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Dear Friends,

Organic foods have been the fastest growing segment of the grocery industry for some time. Since the US Department of Agriculture (USDA) set organic standards in 2002, they have always seemed to be a reluctant partner in the growth and acceptance of these healthier and more flavorful foods. A sign of the vigor of organic agriculture and the increasing popularity of organic foods is the recent announcement by Wal-Mart that they are making a massive commitment to carrying them in their stores. Although supermarkets are now carrying a much larger amount of organic products than they used to, the entry of Wal-Mart means that organics have really become mainstream.

This means that the bulk of the American population will now have easier access to organic foods, but it is also somewhat of a concern, given the wavering of the USDA in their commitment. The USDA is under pressure from some major agricultural giants to loosen their organic regulations and permit some industrial farming practices that are opposed by the organic community. Already they have permitted standards for some meat and milk production to be lowered, so that the animals are not grazed or permitted outdoors as much as formerly required.

In fact, in some so-called organic dairies, the animals are permitted only token access to the great outdoors (although they are not given antibiotics, growth hormone, or pesticide-laden feed). Because of these practices, some organic food stores and community co-ops are refusing to carry some dairy products from some of these large producers. Among these feed-lot brands is Horizon (owned by Dean Foods) and Aurora Organics, a private-label milk supplier to Costco, Safeway, Giant, and Wild Oats. Other large food producers, such as Kraft, are putting pressure on the government to loosen its organic standards. Signs suggest that the USDA is responding to these pressures, and only massive public response and the Organic Consumer Association campaign have delayed the weakening of the regulations, for example, permitting genetically modified foods.

The concern about Wal-Mart's major expansion of their organic foods is that they will exert further pressure on the USDA to weaken organic standards, and they have significant financial clout. While I am happy to see that organic foods are no longer considered to be the choice only of "health nuts" (would anyone really prefer to be a "sick nut"?), and have become much more available for my own shopping, I do want to monitor any potential detrimental changes to the regulations.

You can stay aware of this also by visiting the website of the Organic Consumers Association ([www.organicconsumers.org](http://www.organicconsumers.org)) and by supporting their cause. The Organic Trade Association, on the other hand, is heavily influenced by the larger farms. Organic foods are grown in 100 countries on about 60 million acres. Mainstream marketing may help it grow. Let's hope it stays organic.

## Toxic Metal Update-Cadmium

Lead and mercury garner much of the attention paid to toxic exposures, but cadmium is another toxic heavy metal that is associated with numerous health problems. Cadmium (Cd) is a likely carcinogen and damages the lungs, liver, nerve tissues, and kidneys. It also contributes to the development of hypertension. Primary exposure is from tobacco smoke and foods, but it occurs in the environment in many sources. It is present in metal alloys and batteries, and is found in polluted water and run-off from mines.

Artists and painters may run into Cd as a component of many pigments, such as cadmium red, orange, yellow, and green. When recycled municipal sewage sludge is used in fertilizers, such as Milorganite or Nitrohumus, Cd (and other metals) may actually end up being unwittingly added to the soil in farms and gardens. This was one of the controversies in establishing organic standards. Eventually such fertilizer was banned from organic growing, but it is still commonly sold for garden use. Grains and green vegetables readily take up Cd from the soil.

Even though standards for toxic metal and other chemical contamination of sewage fertilizers were tightened in 1993, heavy metals may still be a problem. This is partly because they are persistent in the environment and accumulate in the soil and the body with repeated exposure. Governmental safe exposure limits in the U.S. are eight times less strict than in Europe, almost certainly due to political rather than safety considerations. (Other toxins that occur in sewage sludge include PCBs, pesticides, asbestos, industrial solvents, and petroleum byproducts.)

Cadmium is an enzyme poison, blocking energy production in the mitochondria and competing with zinc and selenium. It is associated with increases of lung and prostate cancer. It also damages the lining cells of the arteries, promotes inflammation, and interferes with blood vessel wall structure, all of which contribute to an increased risk of vascular disease.

Cadmium poses a serious health threat. A recent article evaluated 246 women with breast cancer and compared them with 254 case controls. Urine samples were tested for Cd, and the researchers found that women with the highest level of Cd in

the urine had twice the risk of developing breast cancer compared to women with the lowest urinary excretion. The researchers screened out other risk factors by interviewing the subjects.

Cadmium has estrogenic effects, stimulating breast and uterine cells. In estrogen responsive cancers, Cd has similar effects to estrogen exposure, causing proliferation of cancer cells. Cd induces oxygen free radicals, and it inhibits DNA repair, both of which contribute to its carcinogenic activity. Even low environmental exposures contribute to this risk. Environmental studies also show an association of Cd exposure with pancreatic cancer.

In one comprehensive study, researchers evaluated urine Cd in 994 people living close to three zinc smelters (with Cd waste) and the soil Cd in their gardens and compared them to a reference population not so exposed. Over 17 years, 70 cancers occurred, 50 of them fatal. Of these, 19 were lung cancers. High urine Cd was associated with 67 percent of the lung cancers, which is similar to the risk from smoking, and for high soil Cd the risk was increased 57 percent. Overall, residence in the high Cd area showed a four-fold increase in risk of cancer.

