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Dear Friends,

A recent article suggested that grapefruit sales are down in part because of physicians' and patients' concerns that grapefruit can interfere with the effect of some drugs, leading to side effects or excessive activity of those drugs. I should put quotes around the word "interfere" because it might just as well read "enhance."

The common opinion is that grapefruit might be dangerous for people taking medications. Another view is that eating grapefruit or drinking grapefruit juice might reduce the doses of medications that people have to take. Grapefruit blocks cytochrome P450 enzymes that are involved in drug absorption and metabolism, often providing a greater effect for the same dose.

Lowering a dose of medication while maintaining benefit would be a good effect, not a bad one, as long as it is monitored. (Of course, this may not be seen as a good thing by the pharmaceutical companies that will sell less medication.) Some drugs affected by grapefruit juice include antihistamines, calcium channel blockers, and drugs for cholesterol (statins), anxiety (Xanax), hypertension, GERD, depression, and organ rejection.

Doctors and patients need to be in good communication about this effect (as well as other health care issues). Patients who are eating grapefruit or drinking the juice need to tell their doctors

and be consistent in their consumption, and the doctor needs to make appropriate adjustments of the medications to account for the increased effect. One difficulty is that the effect can vary from one drug to another and from one patient to another, but that is true of medications even without grapefruit.

This is not the only situation in which foods or supplements might alter medication effects. After my heart valve replacement, while I had to be on coumadin (an anticoagulant) for a short time, I was told that I could take vitamin E as long as I took no more than 400 IU daily. I was informed that higher doses could enhance the effect of the coumadin, leading to excessive bleeding risk. Although I did not think this was likely, I saw the situation from a different perspective. If vitamin E could enhance the effect of coumadin, in theory I could take less coumadin and get the same effect if I took higher doses of vitamin E. This would reduce the cost and the potential side effects of coumadin.

The medical team was surprised by my view that if you have a choice it would be better to reduce the medication, and not automatically tell patients to reduce the dietary supplement. I continued to take my vitamin E, and noticed no enhancement of the coumadin effect, but this is not to say it doesn't happen. No matter what supplement you take or what drug you need, it is very important to stay in close communication with your health care provider because the effects might not be consistent for some drugs or different people.

Mercury Toxicity

Exposure to toxic heavy metals such as lead, mercury, arsenic, cadmium, and others poses a serious health risk. These metals poison enzyme systems and damage tissues.

Mercury gets into the environment from mining ore deposits, coal burning, medical waste incineration, and various manufacturing plants. It is found in batteries and in dental amalgams (“silver” fillings).

In the environment, inorganic mercury is converted by bacteria to methylmercury, which is particularly toxic. Methylmercury gets into the water supply and is consumed by fish. Larger fish and scavengers accumulate more mercury.

Mercury sources in humans come from fish, contaminated air and water, dental amalgams, and immunizations containing thimerosal, a preservative. Methylmercury (or mercury vapors) damages the kidneys, brain, and developing fetus, and impairs neurological development in children. It is also a likely carcinogen.

A number of physicians have associated mercury with the development of autism in children. High levels may cause or worsen skin rashes, mental cloudiness, chronic fatigue, nervousness, irritability, paresthesias (pins and needles), and autoimmune disorders.

Out of over 200 studies on the toxicity of mercury, only one has suggested that mercury consumption from fish is safe, and this study is contrary to all of the other data. Of course, the tuna industry has promoted this study to suggest that mercury is quite safe during fetal development and childhood, but it is unwise to base decisions on this one “outlier” study.

For healthy children and adults, it is important to limit exposure to heavy metals and to remove the ones that have already accumulated. The Environmental Working Group (www.ewg.org) lists the most contaminated fish (tuna, Gulf oysters, sea bass, halibut, and others) and the least contaminated (wild salmon, flounder, haddock, farmed trout and catfish, and others).

They point out that the US standards for safety are among the worst in the world. (Farmed salmon is usually also contaminated with excessive levels of toxic PCB's.) However, you can do

a lot to protect yourself from the dangers of mercury toxicity, as well as the risks of other heavy metal excess.

Mercury Protection

Your most important protection from mercury and other heavy metal toxicity is prevention. Avoid excessive immunizations, especially in children, with thimerosal-preserved vaccines. Preservative-free vaccines are available for hepatitis and DTP. If you have tooth decay, have composite fillings instead of amalgam.

Be careful of other environmental sources, particularly the listed seafoods. Mercury may be found in household chemicals, cosmetics, and medications. It is important to eat organic foods as much as possible to reduce exposure to a variety of toxic metals and other chemicals.

If you have been exposed to mercury and other heavy metals, you can be tested for the level of exposure. Everyone has some of these elements in their system, but they do not always cause symptoms or chronic problems. The best test is to have a urine toxic metal screen after taking a dose of a chelating agent (one that binds with metals and carries them into the urine).

This challenge test has to be interpreted correctly, as any chelator will increase the urine level of particular metals, so the level has to be especially high to suggest toxicity, and it should be associated with symptoms. If the level is only moderately elevated, it is important to look for other causes of the health problems.

Symptoms caused by high mercury levels can be treated with continued doses of the chelating agents that are used for the test. I recommend DMSA (dimercaptosuccinic acid) for the test and treatment. It is effective and has very low risk. It is also now available without a prescription.

I recommend oral DMSA over intravenous DMPS for mercury and lead excess, as it is less expensive, and more effective in protecting the brain.

It is also valuable to take other sulfur-containing supplements, such as alpha-lipoic acid, and N-acetyl cysteine (NAC) (animal studies show that it is effective in eliminating methylmercury). At the same time, I recommend supplements that help detoxify the body or displace heavy metals, including zinc, selenium, and vitamin C.

