



# Nutritional Solutions

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## Drug-Nutrient Depletions & Known Interactions

This booklet provides information to help you learn which vitamins and/or minerals are depleted by your medications. It also provides a general list of supplements that might be expected to interact with the drug, and thus need to be avoided while taking these drugs. You can use the “find” function to search for drug names. They are listed in alphabetical order, and both generic and pharmaceutical names are listed for most drugs. Your (*blue*) Drug-Nutrient Interaction worksheet provides a more comprehensive review of possible interactions. Please note, cancer treatment drugs—chemotherapy drugs, biological agents, and immunotherapy drugs—are not listed in this handbook. We provide more comprehensive information about these agents as part of our Complementing Treatment programs.

**Accutane** Do not take vitamin A (retinol) when taking this medication. It can increase the side effects and toxicity. However, you may take beta carotene and other mixed carotenoids. Beta carotene can be converted to vitamin A in the body when vitamin A is needed, but it is not pre-formed vitamin A and will not interfere with this medication.

**Acetazolamide** (Diamox) DEPLETES sodium and potassium. A diet rich in fruits and vegetables helps restore lost potassium levels. One study showed that people taking this drug for more than six months had dramatically lower blood levels of folic acid and higher levels of homocysteine. Homocysteine, a toxic amino acid byproduct, has been associated with atherosclerosis, poor memory and increased risk of heart disease. Taking a multiple vitamin can help replace your folic acid and keep your homocysteine levels low. AVOID Buckthorn (*Rhamnus catartica*, *Rhamnus frangula*, *Frangula alnus*). Use of these herbs for more than 10 days consecutively may cause a loss of electrolytes (especially potassium).

**Actonel** Take vitamin D and calcium (800-1,000mg/day) to enhance the bone protective effects of this drug. AVOID taking the following supplements at the same time (within 1-2 hrs) of taking your Actonel, as they may reduce the absorption of the drug: calcium, iron, magnesium, zinc. Take these supplements at least 1 hour before or 2 hours after taking Actonel.

**Acyclovir** No known or reported drug-nutrient interactions. Limit intake of the amino acid arginine to enhance the efficacy of this medication. Arginine is utilized by a virus to promote its replication. Arginine-rich foods include: nuts, seeds, and chocolate. Taking supplements of the opposing amino acid, lysine (1,000-1,500mg/day) can be supportive.

**Adderall** No known or reported drug-nutrient interactions in the scientific literature. Avoid stimulating herbs (caffeine, maca, ephedra, and possibly cayenne) which may increase the stimulant actions of this drug. Vitamin B6 may reduce the side effect of this drug. Magnesium can increase the drug's efficacy, but should be taken at least 1 hour away from the drug due to concerns it may reduce the drug's absorption. Acidic forms of vitamin C (but not buffered vitamin C) needs to be taken at least 1 hour apart from the drug. Acidic fruit juices (cranberry, grapefruit, orange juice or lemonade) and also reduce the drug's absorption and should be taken at least an hour away from the drugs.

**Advair** DEPLETES calcium, magnesium potassium, selenium, zinc, folic acid, vitamins D and C. A multiple vitamin/mineral is highly recommended while taking this medication. In addition, this medication reduces levels of an important hormone called DHEA. DHEA is needed for optimum immune function and to protect against osteoporosis. If you like, we could measure your DHEA levels to see if they are being impacted by this drug.

**Albuterol** DEPLETES calcium, magnesium and potassium. AVOID digitalis (foxglove) family herbs, which interact negatively with the medication.

**Allegra** No known drug depletions. AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of anti-allergy drug, causing drowsiness, disorientation, and serious lethargy.

**Allopurinol** (gout medication) No known or reported drug-nutrient interactions in the scientific literature. Of note, watching your intake of animal-based proteins can help reduce the risk of additional gout flare-ups. Also, cherries may help the body eliminate uric acid and reduce inflammation.

**Alprazolam** (Xanax) No known nutrient depletions. AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of the drug, causing disorientation, and serious lethargy. Of note: melatonin has been shown to assist individuals in discontinuing this class of drugs (benzodiazepines).