Research shows an association of Cd (and other heavy metals such as lead and mercury) with arterial disease. One study analyzed chronic low-level exposure in 2125 participants. Those with the highest levels of Cd in the blood had triple the risk of peripheral vascular disease compared to those with the lowest levels. These levels were below the current safety standards, but still apparently a problem. In this study a significant portion of the risk of cigarette smoking was due to the associated Cd exposure.

### Managing Cadmium Risks

Reducing exposure is the first line of defense, and it helps to eat organic foods, avoid sludge fertilizers in the garden, and avoid tobacco smoke, including second-hand smoke. Coastal shellfish often contain excessive levels of Cd, and it is in numerous municipal water supplies.

Chelation therapy is one treatment for heavy metal toxicity. EDTA (ethylenediamine tetraacetic acid) has been used since the early 1950s to treat lead toxicity, and it is also effective at removing cadmium from tissues. EDTA is a syn-

thetic amino acid administered intravenously, and is most frequently used to treat vascular disease. The recently explored relationship between heavy metals and vascular disease suggests one mechanism for chelation benefits.

A non-chelating binding agent, similar in effect to EDTA, is DMSA (dimercaptosuccinic acid), an oral tablet for removing cadmium, lead, and arsenic. This is available as a dietary supplement. Typical doses range from 100 mg daily up to 500 mg three times a day, but I prefer the lower doses (100 to 200 mg daily) for a longer time because of the excellent safety profile. Alpha-lipoic acid is synergistic with DMSA, with typical doses ranging from 300 to 1000 mg.

The pineal hormone melatonin regulates the body clock and is a good antioxidant. It helps to block the estrogenic effects of Cd, which may explain some earlier research showing that it helps to prevent breast cancer metastasis.

Zinc helps to prevent Cd absorption and displace it from tissues. Supplements of 30 to 50 mg of zinc may be helpful, and this should be balanced with 3 to 5 mg of copper to prevent deficiency. Antioxidant and anti-inflammatory supplements are also valuable. These include vitamins C and E, fish oil, green tea polyphenols, genistein from soy, quercetin, selenium, curcumin, ginger, and boswellia.

### More Soy Benefits

Although some physicians recommend against consumption of soy, the evidence for its health benefits continues to accumulate. Among 483 women undergoing angiography for coronary artery disease, those with the highest level of daidzein, a soy isoflavone similar to genistein, had lower triglyceride levels and a higher HDL-cholesterol. Isoflavones have mild estrogen activity that protects tissues from stronger estrogens.

Soy food consumption has also been associated with improvement in kidney function in diabetics, and in a Chinese study on 21,494 deceased cases and 19,968 controls, total age-adjusted mortality was reduced by 23 percent in men and 34 percent in women in those who consumed soy products four times a week or more, compared to those who consumed it once a month or less. High soy intake was inversely proportional to deaths from lung, colon, stomach, and breast cancers as well as heart disease.

### Ask Dr. J

**Q.** I am taking coumadin to prevent clotting. Can I also take L-lysine, the amino acid that I have heard reduces platelet adhesiveness?

TK, New Jersey, via internet

**A.** Lysine, proline, and vitamin C prevent the binding of a blood lipid, lipoprotein (a), to blood vessel walls, helping to prevent and perhaps reverse atherosclerosis. The clinical evidence for lysine and proline is limited, but they are certainly worth considering as part of a comprehensive plan to protect the heart and blood vessels, including diet, exercise, stress reduction, and a number of other supplements.

Coumadin inhibits blood clotting, but not through an effect on platelets. I have not seen research showing that L-lysine inhibits platelets, so there should be no problem taking L-lysine with other nutrients or drugs. For heart disease I also recommend a mostly vegetarian diet, vitamins C and E, coenzyme Q10, L-carnitine, magnesium, Hawthorn, and other supplements.

