OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Joseph Baker

Just How Safe Is Your Cookware?

Everybody's reading ingredients labels these days — looking for potentially harmful additives, preservatives and other artificial ingredients or chemicals. But even if the ingredients label looks squeaky clean, you could be unwittingly adding chemicals and other substances to your food after you bring it home. Your cookware and storage containers might be injecting some unexpected, and often unwelcome, ingredients.

Dr. Baker wants patients to do everything possible to prevent disease and illness, including making smart choices about food and food preparation.

Dr. Baker explains to patients that raw fruits and vegetables retain their full, vitamin-packed potency better than their cooked counterparts. However, fresh produce that is steamed, sautéed in "healthy" oil, such as olive oil, roasted or lightly boiled is still incredibly nutritious if prepared correctly. And part of proper preparation includes paying attention to the type of cookware and storage containers used.

Teflon®

When cookware coated with DuPont's nonstick surface Teflon® hit the market, the event was hailed as the greatest thing since sliced bread. Recently, however, this wonder coating has come under the scrutiny of health officials and researchers. Why? Because of concerns related to pentadecafluorooctanoic acid (PFOA or C-8), which is used in the manufacturing process of Teflon®, other stick-resistant surfaces, Gortex® and even pizza boxes.

The Environmental Protection Agency (EPA) has noted that PFOA is a "likely carcinogen" for those involved in the manufacturing of Teflon® but not necessarily for consumers. However, there has been little research into whether or not eating foods cooked with Teflon®-coated products is harmful.

Meanwhile, manufacturers continue to insist that, unless heated to high temperatures, the coating is safe for humans. And, a recent study found that "none of the fluoropolymer [chemical in Teflon®]-treated cookware samples analyzed showed detectable levels of PFOA when extracted under simulated cooking conditions." (*Analyst* 2005;130:1299.)

But, alarmingly, this coating's effect on birds calls its "safe" rating into question. In one example, a homeowner's birds died just 30 minutes after accidental exposure to fumes generated by the nonstick coating of an overheated frying pan (*Vet Rec* 1975;96:175-8).

So, if you use nonstick cookware, take care not to subject it to temperatures above 450 degrees Fahrenheit.

Aluminum Cookware & Foil

Research shows that aluminum from cookware can leach into food and accumulate in the body (*Food Addit Contam* 1996;13:767-74). Scientists also speculate that aluminum foil may impart metal into foods that are cooked or wrapped in it.

Aluminum accumulation in the human body may harm the central nervous system and lead to bone lesions. It is also "a suspected causal factor to Alzheimer's disease," say researchers in China (*Wei Sheng Yan Jiu* 2002;31:320-2).

Stainless Steel

Stainless steel is an alloy: a combination of iron and other metals.

Organic food acids — released during the cooking process — can cause stainless steel to leach small amounts of iron, chromium and nickel into food. However, only marginal amounts are released.

Nickel is linked to numerous health problems, most notably allergic contact dermatitis.

On the other hand, chromium and iron are essential nutrients for which stainless-steel cookware and utensils could be a useful source (*Arch Environ Contam Toxicol* 1992;23:211-15).

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Cast Iron

In comparison to its stainless-steel cousin, cookware made from cast iron imparts considerably more iron into food: something researchers note could either be good or bad, depending on the circumstances.

As recently as six years ago, iron-deficiency anemia was the most common micronutrient deficiency in the world: estimated to affect millions of people (*The Lancet* 1999;353:690). Iron is essential for normal mental, motor and cognitive function.

To demonstrate how even a little extra iron in the diet can go a long way, researchers studied the effect of cast-iron cookware on 402 children in Ethiopia. Of that group, 195 children ate food prepared in cast-iron pots, and 207 did not. "After one year, blood tests showed that the iron-deficiency, or anemia, rate fell from 57 to 13 percent in the group with iron pots but only from 55 to 39 percent in the other. The children whose families used iron pots also grew slightly more, and none suffered from iron overload." (*Sci News* 1999;155:175.)

Too much iron, however, can be detrimental — even fatal — to those who have diseases related to an overabundance of iron. Sufferers of the hereditary disease hemochromatosis, for example, should never cook with cast-iron or even stainless-steel cookware.

In addition, preliminary research links excessive iron intake with a bolstered risk of cardiovascular disease.

Soapstone

Particularly popular in Brazil, soapstone (steatite) is a soft rock composed mainly of talc, dolomite and actinolite. In one study, cookware made of this all-natural material was found to be free of any mineral toxicity. Even better, researchers determined that soapstone "may contribute to the mineral nutrition of human beings." (*Food Addit Contam* 2002;19:134-43.)

Plastic Containers …

All plastic degrades over time, leaving behind microscopic molecules in your food. Heat and cold — from microwaves and refrigeration — speed up this process.

According to Edward Machuga, Ph.D., a consumer safety officer in the US Food and Drug Administration's (FDA) Center for Food Safety and Applied Nutrition, "It's true that substances used to make plastics can leach into food. But as part of the approval process, the FDA considers the amount of a substance expected to migrate into food and the toxicological concerns about the particular chemical."

Machuga, quoted in the November-December 2002 issue of the US Food and Drug Administration's *FDA Consumer Magazine*, further noted that "The FDA has seen no evidence that plastic containers or films contain dioxins [known to cause cancer] and knows of no reason why they would."

The people at ecologycenter.org, however, disagree. Polyvinyl chloride is used in a wide range of bottles, including those containing water, salad dressing, cooking oil and mouthwash. The problem is that lead, cadmium, mercury and the carcinogen Diethyl Hexyphosphate leach from the plastic into food.

Doctors of chiropractic don't believe in "safe" levels of poison. That's why, as your partner in preventative health care, this office urges patients to avoid toxins whenever possible.

… And Plastic Wrap

Laboratory tests conducted by Consumers Union, the publisher of *Consumer Reports*, found "high levels of di-ethylhexyl-adipate (DEHA) in store samples of cheese wrapped in PVC-film.

Researchers in Denmark made some startling discoveries when they tested the effects of DEHA on laboratory rats. The chemical additive lengthened the time of gestation, increased post-natal death and induced a permanent decrease in offspring body weight (*Reprod Toxicol* 2003;17:163-70).

Although many food-industry manufacturers have switched to "safer" polyethylene or soybean oil plasticizers, the jury is still out on the actual safety of these materials as well: both heated and nonheated. That's why doctors of chiropractic suggest patients limit the use of plastic containers and wraps.

Plastic Bottle Tops

Researchers analyzed the plastic lids from 23 domestic bottles and 80 imported bottles. Among them, 93 contained chloride — a component of chlorine — and 62 contained di(2-ethylhexyl) phthalate (DEHP) — a close molecular cousin of DEHA. Higher DEHP was detected in oily and fluid-food specimens, and shaking the bottles increased the amount of DEHP leaching into foods (*Shokuhin Eiseigaku Zasshi* 2002;43:377-84).

Yet, once again, the ingestible levels of these chemicals were determined to "not exceed the tolerable daily intake level."

Glass

Glass containers don't add minerals or chemicals to food. And talk about convenient: Many can go from the freezer or refrigerator to stove or range top. Glass containers with matching lids also save consumers money by reducing the need for plastic wrap and other materials to store food.

However, it is essential to use products made with lead-free, dye-free glass.

Cupboard Check

Remember: Your cookware could be sneaking unwanted ingredients into your food. Use the information contained in this ***Optimal Health University***® newsletter to determine if you need to make modifications in your choice of cookware and storage containers, based on the pros and cons of each.