



# THE PLAIN DEALER

## NUTRI-NEWS Q&A

### **Cookware doesn't have clear link to Alzheimer's**

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**Cinda Williams Chima**  
University of Akron

Is it safe to cook acidic foods in aluminum pots? What are the safest kinds of cookware to use?

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Concerns about the relationship between aluminum and health have been on the public radar screen since the 1960s. At that time, studies suggested that exposing rabbits' brains to aluminum caused damage similar to Alzheimer's disease.

Follow-up studies have shown that, under certain circumstances, aluminum can be damaging to the nervous system. For example, long-term dialysis patients develop a kind of dementia due to the buildup of aluminum in the bloodstream from dialysis fluids and medications.

There is evidence that very high intakes of aluminum can cause osteomalacia (brittle bones) and anemia. A quick tour around the Internet will suggest that aluminum exposure is associated with autism, ADHD, fatigue, colic, nervousness and headaches, as well.

So, should you throw out your aluminum cookware?

Probably not.

The evidence for the relationship between aluminum and Alzheimer's disease is conflicting. For example:

Some studies show that the brains of Alzheimer's patients have higher concentrations of aluminum; others do not.

In the lab, aluminum can promote the development of plaques in nerve cells that are characteristic of Alzheimer's disease. However, there doesn't seem to be a consistent correlation between aluminum levels and plaque density in people with Alzheimer's disease. Nor does there seem to be a clear increase in risk of Alzheimer's in people with occupational exposure.

Because tea leaves can contain large concentrations of aluminum, one would expect tea drinkers to be at greater risk of Alzheimer's. But that's not the case.

Consequently, most mainstream health professionals agree that exposure to aluminum is not a risk factor for Alzheimer's, based on current evidence. This includes public health organizations such as the Alzheimer's Association, the National Institutes of Health, the U.S. Environmental Protection Agency and the World Health Organization.

More important, aluminum cookware appears to account for only a tiny fraction of aluminum exposure in humans. Aluminum is one of the most abundant minerals on Earth. According to the National Institute of Environmental Health Sciences, or NIEHS, the average human intake is between 30 and 50 milligrams per day, primarily from food, drinking water and medications.

Most aluminum in the American diet comes from leavening agents, such as baking powder. Only about 10 percent to 20 percent is thought to come from aluminum cookware.

### **The downside of antacids**

People who use aluminum-containing antacids or buffered aspirin on a regular basis take in large amounts of aluminum. For example, a teaspoon of Mylanta or Maalox extra strength contains 300 to 400 milligrams of aluminum hydroxide. At a maximum dose of 12 teaspoons a day, these antacids would deliver 3,600 to 4,800 milligrams.

According to the World Health Organization, drugs like these can contribute as much as 5 grams per day (a gram is equal to 1,000 milligrams). The good news is that less than 1 percent of aluminum taken orally is absorbed. The rest passes straight through the body.

If you would like to minimize your exposure to aluminum:

1. Choose antacids carefully. You may wish to select brands containing calcium carbonate or magnesium salts instead of aluminum. In other words, read labels.
2. Avoid using pitted aluminum cookware. Similarly, avoid storing acidic foods for long periods in aluminum. Acidic foods cooked for long periods in aluminum will leach out more of the metal. For example, in one NIEHS study, tomato sauce cooked in aluminum pans contained 3 to 6 milligrams of aluminum per 100-gram serving. This is still a tiny amount compared to average daily intakes.
3. Shop carefully for aluminum cookware. Anodized or surface-treated aluminum such as Calphalon may be more resistant to the leaching of aluminum into foods. You can also choose stainless-steel clad aluminum cookware, such as All-Clad or some Calphalon lines.

The other cautionary note regarding aluminum cookware comes from the Consumer Products Safety Commission, which warns that empty aluminum cookware placed on high heat can melt. If a consumer picks up a pan that has "boiled dry," the molten metal can drip onto the consumer, causing severe burns. The safety commission recommends that aluminum cookware not be preheated on high heat, and that it not be left unattended on the stovetop burner.

Aluminum cookware is relatively inexpensive, lightweight and conducts heat evenly, making it popular with cooks. Consumers shouldn't be too quick to give up those advantages. In a future column, I'll discuss the current controversy about the safety of nonstick cookware coatings.

Cinda Williams Chima is a registered dietitian on the faculty of University of Akron. Her column runs on alternating weeks in Taste. E-mail nutrition and weight-control questions, labeled "Nutri-News," to [food@plaind.com](mailto:food@plaind.com)

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