**Aloxi** (palonosetron) No known nutrient depletions. AVOID dong quai (Angelica) during the two days prior to and for at least four days after Aloxi use as this herb may clear the drug too quickly from the body, reducing its therapeutic effects.

**Altace** (Fosinopril) (ACE inhibitor) DEPLETES zinc, which can lead to increased copper levels and foster cancer angiogenesis and progression. Zinc supplementation is recommended while taking this drug.

**Amaryl/Glimepiride** DEPLETES coenzyme Q10. Because another drug you take, Metoprolol, also depletes coQ10, this underscores the suggestion that you take a supplement of this nutrient. AVOID the following herbs: cocoa, kola, rosemary, black tea (can cause hyperglycemia).

**Ambien** No known nutrient depletions. AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of the drug, causing disorientation, and serious lethargy. Of note: combining melatonin with this drug has been shown to offer beneficial effects, improving sleep, and also to assist individuals in discontinuing this class of drugs (benzodiazepines).

**Amiodarone** No known nutrient depletions. AVOID grapefruit juice, quercetin, high-dose soy pills, curcumin, high-dose green tea pills (drinking the tea in moderation is ok) and St. John's wort. These herbs can decrease the liver metabolism of this drug and cause a build-up of the drug in your body, resulting in increased side effects. Vitamin E may safely enhance the efficacy of this drug.

**Amitriptyline** DEPLETES coenzyme Q10 and vitamin B2 (riboflavin). B complex vitamins appear to enhance the efficacy of tricyclic antidepressants. Consider taking 100mg/day coQ10 to protect healthy muscle, heart and brain function. AVOID St. John's wort, which can cause dangerous interaction with this drug. Avoid drinking tea (green or black) at the same time (within 1 hour) of taking this medication, which can interfere with its absorption. Avoid alcohol (including alcohol-based herbal tinctures) while taking this drug.

**Amlodipine** (Lotril) DEPLETES magnesium and potassium, so you need a healthy diet and multiple vitamin/mineral to help replace these. AVOID grapefruit or grapefruit juice and pomegranate juice, which can raise your blood levels of this drug and increase your side effects. AVOID supplements of DHEA (a hormone) while taking this drug, as this drug raises blood levels of DHEA. Also avoid the herb Pleurisy root (and similar plants in the Aesclepius genus), which contains cardiac glycosides, and should not be taken concurrently with heart medications.

**Amoxicillin** DEPLETES folic acid, biotin and B complex vitamins and vitamin K. Also depletes Lactobacillus acidophilus and bifidobacteria, they friendly bacteria that colonize the intestinal tract and support healthy digestion and immune function. The probiotic bacteria should be replaced with a supplement during and following use of this medication.

**Amphetamines** AVOID lithium, veratrum (hellebore), ephedra, alcohol and high-dose vitamin C while taking this drug. Vitamin C acidifies the intestines and can decrease the absorption of this drug: take vitamin C one hour before or two hours after taking this drug. This acidification effect may also happen with acidic fruit juices. The combination of alcohol and methamphetamine makes the heart work harder and consume more oxygen, which may produce unwanted effects. Alcohol consumption may also suppress the breakdown of amphetamines, causing elevations in blood levels of the drug. Individuals taking amphetamines should avoid alcoholic beverages, especially if they have known heart problems. Supplements of vitamin B6 and magnesium (and tyrosine, 5-HTP or tryptophan, if they are not contraindicated for your type of cancer), may reduce the side effects caused by this medication.

**ANTIBIOTICS DEPLETES** folic acid, biotin and B complex vitamins and vitamin K. Also depletes *Lactobacillus acidophilus* and *bifidobacteria*, they friendly bacteria that colonize the intestinal tract and support healthy digestion and immune function. The probiotic bacteria should be replaced with a supplement during and following use of this medication. Note: mineral supplements (magnesium, calcium, zinc, iron, selenium, iodine) need to be taken at least 2 hrs away from antibiotics, as they can bind to the drug and reduce its absorption.

