

pHear pHactor: Debunking the Alkaline Diet

By Melanie Peters | April 30, 2019

Healthy eating can be a fraught endeavor in this age of social media and clickbait headlines. There is no lack of advice on what and how we should be eating — from clean to paleo to keto — and each enticement is often accompanied by a blockbuster health claim that a diet can “cut your cancer risk in half!” or “cure diabetes!” The hook for these diets is in their simplicity, just cut something out (like carbs, fats, or sugars) or adhere to a “foolproof” set of guidelines (keto or paleo) and you’ll soon be “the healthiest you’ve ever been!” (Apparently, exclamation points are calorie-free.)

Taken at face value, these claims seem reasonable — most of us could benefit from eating foods lower in fat, sodium, added sugars and in eating more fruits and veggies — but a deeper dive into the details and demands can leave a person confused (how healthy is bacon, really?) and in some cases, malnourished.



Case in point: the alkaline diet — a constant on most people’s Facebook feeds. Based on the


idea that cancers grow in an acidic environment, the claim goes that eating a diet that is high in alkaline-based foods will create an internal environment that discourages the development of

cancer. Advocates say that's just science! Or is it? UC San Diego Health nutrition expert Traci Roberts, RD, guides us through the ins and outs of this current internet dietary darling.

How much or how little do acid- or alkaline-based foods impact our overall health?

This is a difficult question to answer because it is impossible to separate one characteristic of a food from the rest of the food. We like to place foods into simple categories for the sake of comparison in order to determine what is "good" or "healthy" or "better." This kind of thinking neglects the complexity of foods and the impact that the hundreds of constituents of a whole food can have on our bodies. With that framework, the answer is that acid- and alkaline-based foods have a great impact on our bodies, but not necessarily as a result of how one might think they can induce pH changes in our bodies.

Our lungs and kidneys are largely responsible for controlling the pH of our blood, and it is imperative that it remain between 7.3 and 7.4 for survival. The pH of our urine can vary, with the kidney orchestrating what is eliminated to help maintain the balance. The rationale behind the alkaline diet is this: Based on the types of foods we eat, our body (and the kidneys in particular) needs to do more or less compensating for optimal pH. However, the actual pH in food doesn't determine a net effect on the body. Rather, the effect food has on the kidney, called the "potential renal acid load" or PRAL determines where they fit in the context of the acid-alkaline diet. For example, citrus fruits are acidic but are considered high alkaline foods because they have a low renal acid load. This may help clear up some confusion when looking at food lists for this diet.

This brings us back to the initial question, does eating low-PRAL foods help us stay healthier or fight disease? Not surprisingly, the data on this is mixed and there is no consensus on what an alkaline diet may look like over a lifespan. Looking at a list of foods along the acid/alkaline continuum, it is possible to consider that, over the long term, nutritional deficiencies may show up with those strictly adhering to an alkaline diet. Likewise, it is conceivable that an eating pattern of high-PRAL (acidic) foods may lead to a depletion of alkaline buffers in our bodies — with the largest reserve of these chemicals coming from our bones. Foods at the alkaline end of the spectrum are largely fruits and vegetables, and time-honored nutrition advice tells us that a plant-based diet is best for our health. However, a healthy eating pattern also includes lean meats and whole grains, which fall on the acidic end of the spectrum. For those looking to optimize their health, the [Dietary Guidelines for Americans](#)  can be used as a foundation for healthy eating.

Anyone who spends more than five minutes on social media will see a post touting the cancer-fighting properties of an alkaline diet. What, if anything, does this diet have to do with preventing cancer? Is it safe for cancer patients to follow this diet?

Again, the alkaline diet recommends consuming mostly fruits and vegetables, which is a pattern of eating recommended for preventing cancer. However, these recommendations aren't based on the acidity or alkalinity of the foods but rather the fact that these foods are rich in vitamins, minerals, phytonutrients and fiber. Patients with cancer, especially those undergoing treatment,

are advised to maintain their current body weight with adequate calories and protein. While it wouldn't necessarily be unsafe for cancer patients to follow the alkaline diet, they would need to ensure that their protein and calorie needs are being met and should consult with a dietitian for nutrition optimization.

Are there any dangers to adopting a diet based on how alkaline a food is?

If someone were to adopt a strict alkaline diet with 80 percent alkaline foods and 20 percent acidic foods as some websites recommend, there can be an increased risk of certain vitamin or protein deficiencies. Again, the best diet assumes that one is consuming a variety of foods, based on a foundation of fruits and vegetables and followed by whole grains, lean proteins, and healthy fats.

Are there better/easier ways to get the benefits of this diet claim s to achieve without having to consult the pH scale?



It's easy for people to become confused by ever-changing diet trends and nutritional advice. It feels like rough seas for people who are trying to do their best to follow a healthy diet. However, if you look at the top seven dietary guidelines from 1980 to 2015, they have remained steadfast. It is unfortunate that nutrition has become so confusing but the basics are still as sound today as they were 35 years ago.

Food and health are intimately tied together, and rightly so, but it's also important to remember that our overall health isn't just dependent on what or how we eat. Optimal health includes maintaining a healthy body weight, regular physical activity, quality sleep, stress reduction and

social connections. Just as there is no singular dietary hero or villain, no particular eating pattern can make or break our health by itself. We often put a lot of pressure on our dietary choices to take responsibility for our overall health. And because of this, we tend to either over-complicate one of our most basic bodily functions, or over-simplify food into “good” or “bad” categories. To risk over-quoting my favorite dietary author, Michael Pollan, the best nutritional advice can still be distilled down to these three things: “Eat food. Not too much. Mostly plants.”

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