



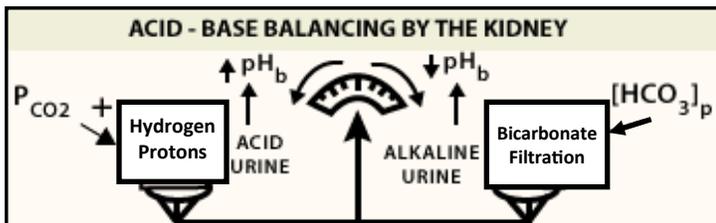
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# Acidic vs. Alkaline Foods: Does it Matter?

The acid-alkaline balance in body fluids is one of the most vital aspects of [homeostasis](#), needing to be controlled within a narrow range (pH 7.35-7.45). Your body is going through constant and incredible lengths to maintain a pH of about 7.4. We have 3 main regulatory systems to guard against acid loads from the food we eat and the way our tissues metabolize them:

- 1) Buffer systems that work in cellular fluid and the bloodstream to keep pH constant
- 2) The respiratory center (aka the lungs and oxygen or carbon-dioxide carrying structures)
- 3) Kidney regulation

Regardless of what you eat, you can be pretty confident that your blood pH is hovering around a comfortable 7.4. Any influence of nutrition that slightly disrupts the acid-base equilibrium is quickly corrected by biochemical buffering systems operating in both the extracellular and intracellular environments of our bodies. In the [absence of pathologies](#), food components do not cause acidosis nor alkalosis. The regulation of pulmonary ventilation (breathing) and the excretion of acids in the urine keeps the pH constant. The kidney tubules filter bicarbonates (alkaline) and excess acidic protons are excreted. Excreting acids in your urine is one of the main ways your body regulates blood pH, so while your urine pH may rise, your blood pH will remain relatively constant. Food can definitely change the [pH value of your urine](#), though the effect is somewhat variable, depending on the health of the body. Don't imagine that you're "alkalizing your blood" by eating foods that are considered alkaline. At best, the benefits of such a diet for the general population are [inconclusive](#).

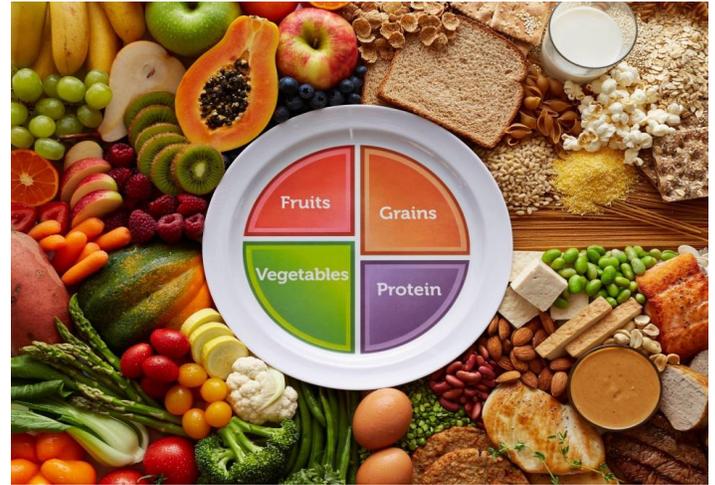


The response of the kidney to acid-base imbalance is governed by the relative magnitude of [proton \(H<sup>+</sup>\) secretion](#) and [bicarbonate \(HCO<sub>3</sub>\) filtration](#) because these two factors affect the rates of acid and alkali excretion.

If [pulmonary carbon dioxide \(PCO<sub>2</sub>\)](#) rises, proton secretion becomes dominant and the kidney excretes acid, raising blood pH.

If [pulmonary bicarbonate rises \(HCO<sub>3</sub>\)<sub>p</sub>](#), bicarbonate filtration increases and the kidney excretes alkali, reducing blood pH.

Graphic adapted from [Precision Nutrition](#)



The pH of the actual food before consumption does not dictate whether the net affect on the body is acidic, neutral or alkaline. Rather, scientists use "potential renal acid load" (PRAL) of a food to determine the actual resultant acidity or alkalinity of a food. The [PRAL](#) is a complicated calculation based on the end metabolism of a food's protein, phosphorous, potassium, magnesium and calcium. Animal products and grains are typically acid forming, while most fruits and vegetables are alkali forming. Certain food groups are considered acidic, alkaline or neutral:

- **Acidic:** Meat, poultry, fish, dairy, eggs, grains and alcohol
- **Neutral:** Natural fats, starches and sugars.
- **Alkaline:** Fruits, nuts, legumes and vegetables.

Admittedly, the alkaline diet does incorporate some health benefits, encouraging high consumption of fruits, vegetables and healthy plant foods, while restricting processed junk foods. However, it eliminates some fruits and vegetables considered acidic, along with grains, dairy and fish/meat sources of protein. Elimination of major [food groups](#) always raises a red flag.

**According to According to the American Institute of Cancer Research:** "What you eat can have a profound affect on your health, but the acidity or alkalinity of foods is not important. Instead, focus on making dietary choices that can truly [affect your risk](#) of disease. Eat a wide variety of vegetables, fruits, whole grains and beans; Limit consumption of red and processed meats; Enjoy alcohol in moderation, if at all." Simply put, basic good nutrition is what matters!