**ANTIDEPRESSANTS:** Zoloft, Paxil, Prozac DEPLETES melatonin: be sure to sleep in complete darkness to prompt your body to secrete adequate melatonin (melatonin is very important in helping you fight cancer). However, use caution with high dose melatonin supplements (above 10mg/day) if you have a history of severe depression lasting 2 years or more. While one study suggests that melatonin in high doses can worsen depression in patients with chronic, severe depression, several other studies have shown melatonin to be a useful aid in treating depression. Begin melatonin supplements at lower doses (2-2.5mg per night), and gradually increasing the dose while monitoring your mood and sleep habits. This allows us to be certain the melatonin is not causing side effects. AVOID St. John's wort and 5-HTP (5-hydroxytryptophan) supplements when taking antidepressants, which can increase serotonin and lead to serotonin excess (causing anxiety). Deficiency of B complex vitamins can reduce the efficacy of this medication: a quality multiple vitamin is recommended.

**Anti-Histamines** (Allegra, Claritin, Benadryl, Sinutab) No known drug depletions. AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of anti-allergy drug, causing drowsiness, disorientation, and serious lethargy.

**Aromatase Inhibitors** (letrozole/femara; aromasin) These drugs block the conversion of sterol fats in the body to estrogen. No known or reported drug-nutrient interactions have been reported to date. However, these drugs are known to elevated cholesterol levels in some patients. You may wish to have your doctor monitor your cholesterol levels while taking this drug.

**Asacol** DEPLETES folic acid (a multiple vitamin can help replace this nutrient). In one study, taking 20 grams of psyllium seeds together with mesalamine (Asacol) for 12 months was more effective at maintaining remission of ulcerative colitis than taking either the drug or herb alone. Flaxseed meal may offer a similar benefit.

**Aspirin** DEPLETES folic acid, zinc, potassium, vitamin C, and iron. AVOID high doses of any of the following: vitamin E (above 800iu/day), bromelain (above 6caps/day), garlic (above 5,000mg/day), ginger (above 10 gm/day), magnesium (above 800mg/day), ginkgo biloba (above 120mg/day) which can increase blood thinness and bleeding (hemorrhage).

**Atacand** (candesartan) Specific nutrient depletions have not been documented for this medication.. There are no known or reported drug-nutrient or drug-herb interactions.

**Atenolol** AVOID potassium supplements and high potassium foods (see write-up on Fatigue in your Treatment Side Effects Booklet for a list) as well as pleurisy root as these may increase unwanted or dangerous drug side effects.

**Ativan, Diazepam** No known nutrient depletions. AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of the drug, causing disorientation, and serious lethargy. Of note: combining melatonin with this drug has been shown to offer beneficial effects, improving sleep, and also to assist individuals in discontinuing this class of drugs (benzodiazepines).

**Atomoxetine** (Strattera) No nutrient depletions or interactions have been reported. In theory, *Angelica sinensis* (Dong quai) may interfere with the metabolism of this drug.

**Avapro** DEPLETES coenzyme Q10, magnesium, potassium, sodium, phosphorous and zinc. Depletions of zinc can cause copper to rise, promoting angiogenesis. Consider taking 100mg/day coQ10 to protect healthy muscle, heart and brain function.

**Avadart** (dutasteride) No known or reported interaction at this time. However, Avodart is metabolized via the liver's cyp450-3A4 pathway. Use caution with natural agents that also act on 3A4: grapefruit juice, curcumin, quercetin, St. John's wort, kava, cat's claw, and high-dose soy genistein or high-dose green tea (not likely with food sources of soy or green tea).

**Avandia** Limit or avoid alcohol. Use caution with caffeine and nicotinic acid (a form of vitamin B3), which can raise glucose levels. AVOID ipriflavone which may increase the blood level of oral anti-diabetic agents, and thus cause blood sugar to fall dangerously low. Ensure medical supervision when using supplements that may reduce blood sugar levels and require a dosage adjustment of Avandia: carnitine, chromium, biotin, holy basil,

gymnema sylvestre, banaba leaf extract, bitter melon, fenugreek, ginseng, bilberry, coenzyme Q10 and vanadium.

**Azelastine** (Astepro) Specific nutrient depletions have not been documented for this drug. There are no known or reported nutrient or herb interactions with this drug.

