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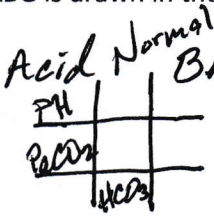
Arterial Blood Gas Practice Questions

Assume the ABG is interpretable. Assess the ABG for acid/base status. Each question is worth 10 points. There are 10 questions, resulting in a total of 100 possible points.

1. An 84 year old female presents with dyspnea, fever, and a 5 day history of a productive cough with yellow sputum. The Chest X-ray reveals bilateral lower lobe pneumonia. An ABG is drawn in the emergency department. The ABG results are:

pH: 7.27
PCO2: 58
PaO2: 60
HCO3: 26

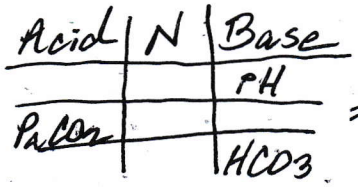
pH (Acid) 7.35 - 7.45 (BASE)
$PaCO_2$ 45 - 35
HCO_3 21 - 26



= Uncompensated, Respiratory Acidosis

2. A 63 year old female presents to the ED with persistent vomiting. The client states the persistent vomiting started 2 days ago. Her ABG in the ED reveals:

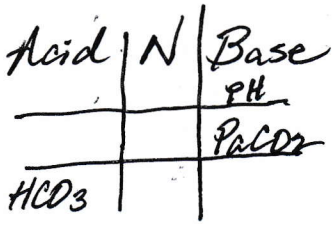
pH: 7.58
PCO2: 55
PaO2: 80
HCO3: 46



= Partially compensated, Metabolic Alkalosis

3. A 28 year old male with obsessive compulsive disorder presents to the ED with a severe anxiety attack. The client complains of shortness of breath, chest pain, and tingling in bilateral upper and lower extremities. Client states "I feel like I am about to pass out". The physical exam reveals a heart rate of 124 and a respiratory rate of 38. An ABG is drawn and the results are as follows:

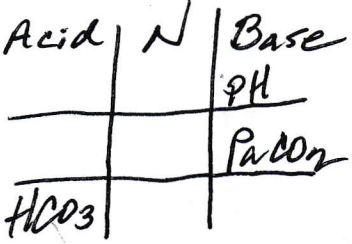
pH: 7.55
PCO2: 23
PaO2: 99
HCO3: 19



= Partially compensated, Respiratory Alkalosis

4. A 50 year old female with a past medical history of cirrhosis secondary to alcoholism arrives to the clinic for a new patient visit. An ABG is performed. The result of this ABG reveals _____

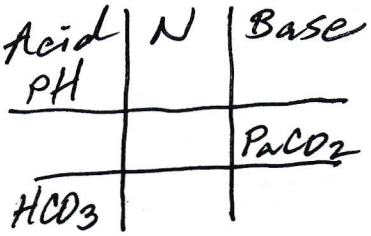
pH: 7.46
PCO2: 20
PaO2: 80
HCO3: 17



= Partially Compensated, Respiratory Alkalosis

5. A 20 year old male with ulcerative colitis presents with profuse diarrhea. The client states that the diarrhea started 3 days ago. An ABG is obtained and it is:

pH: 7.28
PCO2: 27
PaO2: 90
HCO3: 13

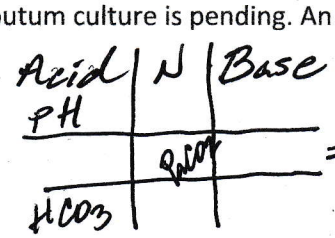


= Partially Compensated, Metabolic Acidosis

Arterial Blood Gas Practice Questions

6. A 30 year old female arrives to the ED with complaints of a cough with productive green sputum, blurry vision, shortness of breath, polyuria, and polydipsia. The client admits to being an insulin dependent diabetic since age 6 and chronic kidney disease with a baseline creatinine of 2.3. A CXR is performed and reveals significant bilateral infiltrates. A point of care blood sugar is completed and reads >600 HIGH. Patients UA is positive for ketones. Sputum culture is pending. An ABG is completed and reveals:

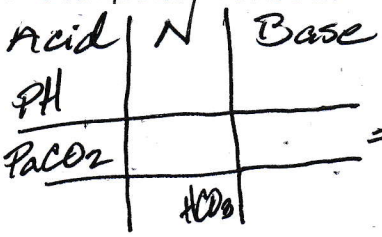
pH: 7.19
PCO2: 35
PaO2: 60
HCO3: 9



= Uncompensated ~~Partially Compensated~~, Metabolic Acidosis

7. A 55 year old male with idiopathic pulmonary fibrosis presents with abdominal pain. A BMP, CBC, ABG, and Abdominal CT is completed. The ABG is:

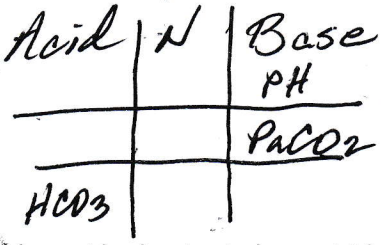
pH: 7.33
PCO2: 52
PaO2: 50
HCO3: 26



= Uncompensated, Respiratory Acidosis

8. The ABG on a 29 year old pregnant woman reveals:

pH: 7.48
PCO2: 30
PaO2: 95
HCO3: 20



= Partially compensated, Respiratory Alkalosis

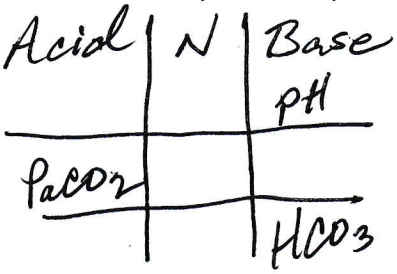
9. A 36 year old provider begins to have stridor shortly after putting on latex gloves. The provider has a significant history of asthma with allergies to pollen. An ABG is completed and reveals:

pH: 7.21
PCO2: 64
PaO2: 70
HCO3: 26

= Uncompensated, Respiratory Acidosis

10. A 75 year old male with hypertension, hyperlipidemia, coronary artery disease, stage III CHF secondary to ischemic cardiomyopathy presents to his PCP for a routine appointment. The PCP is aware that the patient takes 40mg of furosemide twice daily. Labs are performed. The ABG reveals the patient is in:

pH: 7.48
PCO2: 49
PaO2: 75
HCO3: 37



= Partially Compensated, Metabolic Alkalosis