What Is the pH of Saliva?

Medically reviewed by J. Keith Fisher, M.D. — By Scott Frothingham — Updated on September 27, 2018

pH of saliva pH balance Risks Symptoms Determining pH of saliva Balancing pH Diagnosis Takeaway

Saliva that is properly pH balanced (6.2 to 7.6) helps maintain a healthy mouth and protect your teeth.

The acronym pH stands for potential hydrogen. It's used to describe the chemical acidity level vs. alkalinity level of a substance.

The pH level of 14 is the most alkaline, and the pH level of 0 is the most acidic. In the center of the spectrum is pH 7, the pH level for pure water.

For example, black coffee and vinegar are acidic and fall below pH 7. Seawater and antacids are alkaline and test above pH 7. With a pH just above 7, healthy human blood is just a little on the alkaline side.

What is the pH of saliva?

The normal pH range for saliva is 6.2 to 7.6.

Food and drink change the pH level of saliva. For example, bacteria in your mouth break down the carbohydrates you consume, releasing lactic acid, butyric acid, and aspartic acid. This lowers the pH level of your saliva.

Also, age may play a role. Adults tend to have more acidic saliva than children.

What is pH balance?

The human body is made up of about 60 percent water. It needs a pH close to water to sustain life.

Low pH

If there's too much acid in the blood (low pH level), a metabolic acidosis occurs. This is associated with high blood pressure, kidney disease, diabetes and other conditions.

High pH

If there's too much alkaline in the blood (high pH level), a metabolic alkalosis occurs. This is associated with adrenal disease and alcohol abuse.

Why should I care about the pH of my saliva?

Just like the rest of your body, your mouth needs a balanced pH. The pH level of your saliva can drop below 5.5 when you're drinking acidic beverages. When this happens, the acids in your mouth start to demineralize (break down) tooth enamel.

If the tooth enamel becomes too thin, the dentin is exposed. This can lead to discomfort when consuming hot, cold, or sugary drinks.

Examples of acidic food and drink include:

- soft drinks (pH 3)
- white wine (pH 4)
- American cheese (pH 5)
- cherries (pH 4)

Symptoms of unbalanced saliva pH

Some indications that your saliva pH is out of balance include:

- persistent bad breath
- sensitivity to hot or cold food or beverages
- tooth cavities

How do I find out the pH of my saliva?

To test the pH of your saliva, you'll need pH strips which are available at your drugstore or online. Once you have a pH strip, follow these steps:

- 1. Do not eat or drink for a minimum of two hours before testing.
- 2. Fill your mouth with saliva and then swallow or spit it out.
- 3. Fill your mouth with saliva again and then place a small amount of it on a pH strip.
- 4. The strip will change colors based on the acidity/alkalinity of your saliva. The outside of the box of pH strips will have a color chart. Match the color of your pH strip to the color chart to determine your saliva's pH level.

How do I keep a balanced pH in my mouth?

To keep a balanced pH level in your mouth, you could consume only foods and beverages with a midrange pH. However, that would be pretty boring and most likely deprive you of important minerals and vitamins.

A more acceptable idea would be adjusting your behavior with certain foods and drinks, such as:

- **Avoid sugary soft drinks.** But if you can't resist, drink them quickly and follow up with a drink of water. Try not to sip the sugary drinks over an extended period of time.
- Avoid black coffee. Adding dairy, not a sugary flavored creamer, can help counteract the acidity.
- **Don't brush.** Avoid brushing your teeth after drinking high-acidity beverages such as soft drinks, fruit juices, cider, wine, or beer. High-acidity drinks soften your tooth enamel. Brushing too soon after consuming these drinks can further damage the enamel.

- **Chew gum.** After eating or drinking acidic foods or beverages, chew sugarless gum preferably one with xylitol. Chewing gum encourages saliva production to help restore pH balance. It's believed that xylitol will prevent bacteria from sticking to tooth enamel; it also encourages saliva production.
- Stay hydrated. Drink plenty of pH 7 water.

Saliva pH as a diagnostic tool

According to a 2013 study, your salivary pH can be used as a diagnostic biomarker. The study showed that the pH level of saliva changes based on the severity of a person's periodontal disease.

The takeaway

Saliva that is properly pH balanced (6.2 to 7.6) helps maintain a healthy mouth and protect your teeth.

Testing your salivary pH with test strips is simple and there are number of easy lifestyle adjustments you can make to help keep your saliva pH properly balanced.

Last medically reviewed on September 26, 2018