**Baclofen** No known nutrient depletions or interactions. Since this drug can cause drowsiness, use caution with sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian).

**Bactrim** DEPLETES folic acid, biotin and B complex vitamins and vitamin K. Also depletes Lactobacillus acidophilus and bifidobacteria, the friendly bacteria that colonize the intestinal tract and support healthy digestion and immune function. The probiotic bacteria can be replaced with a supplement during and following use of this medication. **Benicar** AVOID potassium supplements (and potassium-based salt substitutes), which can cause the level of potassium in your blood to become too high while taking Benicar. Also AVOID diuretic type herbs, such as corn silk, uva ursi, juniper, parsley, coffee, licorice, and cleavers. These may cause your blood pressure to decrease too much if taken with Benicar.

**Bentyl** (dicyclomine) No reported nutrient interactions or depletions.

**Birth Control Pills** DEplete vitamins C, E, B12, B2, B6, folic acid, magnesium and zinc, as well as Coenzyme Q10 (coQ10). Taking a multiple vitamin/mineral is highly recommended when taking oral contraceptives.

**Boniva** (Ibandronate) No reported nutrient interactions or depletions at this time.

**Budesonide** (Entocort) May deplete calcium. May deplete DHEA. Some people on steroid inhalers experience greater challenges with blood sugar handling.

**Bupropion, Budeprion, Wellbutrin** No known or reported depletions or interactions. AVOID alcohol while taking this drug.

**Buspar** No known nutrient depletions. AVOID grapefruit juice while taking this drug (it can raise blood levels of the drug, leading to side effects and/or toxicity). Also AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of the drug, causing disorientation, and serious lethargy.

**Caduet** (combination of two drugs: amlodipine and atorvastatin) DEPLETES coenzyme Q10. AVOID grapefruit, pomegranate, hibiscus which interfere with the enzyme that metabolizes this drug. Also contraindicated are supplements of DHEA, pleurisy root and high-dose calcium supplements ( $\geq 800\text{mg/day}$ ). Take supplements containing magnesium at least 2 hrs away from this medication, as magnesium can bind to the medication and reduce its absorption.

**Calcitriol** This is a vitamin D drug. Long-term use can metabolically compete with vitamins A and K, increasing your risk of calcifications. Taking adequate vitamins A and K is prudent, and may improve the efficacy of this drug while reducing the risk of side effects.

**Carafate** DEPLETES calcium and phosphorus, two essential nutrients for healthy bone maintenance. In addition, this drug can bind to both magnesium and calcium supplements, so supplements containing these are best taken 30 minutes or more away from the time taking carafate. If you take calcium supplements, your doctor should monitor your blood calcium levels while taking this medication.

**Cardizem** (diltiazem) Specific nutrient depletions have not been documented for this drug. This drug is a calcium agonist: do not take with Hawthorne. Also, avoid high dose calcium supplements  $> 800\text{mg/day}$ , which may reduce the efficacy of the drug.

**Cardura** (doxazosin) No known or reported interaction at this time.

**Celebrex** DEPLETES potassium and sodium. Be sure to eat ample vegetables and fruits, which are your primary source of potassium. AVOID white willow bark, which is contraindicated while taking celebrex.

**Celexa** (Citalopram) Specific nutrient depletions have not been documented for this agent. AVOID lithium, 5-HTP, and L-tryptophan as they may increase this drug's side effects. Ginkgo biloba may reduce this drug's side effects.

**Cenestin** (HRT) DEPLETES vitamins C, B12, B2, B6, folic acid, magnesium and zinc. Of note: HRT can increase copper levels, making copper reduction strategies to control angiogenesis very important. Consider carefully monitoring your copper levels. Taking a multiple vitamin/mineral is highly recommended when taking Hormone Replacement Therapy. In addition, supplements of DIM (derived from broccoli) can increase the safety of HRT

by ensuring estrogen is metabolized into favorable daughter compounds that do not promote cancer or angiogenesis (see info on DIM in your report).

