

Arsenic in Rice: of Baby and Bath Water

By DAVID L. KATZ

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Predictably, there was widespread media attention to a recent release by *Consumer Reports* highlighting contamination of rice by arsenic. In customary "consumer watchdog" fashion, *Consumer Reports* presented a long list of popular consumer products, from cooking rice, to rice cakes, to [breakfast cereal](#), and most worrisome, baby food, with arsenic levels in each. The story was covered extensively by the major network news programs.



David Katz

The relevant background information here has already received considerable attention in print and on air, but we should revisit it briefly. Arsenic is an element present in the earth's crust. There would likely be some of it in ground water even without the human activities that traumatize that crust in a variety of ways, but not enough to threaten health. Our various activities that have moved both rocks and water, from mining to drilling wells into aquifers, have resulted in significant mobilization of arsenic from rock into ground water.

More important still are industrial uses. The use of arsenic compounds in agricultural products, such as insecticides, over decades has put considerable amounts into the soil, and subsequently surface water. Arsenic is used in wood preservation, as a feed additive for certain animals, and in making certain metal alloys and batteries.

Arsenic comes in two forms, organic and inorganic. Organic arsenic, which is present in foods in very small amounts, is probably non-toxic, and may even be an essential trace element. Some of the arsenic measured in foods is of this variety. The use of arsenic in insecticides is now limited to organic arsenic.

Inorganic arsenic is certainly a toxin, as was made famous in the movie, *Arsenic and Old Lace*. It is the primary variety released from rocks into water, and the main concern for human health. There is some potential for short-term toxic reactions to arsenic, but the major concern is an increase in cancer risk.

Consumer Reports did not examine health outcomes, just arsenic levels in rice-containing products. The principal findings were that arsenic levels were high enough in rice and rice products to be a cause for concern among experts. The report also noted that rice, overall, provides a significant portion of total inorganic arsenic to diets, perhaps as much as half. Recommendations included eating less rice; eating a variety of grains instead of rice preferentially; draining water off when rice is cooked at home; and, most importantly, an establishment of safe levels by the [Food](#) and Drug Administration. These exist for water, but not food.

All of this is sound, and sensible. Attention to arsenic in the environment by the Environmental Protection Agency, and in our food by the FDA, can only be a good thing, advancing food safety. Eating a variety of [whole grains](#), for those without reasons to avoid them such as gluten sensitivity, is good for health in general—and may also reduce arsenic intake.

But inevitably, when a peril in our food or medicine cabinet or environment is pointed out to us, it invites the hyperbole of concentrated media attention, an inclination to invoke conspiracy theories, and at least some temptation to panic. When we do give in to panic, we tend to jettison the baby along with the bath water, resulting in net harm.

With regard to arsenic in rice, I think there are three fundamental considerations that should guide your personal responses.

1. Don't make perfect the enemy of good.

Our world will never again be perfectly free of contaminants. For the most part, that is our fault, and there is no going back (although looking ahead, it is important to contain the damage). So since we can't have perfectly pure food, the operative question in the real world is: Which of the available choices are best for health?

The presence of a contaminant in food does not reliably indicate that eating the food is harmful. It's a shame, certainly, that we have put mercury into the oceans, and consequently into [fish](#). But studies show quite consistently that [habitual fish intake](#) is associated with better health outcomes, not worse. The health benefits of fish consumption seem to outweigh any harms from the mercury, at least in general. The health benefits of habitual intake of vegetables and fruits clearly outweigh any harms from the arsenic they contain, or trace pesticide residues.

Similarly, there is more arsenic in brown rice than white, but the health benefits of eating a whole grain may outweigh that. And in general, although more rice intake seems to mean more arsenic exposure, populations with the highest arsenic intake actually have lower, not higher, rates of cancer than ours in the U.S.

2. Don't exaggerate a risk just because you don't control it.

We have known for decades that the [four leading causes of chronic disease](#) and premature death in industrialized countries are smoking, poor dietary pattern, lack of physical activity, and obesity. Yet these four are routinely ignored or neglected by people who get very worked up over the latest chemical threat in our food or environment. We should not ignore big risks just because they are under our control, nor exaggerate much smaller ones simply because they are not.

3. New in the news is not new in the world.

Consumer Reports just released its report on arsenic in rice, and that put the topic in the news. But arsenic in rice, and other foods, and the environment, is not new. It's been there for decades. The tendency when a chemical threat is highlighted in the news is to think the threat itself is new, and the consequences are unknown, and in the future. But if arsenic in rice or other foods does actually contribute to cancer risk, it has been doing so for years. And overall cancer occurrence rates, and cancer death rates, have been falling, not rising, over recent years in the U.S. Again, this does not mean we should ignore arsenic in our food. But the notion that there is a spike in cancer or other disease rates looming around the next bend is misguided; we are already around that bend, and any harms of arsenic are already part of the epidemiologic landscape we know.

I look forward to FDA guidelines regarding safe levels of arsenic in foods, and to food manufacturers responding constructively to that guidance. In the interim, though, [brown rice will remain](#) a part of my diet, as will other foods containing rice; just as vegetables and fruits do despite some potential for contaminants there, and just as fish does despite the mercury. Perfectly pure food is, alas, not available on this planet. So those of us living here should focus on net health effects [rather than the media hype du jour](#), and do the best we can with the food supply we've got.

Hungry for more? Write to eatandrun@usnews.com with your questions, concerns, and feedback.

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