### References

#### Cadmium

- The Sludge Scam: Should Sewage Sludge Fertilize Your Vegetables? *A Library Resource*, <http://www.riles.org/paper2.htm>, 1997.
- Metals as Toxins: Cadmium; *Metals in Health and Disease*: [www.portfolio.mvm.ed.ac.uk/studentwebs/session2/group29/cadtox.htm](http://www.portfolio.mvm.ed.ac.uk/studentwebs/session2/group29/cadtox.htm).
- Satarug S, et al., Kidney dysfunction and hypertension: role for cadmium, p450 and heme oxygenases? *Tohoku J Exp Med*. 2006 Mar;208(3):179-202.
- Filipic M, et al., Molecular mechanisms of cadmium induced mutagenicity. *Hum Exp Toxicol*. 2006 Feb;25(2):67-77.
- Prozialeck WC, The vascular endothelium as a target of cadmium toxicity. *Life Sci*. 2006 May 17; [Epub ahead of print]
- Mlynek V, Skoczynska A. The proinflammatory activity of cadmium. *Postepy Hig Med Dosw* (Online). 2005;59:1-8.
- Nawrot T, et al., Environmental exposure to cadmium and risk of cancer: a prospective...study. *Lancet Oncol*. 2006 Feb;7(2):119-26.
- McElroy JA, et al., Cadmium exposure and breast cancer risk. *J Natl Cancer Inst*. 2006 Jun 21;98(12):869-73.
- Kriegel AM, et al., Serum cadmium levels in pancreatic cancer patients... *Environ Health Perspect*. 2006 Jan;114(1):113-9.
- Navas-Acien A, et al., Lead, cadmium, smoking, and increased risk of peripheral arterial disease. *Circulation*. 2004 Jun 29;109(25):3196-201.
- Waters RS, EDTA chelation effects on urinary losses of cadmium... *Biol Trace Elem Res*. 2001 Dec;83(3):207-21.
- Martinez-Campa C, et al. Melatonin inhibits both ER alpha activation and breast cancer cell proliferation induced by a metalloestrogen, cadmium. *J Pineal Res*. 2006 May;40(4):291-6.

#### Soy and Health

- Bairey Merz, CN, et al., Phytoestrogens and lipoproteins in women. *J Clin Endocrinol Metab*. 2006 June;91(6):2209-2213.
- Azadbakht L, et al., Beneficiary effect of dietary soy protein on... lipid and...kidney function...*Eur J Clin Nutr*. 2003 Oct;57(10):1292-4.
- Ho SY, et al., Soy consumption and mortality in Hong Kong: Proxy-reported case-control study of all older adult deaths in 1998. *Prev Med*. 2006 Apr 20; [Epub ahead of print]

## In the Health News

- Blood pressure medications such as thiazide diuretics are associated with an increased risk of developing diabetes. Researchers followed 41,193 older women, 14,151 younger women, and 19,472 men, all with hypertension. Over an 8-16 year period, thiazide medications led to a 20, 45, and 36 percent increase, respectively, in relative risk of diabetes. Older women and men on beta blockers had 32 and 20 percent increases respectively. (Taylor EN, et al., Antihypertensive medications and the risk of incident type 2 diabetes. *Diabetes Care*. 2006 May;29(5):1065-70.) Calcium channel blockers and ACE inhibitors were not associated with risk. Non-drug treatments for hypertension, such as diet and exercise with dietary supplements (fish oil, coenzyme Q10, magnesium, vitamins C and E, hawthorn), are preferable.
- Chronic exposure to pesticides at low levels increases the risk for Parkinson's disease. Out of 143,325 people, the 7800 who reported exposure to pesticides had a 70 percent increased risk (Ascherio A, et al., Pesticide exposure and risk for Parkinson's disease. *Ann Neurol* 2006 July 60(1); [Epub ahead of print]). This included farmers and those who used pesticides in the garden. This is one more reason to grow and eat organic foods.

### Diet and Disease

- Diabetics with kidney damage benefit from dropping meat from the diet. On the usual diet, protein excretion (a measure of kidney damage) was 313 mcg. A chicken diet reduced it to 269 mcg, while the low-protein lacto-vegetarian diet reduced it more dramatically to 229 mcg. Nitrogen taxes the kidneys, and lowering dietary protein is one way to reduce this burden. (de Mello VD, et al., Withdrawal of red meat from the usual diet reduces albuminuria and improves serum fatty acid profile in type 2 diabetes patients with macroalbuminuria. *Am J Clin Nutr*. 2006 May;83(5):1032-8.)

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## Shiitake-Eggplant Stir Fry

Dice onions, garlic, and ginger (and mince some fresh hot pepper to taste). Cube soft tofu, eggplant, and shiitake, and chop a green, such as chard or spinach. Stir fry the onions, garlic, and ginger in olive oil until the onions are glassy, then add the tofu and continue stirring until this is sizzling. Add half of a mixture of 1 part tamari soy sauce, 2 parts cider vinegar, and 3 parts water. When this flavor has mixed well, add the eggplant and stir until it is soft, then add the mushrooms, and finally the chopped greens and the remaining soy sauce mixture. Mix this well, turn off the heat and fold in some chopped cilantro. Garnish the dish with a few drops of toasted sesame oil and serve it over brown rice. I often fold in the rice toward the end of cooking and let it pick up the flavor of the vegetables and sauce. The key to stir frying is to keep adding ingredients as the previous ones start sizzling.

From June to October, I see patients in Arlington, MA, and Amherst, NH. Call **603-878-2256**.

From November to May, and occasionally during the summer, I see patients in New Smyrna Beach, Florida. For appointments, call **386-409-7747**. I also do **phone consults** from both locations.

My newest book is *The User's Guide to Heart Healthy Supplements*. Dr. Janson's *New Vitamin Revolution* and my other books are also available at my website, from QCI Nutritionals, or health food stores. You can visit the QCI Nutritionals website at **[www.qcinutritionals.com](http://www.qcinutritionals.com)** for quality supplements at reasonable prices.

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