**Cepacol** (benzocaine) No known or reported interactions at this time.

**Chloroquine** Take this drug at least 2 hours away from supplements containing calcium or magnesium (and away from antacids), which can bind to the drug, and prevent its absorption.

**Cholestyramine** DEPLETES vitamins A, D, E, K, CoQ10, B12, folic acid, iron, calcium, carotenoids and lycopene. Also depletes omega-3 fatty acids, which are very important in supporting control of cancer via their anti-inflammatory effects. Supplements are recommended, and should be taken away from the time of dosing for this drug.

**Cialis** AVOID grapefruit juice and the amino acid arginine while taking this drug (may enhance side effects or toxicity). Use caution with herbs that employ the liver's cyp-450-3A4 pathway in their metabolism. Do not use herbs or nutrients that lower blood pressure (if you have hypotension): high-dose magnesium ( $\geq 10\text{mg/kg}$  body weight), hawthorne, eucalyptus, coleus forskohlii or periwinkle (vinca family).

**Clomipramine** (Anafranil) DEPLETES the B complex vitamins. AVOID the herb St. John's wort (Hypericin), and 5-HTP (L-tryptophan), which can increase serotonin and lead to serotonin excess (causing anxiety). Fiber supplements and magnesium can bind to this medication, and reduce blood levels of the drug, decreasing its efficacy. Take fiber, mineral, magnesium, IP-6 (a type of fiber) at least 2 hrs away from when you take your clomipramine for best results. DEPLETES melatonin: be sure to sleep in complete darkness to prompt your body to secrete adequate melatonin, a very important anti-cancer hormone.

**Clonidine** (adrenergic blocker) DEPLETES coQ10, an important nutrient for muscle and heart health and energy levels. AVOID cayenne pepper, which may decrease the efficacy of this drug. Other herbs which may interact with this drug include: coleus forskohlii, ma huang (also called ephedra), and yohimbe

**Clotrimazole** (antifungal) Specific nutrient depletions have not been documented for this drug. There are currently no nutrient or herb reactions reported with clotrimazole.

**Codeine APAP** AVOID Tannin-containing herbs may interfere with the absorption of codeine; keep these 2 hours away from taking codeine. Herbs with high levels of tannins include green and black tea, uva ursi, black walnut, red raspberry, oak, and witch hazel. Also avoid alcohol which may increase side effects (drowsiness, dizziness and light headedness). Cruciferous vegetables (broccoli, cabbage, watercress, mustard greens, Brussels sprouts, etc) and garlic have been shown in test tubes to break down one of the constituents in this drug (chlorzoxazone) into inactive compounds. Human studies are needed to see if this takes place in people, but you may wish not to over-consume these vegetables while taking this drug.

**Colace** DEPLETES potassium, and possibly magnesium. High intake of fruits and vegetables is for adequate intake of these essential minerals.

**Colazal** DEPLETES folate. This is why your doctor has prescribed folic acid supplements. However, folic acid the synthetic oxidized form of the natural B vitamin folate. Folic acid has some published data suggesting it may be contraindicated in cancer. You might consider switching to the folate form of the vitamin (folinic acid or methyl folate), which are not associated with these risks. DaVinci Labs offers 800mcg caps of calcium folinate, 60 caps/bottle. Order code: FOL17

**CoReg** (carvedilol) DEPLETES coenzyme Q10, a nutrient essential for healthy heart function. When this drug is taken long term, supplemental CoQ10 (60-90mg/day) is highly recommended. AVOID Siberian or Panax ginseng, licorice, hawthorn, forskolin, potassium.

**Compasine** (prochlorperazine) DEPLETES vitamin B2 (riboflavin) and coenzyme Q10. AVOID bacopa, lithium and alcohol, which may cause unsafe interactions if combined with this drug.

**Corticosteroids** (Prednisone, Fluorometholone, Fluticasone, Levalbuterol, inhalers, Cortef - hydrocortisone) DEPLETES protein, calcium, folic acid, magnesium, potassium, selenium, vitamin C, vitamin D, vitamin K and zinc. Also depletes levels of two hormones: melatonin and DHEA. AVOID the herbs foxglove, ephedra, and high doses of licorice.

