

Drugs and Nutrients: Do They Mix?

Over 70% of the clients that come to me for the first time are on one or more prescription medications. It is rare indeed to find someone who has not taken at least over-the-counter medication at one time or another. Although, you can look up most drugs on the Internet, many of the sites available are from the drug manufacturer or the FDA. You have to spend quite a bit of research time finding information on drug interactions with nutrients. Most doctors and pharmacists do not know that information and I have never found it to be listed on the package.

Besides my private practice, I teach nutrition at Positive Changes Hypnosis here in Austin. My students often ask me if there are any contraindications with nutritional supplementation and the medication they are on? Of course that is a very extensive question and not something that can be discussed thoroughly in this article. But did you know that there is either a positive or negative interaction with almost every medication and food or nutritional supplement?

For example, cruciferous vegetables, such as, broccoli, cabbage, Brussels sprouts, and cauliflower may interfere with the absorption of over-the-counter pain medication that contains acetaminophen, like Tylenol™ or Excedrin PM™ (Holt GA, Food and Drug Interactions. Chicago: Precept Press, 1998,2). Even watercress may inhibit the oxidative metabolism of acetaminophen and should be avoided while taking these medications (Chen, et al, Clin Pharmacol Ther 60:651-60, 1996).

Most people know by now that chronic use of antibiotics may interfere with gut flora and may lead to long-term gastrointestinal disorders. Yeast over growth is a common side effect of antibiotic therapy. Therefore, supplements of probiotics, or the good intestinal flora, (i.e. acidophilus) can be beneficial as adjunctive therapy. But, did you know that some minerals form complexes with some antibiotics such as Tetracycline and reduce absorption of the antibiotic into the body? Calcium carbonate, typically found in Tums™, in particular can form an insoluble complex more so than other more absorbable chelated forms, such as aspartate or calcium citrate. Also, chronic use of antibiotics can deplete several nutrients including calcium, iron, magnesium, zinc, riboflavin (B1) and vitamin C.

Estrogens used in hormone replacement therapy, may interact with nutrients like vitamin C. High amounts of vitamin C > 1000 mg. can possibly increase the effect of estrogen. It is an interesting fact that estradiol levels are significantly increased in the blood after ingesting grapefruit juice (Maturitas 1994; 20:155-63). Quercetin (at high levels in vitro) had the same effect on estradiol as grapefruit juice (Eur J Drug Metab Pharmacokinet 1995; 3:219-24)

Birth control pills will decrease blood flow and possibly elevate iron stores. Iron levels should be tested before supplementation is given. Oral contraceptives may also increase serum copper levels (Arch Latinoam Nutr 1982;32(1:101-110).

High fiber foods can increase clearance of some drugs, including heart drugs, like digitalis glycosides (i.e. Lanoxin™) and decrease the effectiveness of the drug. Fiber can also decrease the effectiveness of antidepressants (especially the tricyclics, such as Elavil™ or Tofranil™ for example). Discretion should be exercised about taking them at the same time.

Caution dictates that the herb St. Johns Wort should not be used with MAO inhibitors or SSRI's (i.e. Prozac™, Zoloft™, Paxil™) in case of possible potentiation. In animal studies, Ginko biloba however, has increased the density of serotonin receptors on the neurons of aging animals, but not young ones. This up-regulating effect may enhance the effect of SSRI's in elderly patients, if used concurrently.

Angiotensin converting enzyme inhibitors (ACE inhibitors), such as Lotensin™, or Capriten™, are among many that are used in the treatment of high blood pressure and congestive heart failure. ACE inhibitors are also used to delay the deterioration of the kidneys in diabetics. These medications may increase blood potassium levels in some individuals (JAMA 1995;274:538), which is not a problem unless extra potassium is ingested. Problems could arise when ingesting potassium-containing salt substitutes, supplements, or high potassium foods (i.e. bananas, green leafy vegetables, potatoes, etc). If you are taking these medications and potassium, levels should be monitored by a physician.

Calcium channel blockers (i.e. Verapamil) are used to treat atrial arrhythmias, hypertension and angina. This drug works by blocking calcium channels to prevent excess intracellular accumulation of calcium, thereby allowing the smooth muscle of the arteries to relax and lower blood pressure. Calcium supplementation may possibly interfere with the action of the drug, although calcium supplementation can have an interesting effect on intracellular calcium by lowering it (this is one of the suspected mechanisms by which calcium supplementation lowers blood pressure). Additionally, calcium supplementation in small amount (27 mg/day) can prevent the hypotensive effect of Verapamil when it is being prescribed for angina pectoris or heart treatment to prevent verapamil induced hypotension (Am Heart J. 1992;124:231-232).

Vitamin D interacts with verapamil and may decrease the effectiveness of the drug (Facts and Comparisons, 1996, 20). Here again, grapefruit juice may increase the blood levels of the drug and should not be taken together with verapamil unless approved by a physician.

The use of thyroid hormone replacement such as Synthroid™ should be taken at least 4 hours away from both calcium and iron supplements and soy products

because they have been shown to interfere with the effectiveness or the medication. Also horseradish may disturb the accuracy of thyroid function tests.

Plant extracts, vitamins, minerals and nutrient co-factors, which stimulate the immune system may interact with corticosteroids such as Prednisone™. Examples include Echinacea, astragalus, burdock, vitamin E, and zinc. If the intent of therapy is the suppression of an overactive immune function, these supplements may counteract the immunosuppressive effects of corticosteroids (Potential Herb-Drug Interactions, Facts and Comparisons: The Review of Natural Products, St. Louis: Wolters Kluwer Company, 2002, Appendix).

This article merely touches upon the countless list of drugs and there interactions with nutrients. If you are taking medications or are concerned about someone you know who is and want to know more, you may contact my office, The Center for Natural Health. We provide a research service, which offers you a personalized printed information sheet about the drug you are taking and it's interactions with nutrients and or suggestions on how to improve your health.