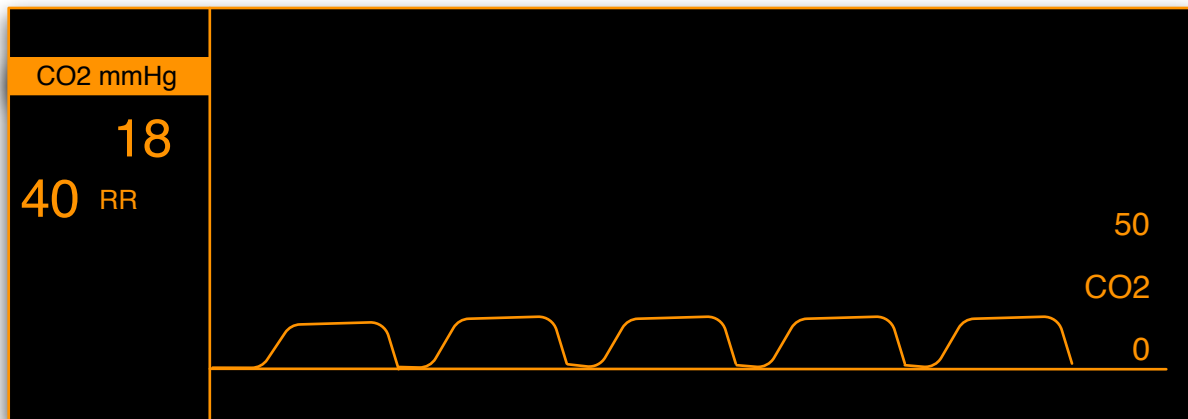
17)

Normal ETCO₂ is;

_____ mm Hg - _____ mm Hg

18)

You are attending to a college dorm for a 20 year old male who states he wanted to kill himself (after an argument with his girlfriend) so he ingested several of his ativan tablets with some vodka. He then changed his mind (his girlfriend called back to apologize) so called 911 for help. He is clearly upset and his ETCO_2 is as below



From this you can conclude that;

- a) the patient is suffering respiratory depression (shallow breathing)
- b) the patient is hyperventilating
- c) the patient's cardiac output is falling
- d) the patient is faking the entire thing

19)

The following ETCO_2 abnormality is linked with high mortality among septic patients;

- a) high ETCO_2
- b) low ETCO_2
- c) normal ETCO_2 with rounded ascent to a sloped plateau on the waveform
- d) low ETCO_2 with rounded ascent to a sloped plateau on the waveform

20)

The following ETCO_2 abnormality is often found with pulmonary embolisms;

- a) high ETCO_2
- b) low ETCO_2
- c) normal ETCO_2 with rounded ascent to a sloped plateau on the waveform
- d) low ETCO_2 with rounded ascent to a sloped plateau on the waveform