

# [Pathophysiology-acidosis and alkalosis flowcharts and tables](https://assignbuster.com/pathophysiology-acidosis-and-alkalosis-flowcharts-and-tables/)

[Health & Medicine](https://assignbuster.com/essay-subjects/health-n-medicine/)

Acidosis and Alkalosis Flowcharts and Tables ACIDOSIS AND ALKALOSIS FLOWCHARTS AND TABLES Alkalosis and acidosis are terms that are used for the description of abnormal conditions caused by excess alkali or acid in the blood. The body pH needs to be maintained at between 7. 35 and 7. 45, in order to ensure that the body’s metabolic functions are running properly and that the tissues are getting the correct amount of oxygen. Acidosis can be described as excessive acid levels in the blood, which result in the drop of pH below 7. 35 (Bullock, 2006). Alkalosis, on the other hand, is an excessive level of base present in the blood, which results in pH rising past 7. 45. The vital organs used in regulating pH, in the blood, are the kidneys and the lungs. Lungs are used for the removal of carbon dioxide. Heightening or lowering the rate of respiration causes alteration in carbon dioxide amounts exhaled which can have an instantaneous effect on levels of blood pH. The malfunction of this regulation results in respiratory acidosis or alkalosis. Kidneys, on the other hand, remove acids from the urine while acting to regulate bicarbonate levels present in the blood. Variations in the concentration of HCO3- cause acid base changes at a much slower rate than does CO2. It could even take days at the most to have any effect. The malfunction of this regulatory mechanism leads to metabolic acidosis or alkalosis (Jindal, 2011).
1. How the Acid-Base Imbalance in the Body Can Lead To Acidosis and Alkalosis
a) Acidosis
(Bullock, 2006)
b) Alkalosis
(Bullock, 2006)
2. Use tables to:
a) Differentiate between respiratory and metabolic acidosis
Primary disorder
Defect
pH effect
Compensatory response
Metabolic acidosis
Decrease in HCO3-
Loss of bicarbonate ions or gain in hydrogen ions
Decrease
Respiratory alkalosis
Decrease in levels of PaCO2
Respiratory acidosis
Increase in PaCO2
Retention of carbon dioxide
Decrease
Increase in HCO3
Metabolic alkalosis
b) Differentiate between respiratory and metabolic alkalosis
Primary disorder
Defect
pH effect
Compensatory response
Metabolic alkalosis
Increase in levels of HCO3
Loss of hydrogen ions, H+
Gain in bicarbonate ions, HCO3-
Increase
Respiratory acidosis which increases the levels of PaCO2
Respiratory alkalosis
Decrease in levels of PaCO2
Washout of Carbon dioxide, CO2
Increase
Metabolic acidosis which results in decrease of HCO3-
(Bullock, 2006)
References
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