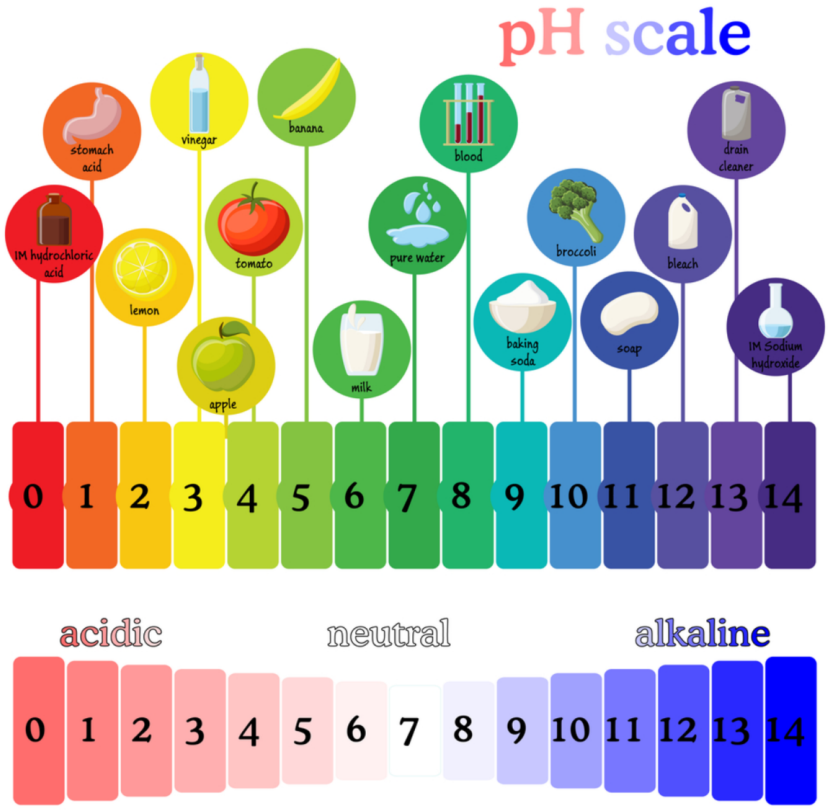
# Basic Water


By Zachary A. Knecht, PhD

“Basic water” does not refer to a fundamentally simpler form of $H_20$. In this context, “basic” refers to alkalinity. Science classes have taught us about the pH scale, the 0-14 spectrum that characterizes a solution as acidic, basic (alkaline), or neutral. A solution with a pH of 0-6 is acidic, of 8-14 is basic, and of 7 is neutral. Normal tap water has a pH of about 7.5. Most brands of bottled water have a pH of 6.5-7.5, and basic or alkaline drinking water has a pH of 8-9. Some sources believe that basic water offers health benefits that include aging prevention, immune-system health, weight loss, skin health, and even cancer prevention. More scientific evidence is needed to back these broad claims, although basic water is currently being tested for treating more specific conditions.




## The Importance of pH

The pH refers to the hydrogen-ion concentration of a solution and most likely means "power of hydrogen."[1] An acid is a compound that releases hydrogen, whereas bases reduce hydrogen concentrations; therefore, acids have more hydrogen ions, and bases have fewer. The balance of ions in solution as represented by pH is a fundamental chemical property, and even small changes in pH can dramatically change how molecules interact with one another. Since ionic particles carry a charge, they can act like a magnet and essentially pull atoms away from other molecules to change their structure and function. This property underlies the corrosive nature of both highly acidic solutions (eg, stomach acid) and basic solutions (eg, bleach).

The pH of various parts of the human body is tightly regulated between different compartments. For example, the stomach and skin are more acidic to break down food and kill germs, whereas secretions of the liver and pancreas tend to be neutral or basic to allow chemical reactions essential for metabolism.[2]

## Limits to Drinking Basic Water

Because pH is so important to biochemistry and the ability of stomach acid to break down food, it's unwise to drink water that is more basic than having a pH of 9. However, if pH is already abnormal (eg, as in people with acid-reflux diseases), consumption of basic water may help. In 2012, Koufman and Johnston[3] found that drinking water with a pH of 8.8 could inactivate pepsin, a digestive enzyme that causes damage following a gastric-reflux event, and could help neutralize stomach acid in the throat. In 2017, Zalvan and others[4] concluded that basic water was at least as effective as other dietary and proton pump-inhibition therapies in treating reflux disorders.[4] Further, basic water may have benefits for maintaining hydration. The results of several studies have shown water having a high pH to be more effective for hydrating athletes after intense exercise than is standard water.[5,6]

There is no compelling scientific evidence yet to suggest that drinking basic water is going to prevent cancer or help anyone lose weight. However, the high pH of basic water may help in managing acid reflux and in keeping hydrated, which itself can have positive effects on brain function and promote weight loss [7,8]

## Conclusion

It is difficult to determine whether consumption of basic water itself has positive effects on health or if any benefits simply result from good hydration over a prolonged time. In any case, consumption of basic water is unlikely to cause harm if no additional basic material is added to it. Most basic water contains a careful mix of minerals and electrolytes that help raise its pH. To ensure that drinking basic water has the best chance of causing more good than harm, stick to brands approved by the US Food and Drug Administration and adherent to quality standards.

# About The Author

**Zachary A. Knecht, PhD**

*Dr. Knecht earned his PhD in Neurobiology at Brandeis University and currently works as a postdoctoral researcher at the Whitehead Institute in Cambridge. His research involves understanding the molecular and cellular basis of tissue regeneration. Outside the lab he enjoys hiking, cooking and spending time with his wife and dog.*

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