**Coumadin** Take your coumadin 2 hours away from supplements containing magnesium, iron and/or zinc. These minerals can bind to the drug and reduce its absorption. AVOID high doses of any of the following: vitamin E (above 800iu/day), bromelain (above 6caps/day), garlic (above 5,000mg/day), ginger (above 10 gm/day), magnesium (above 800mg/day), ginkgo biloba (above 120mg/day) which can increase blood thinness. Also

AVOID the following: vitamin K, vitamin C (above 5,000mg/day), coQ10 (above 200mg/day), which can interfere with the actions of coumadin and increase your risk for a clot. *See box at right for list of potentially blood-thinning supplements and worrisome doses.*

**Creon** This is a pancreatic enzyme supplement. No nutrient interactions.

**Crestor** (rosuvastatin) DEPLETES coenzyme Q10. AVOID red rice yeast extract and pomegranate juice (in a case report, a man taking rosuvastatin developed severe muscle damage (rhabdomyolysis), a known side effect of rosuvastatin, after he began drinking 6oz pomegranate juice twice a week). Vitamin B3 and plant sterols may enhance the efficacy of this drug. Taking niacin together with Crestor can yield a greater rise in HDL cholesterol than taking the drug alone. Plant-based sterols, such as beta-sitosterol, has been shown to enhance the cholesterol-lowering effect of various statin drugs.

**Cytomel** (liothyronine) DEPLETES calcium; you may need an extra calcium supplement to make up the loss (especially as decadron and antiseizure medications also deplete calcium). AVOID two herbs: lemon balm and bugle weed, which may interfere with the actions of this medication. Soy foods appear to interfere with the absorption of thyroid medications and the two should be taken at least 2-3 hours apart.

**Darvocet** is a combination of two drugs paracetamol and propoxyphene. AVOID hibiscus, which may decrease absorption of the drug. Also AVOID alcohol, which can increase the risk of liver damage, cause drowsiness, dizziness or blurred vision when taken with darvocet. Milk thistle may help protect against liver damage if you need to take darvocet for an extended time period (but be aware that milk thistle may be contraindicated with antiseizure drugs, chemotherapy agents or other drugs). Schizandra may be a better liver protectant with darvocet, and animal studies confirm this benefit. Food, especially foods high in pectin (including jellies), carbohydrates, and large amounts of cruciferous vegetables (broccoli, Brussels sprouts, cabbage, and others) can interfere with paracetamol absorption. Moderate to high amounts of paracetamol have caused liver damage in alcoholics. To prevent problems, people taking paracetamol should avoid alcohol. This drug may cause constipation: increase daily intake of fluids, and fiber (but take the fiber  $\pm$ 2 hrs away from darvocet).

**Dapsone** May DEplete vitamin K2 due to decreased production by bacteria in the colon. Supplementing with probiotics may be used to replenish healthy bacteria, which may also reduce risk of Clostridium difficile infection. AVOID PABA as this B family vitamin may interfere with the activity of this drug. Supplemental vitamin E may reduce the risk of oxidative red blood cell damage that this drug can cause.

**dDAVP** (Desmopressin) DEPLETES calcium (by increasing calcium loss in the urine). Be certain your vitamin D blood levels are good to ensure adequate absorption of calcium to protect your bone density. AVOID herbs with diuretic effects (unless very carefully supervised by your doctor): alder, buckthorn, cascara sagrada, cleavers, corn silk, dandelion root, digitalis, forskolin, horsetail, juniper, licorice, parsley, St. John's wort and uva ursi.

**Decadron** DEPLETES vitamins B6, B12, C, D, folic acid, calcium, potassium, zinc and selenium—A multiple vitamin/mineral can help replace these. Also depletes levels of two hormones: melatonin and DHEA. AVOID licorice: high doses of licorice (above 10 grams/day) for prolonged periods can increase the side effects of decadron (licorice can be used to help taper from decadron under supervision in pulsed, lower doses).

