

Health Impacts: Science Sheds Light Why Heating Your Food With Microwave Radiation Might Be A Bad Idea

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A few decades from now, will it be common knowledge that using microwave radiation to heat food is harmful to human health? It's certainly a possibility, and information is already emerging which shows cause for concern.

Microwaves work by causing water molecules to resonate at very high frequencies, converting them into steam and thereby heating your food. While this might be a convenient way to prepare your food, using microwave radiation in this way actually changes the chemical structure of that food.

The fact that they are approved as safe doesn't mean much these days, as we've seen with several other examples from Tobacco, PCBs and Asbestos and Glyphosate. Just because a government agency, like the Food and Drug Administration (FDA), or a government health agency approves something as safe, doesn't necessarily mean it's safe.

You might be wondering how this is any different from heating your food on the stove or steaming it, and that's a fair question. The difference is that microwaves deform and distort the molecules in food, while conventional heating methods do not.



This is problematic in the medical field as well. We know, for example, that during blood transfusions, microwaves are often used to heat the blood before it is transferred to the patient. But using microwave radiation to this actually damages components found in blood. In fact, one woman even died after receiving a blood transfusion of microwaved blood. ([source](#))

It is starting to look like microwaving can completely rid your food of most essential nutrients, but more research on this phenomenon needs to be done. That being said, there are some publications we can refer to if you'd like to find out more information regarding the harmful effects of microwaves on nutrients.

One example comes from 2003. A study published in *The Journal of the Science of Food and Agriculture* examined what microwaves do to broccoli, finding that broccoli, after being microwaved, lost up to 97 percent of its beneficial antioxidants. By comparison, when researchers steamed broccoli, they discovered that it only lost 11 percent or fewer of its antioxidants. ([source](#))

A study out of Australia showed that microwaves cause a greater level of “protein unfolding” than conventional heating. It found that “microwaves cause a significantly higher degree of unfolding than conventional thermal stress for protein solutions heating to the same maximum temperature.” ([source](#))

A study using garlic found that just 60 seconds in a microwave can render its principle active ingredient (alliinase) as useless. Microwaves have also been found to destroy immune-boosting agents that are found in breast milk. These are disease fighting nutrients which are essential to the health and development of the child. For example, one study found that microwaving breast milk caused a decrease in lysozyme activity and antibodies, and aided the growth of more pathogenic bacteria. ([source](#)) The interesting thing about this study is that the researchers found that more damage was done to the milk from microwaving compared to any other method of heating.

Microwaving appears to be contraindicated at high-temperatures, and questions regarding its safety even exist at low temperatures. ([source](#))

A Japanese study found that only 6 minutes of microwave heating turned approximately 40 percent of the B12 found in milk dead and completely void of any nutritional value. ([source](#))

Three recent studies of historical food composition have shown up to 40 percent declines in some of the minerals commonly found in fresh produce, and another one found the same thing for their protein source. ([source](#))

A Scandinavian study conducted in 1999 also found that cooking asparagus in the microwave results in a reduction in vitamins. (Kidmose U and Kaack K. Acta. Agriculturae Scandinavica B1999:49(2).110-117.)

What Type of Container Are You Using To Microwave Your Food?

Not heating your food in plastic containers should be a no brainer at this point. This is precisely why the US Food and Drug Administration (FDA) recommends that any plastic containers should be labelled for microwave use, but even if they are labeled as safe, it’s still probably not a good idea. For more more information on what happens when you microwave your food in plastic containers, you can check out [this](#) article.

Many studies have shown that multiple plastic products contain various hormone disrupting chemicals, and heat is the worst culprit when it comes to increasing the rate of chemical transfer from the container to your food.

As written in the journal *Toxicology Letters*:

Using a sensitive and quantitative competitive enzyme-linked immunosorbent assay, BPA was found to migrate from polycarbonate water bottle at rates ranging from 0.20 ng/h to 0.79/h. . . . At room temperature the migration of BPA was independent of whether or not the bottle had been perviously used. Exposure to boiling water increased the rate of BPA migration by up to 55-fold.

Again, heat increases chemical leaching, so be cautious of what you use to heat your food. Even plastic containers which are labelled as microwave safe (or even BPA free, which does

not account for other worrisome chemicals) are still dangerous. According to the Natural Resources Defense Council (NRDC), “what the term ‘microwave-safe’ basically means is that any chemicals leaching from the container into food do so at levels far below those shown to have any health effects. There is cause to be wary of this claim, however. In particular, #7 polycarbonate plastic should not be used in a microwave, even if it is labeled ‘microwave-safe,’ because it leaches hormone-disrupting bisphenol A (BPA), especially when heated.” ([source](#))

This may be frightening to consider, but examining the products we choose to use on a daily basis is important. We have seen many examples in recent human history of information coming to light about a product or drug which completely changes our understanding and attitude towards it. We only have to look at cigarettes to see the proof of that.

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