Aspirin vs. Supplements

Low-dose aspirin is commonly recommended for prevention of heart disease and reduction of excessive blood clotting within the arteries. The benefits in reduction of heart deaths is outweighed by the complications, unless the risk of a coronary is high (one percent/year or more; in other words, mainly patients who have already had a coronary thrombosis).

I have written before about the risks of aspirin, as even low doses are associated with increased gastrointestinal bleeding. In one study, doses of 325 mg (one aspirin tablet), 81 mg (a baby aspirin), or even 10 mg daily all induced significant gastric mucosal or duodenal damage.

Aspirin also induces kidney damage. Low dose therapy reduces the ability of the kidneys to clear waste from the blood. Within just one week of taking daily aspirin, uric acid and creatinine clearance are impaired. Creatinine clearance stayed low even a week after stopping aspirin.

Aspirin is effective at reducing platelet adhesiveness. Platelets initiate blood clotting by clumping together when they are disturbed in several ways, but other substances also reduce platelet stickiness without side effects. Grape flavonoids reduce platelet clumping by 77 percent. Vitamins C and E (mixed tocopherols only) significantly reduce platelet aggregation.

Ginkgo biloba inhibits platelet activating factor. In addition, 120 to 240 mg of standardized extract reduces claudication, improves memory and mood in Alzheimer's patients, and relieves tinnitus. It also contains potent antioxidants.

Platelet aggregation is inhibited by garlic, curcumin, ginseng, ginger, fish oil and other natural and safe substances. Animal fat increases platelet aggregation. Aspirin is unnecessary if you attend to your diet and supplements.

Ask Dr. J

Q. What would be a good supplement or supplements for COPD and the accompanying shortness of breath? CC, via email

A. Chronic obstructive pulmonary disease, or COPD, is the result of chronic damage to the lining of the lungs, usually from smoking, but also from other causes, such as chronic bronchitis. It is commonly associated with emphysema,

an irreversible destruction of the air sacs (alveoli) and loss of elasticity of the lungs.

Shortness of breath is the primary symptom of COPD, and severity is determined by how much air someone can force out in one second (FEV1). Treatment is with drugs to dilate the bronchi and thin the mucus secretions, and steroids.

A high-fat diet increases the symptoms. Eat lots of fruits and vegetables for their antioxidant components. Also, take supplements that help mucous membranes and reduce shortness of breath, including vitamin C (4 gms/d), vitamin E (400 to 800 IU of mixed tocopherols), gamma-linolenic acid (240 mg from borage oil), omega-3 fatty acids (fish oil and flaxseed oil), and a variety of flavonoids (1 to 2 gms). N-acetyl cysteine (NAC, 1 to 2 gm) helps loosen secretions and is a good antioxidant.

Lung function is a significant predictor of mortality, so it is important to avoid smoke and air pollution and follow healthy supplement guidelines and a low-fat diet.

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In the Health News

- A new study in Japan shows that supplements of the hormone DHEA (dehydroepiandrosterone) can improve blood vessel function and increase insulin sensitivity. Taking 25 mg of DHEA enhances blood flow through the arteries by protecting the endothelium, reduces sugar levels in the blood without changing insulin levels, and lowers the amount of plasminogen activator inhibitor, preventing excessive blood clotting. These changes all have the potential to reduce the risk of heart disease and diabetes. (Kawano H, et al., Dehydroepiandrosterone supplementation improves endothelial function and insulin sensitivity in men. *J Clin Endocrinol Metab* 2003 Jul;88(7):3190-5.)
- The Environmental Working Group has issued a warning about the dangerous levels of PCB's found in farmed salmon (<http://www.ewg.org/reports/farmedPCBs/es.php>). PCB's (polychlorinated biphenyls) are doxin-like chemicals that are carcinogenic, impair neurological development in children, particularly if they are exposed during pregnancy, and damage immune function. EWG found high levels in 70 percent of the tested fish, with 16 times as much PCB's as the safer wild salmon. PCB's accumulate in farmed salmon because of their diet and the fattening-up process used to increase their sale weight.

Diet and Disease

- The UN Food and Agriculture Organization and the World Health Organization advice on diet to governments (Reuters, March 2003) says that to prevent heart disease, diabetes, cancer, and obesity people should get most of their calories from complex carbohydrates, eat adequate but not high protein, and reduce sugar calories to less than 10 percent of the diet (this amount of dietary sugar is less than half that of the typical American diet).

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Whole Wheat Cous Cous

Cous cous is a traditional North African dish made with a small, round pasta that is commonly made from refined wheat, but is available as whole wheat. It is easy to make a vegetarian version. Sauté onions, crushed garlic, and ginger with olive oil. Turn off the heat, and add cooked chick peas plus diced tomatoes, carrots, peppers, and summer squash. Boil a cup of whole wheat cous cous in 1 1/2 cup of vegetable broth (it only takes a few minutes), add the cooked vegetables, and simmer until the broth is absorbed. Add chopped cilantro and season the dish with lemon or lime, cumin, and black or cayenne pepper. You can use other vegetables, such as cauliflower. You can make this dish with millet instead of cous cous. Boil a cup of millet in 2 cups of vegetable broth until most is absorbed, then proceed as above. Either way, this dish is tasty and nutritious.

I see patients at **WholeHealth New England**, in Arlington, Massachusetts, and at the **Center for Preventive Medicine**, in Amherst, New Hampshire. I also do phone and email consults: send email to drjanson@drjanson.com

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