Review the ABG values below. Based on the lab values; is the patient experiencing respiratory acidosis, respiratory alkalosis, metabolic acidosis, metabolic alkalosis.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Patient A** | **Patient B** | **Patient C** | **Patient D** |
| Blood pH | 7.30 | 7.61 | 7.19 | 7.51 |
| **PaO2** | 84 | 95 | 94 | 96 |
| **PaCO2** | 66 | 24 | 3 8 | 41 |
| **HCO3** | 26 | 26 | 18 | 29 |
| **Acid/Base Status-Possible Differential Diagnosis** | **Acute Respiratory Acidosis** | **Acute Respiratory Alkalosis** | **Acute**  **Metabolic Acidosis** | **Acute**  **Metabolic Alkalosis** |
| **Possible Differential Diagnosis** | **COPD** | **Sepsis** | **Salicylate Intoxication** | **Nephrotic Syndrome** |

**References**

1https://www.thoracic.org/professionals/clinical-resources/critical-care/clinical-education/abgs.php

2.https://patient.info/doctor/arterial-blood-gases-indications-and-interpretation#nav-4

3https://medlineplus.gov/ency/article/003855.htm

4https://emedicine.medscape.com/article/301574-overview

During Critical Care Rotation: Ask each student to come prepared to share the below results for their patient. As a group discuss the test results and determine the following for each patient: respiratory acidosis, respiratory alkalosis, metabolic acidosis, metabolic alkalosis.

Discuss: Which results are most concerning and why? Which patients are the most critically ill? Why? During the discussion, be sure to include additional assessment data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Patient A** | **Patient B** | **Patient C** | **Patient D** |
| Blood pH |  |  |  |  |
| **PaO2** |  |  |  |  |
| **PaCO2** |  |  |  |  |
| **HCO3** |  |  |  |  |
| **Acid/Base Status-Possible Differential Diagnosis** |  |  |  |  |
| **Possible Differential Diagnosis** |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Patient E** | **Patient F** | **Patient G** | **Patient H** |
| Blood pH |  |  |  |  |
| **PaO2** |  |  |  |  |
| **PaCO2** |  |  |  |  |
| **HCO3** |  |  |  |  |
| **Acid/Base Status-Possible Differential Diagnosis** |  |  |  |  |
| **Possible Differential Diagnosis** |  |  |  |  |

Additional Resource: https://www.manuelsweb.com/abg.htm