**Depakote** (Valproic acid) AVOID high doses of folic acid (above 2,000mcg/day), vitamin B6 (above 75mg/day), which can interfere with the anti-seizure actions of this drug. DEPLETES vitamins A, B6, B12, D, K, folic acid, biotin, calcium and magnesium. It also depletes L-carnitine, an important nutrient for energy levels and mental clarity (supplements may be indicated if you develop severe fatigue or lethargy). A multiple vitamin/mineral can help replace these nutrients.

**Denosumab** No nutrient interactions reported. May DEplete calcium, phosphorus, and magnesium.

✗ **Blood-thinning supplements** The following agents can be blood thinning at certain doses:

- Angelica sinensis
- Bromelain (> 4,500mg per day of 2,400gdu potency)
- Cayenne
- Curcumin
- Dan shen
- Feverfew (>200mg/day)
- Fish oil (>3,000mg/day)
- Garlic (> 5g/day)
- Ginger (> 10g/day)
- Ginkgo (>120mg/day)
- Ginseng, panax
- Magnesium (>800mg/day)
- Mushrooms (> 1,200mg/day of extract)
- Resveratrol
- Vitamin E (> 800IU/day)

**Detrol** No known or reported interaction at this time.

**Diclofenac** (an NSAID) DEPLETES folic acid. Decreases calcium and lithium clearance in urine. Stinging nettle may increase the pain relieving efficacy of this drug. AVOID White willow bark and Trikatu (an herbal preparation of black pepper, Indian long pepper, and ginger) as they may interfere with this drug's metabolism, clearing it faster than usual.

**Dilantin** AVOID high doses of folic acid (above 2,000mcg/day), vitamin B6 (above 75mg/day), which can interfere with the anti-seizure actions of this drug. DEPLETES vitamins B6, B12, D, K, folic acid, calcium and magnesium. A multiple vitamin/mineral can help replace these nutrients.

**Dilaudid** CAUTION: sedating nutrients or herbs may exacerbate the CNS depressant effects of this medication. Use caution with 5-HPT, GABA, kava kava, California poppy, lemon balm, valerian, and melatonin supplements. This drug can cause constipation you should avoid high-dose calcium supplements, which can exacerbate constipation. Magnesium may be useful in addressing constipation (see dose suggestion above).

**Diovan** (valsartan) No known or reported interaction at this time. Take this medication away from meals, as food can reduce its absorption by 50%.

**Ditropan** Specific nutrient depletions have not been documented for this medication.. There are no known or reported drug-nutrient or drug-herb interactions.

**Domperidone** No known or reported interactions at this time.

**Doxycycline/Tetracycline** DEPLETES vitamin K. Vitamin K and probiotics may help reduce drug side effects. AVOID taking calcium, iron, magnesium or zinc within 1 hour of taking this medication as these minerals may bind to the drug. AVOID dairy products for 30 minutes before through 90 minutes after taking this drug. AVOID berberine, goldenseal, Oregon grape root, and barberry while using this drug as they may interfere with its efficacy.

**Dulcolax** (bisacodyl) DEPLETES potassium with chronic use.

**Dyazide** DEPLETES coenzyme Q10, magnesium, potassium, vitamin B6 and zinc. Potassium is best repleted via a diet rich in fruits and vegetables. If your potassium level is low, you will feel very fatigued. Magnesium and vitamin B6 best replaced with a good quality multiple vitamin/mineral. CoQ10 supplement (30mg 2-3x/day) are recommended for those taking this drug chronically, and can help protect heart function. CoQ10 is essential to the healthy function of heart muscle cells. AVOID licorice, panax ginseng which increase sodium loss and can increase blood pressure. Many people with elevated blood pressure may be effectively treated with magnesium and vitamin C supplements, and a diet rich in potassium. Some herbs helpful in controlling blood pressure: astragalus, reishi, hawthorne, and rhodiola (the latter is also used in treating depression, poor memory, and appears to have some anti-cancer effects as well). We can discuss these options during our phone consult if you would like.

**Dyrenium** (triamterene) DEPLETES folic acid and calcium. AVOID diuretic herbs (Buchu, Cleavers, Dandelion, Gravel root, Horsetail, Juniper, Parsley and Uva ursi) as these may undesirably enhance the drug's effect. AVOID magnesium supplements (above 300mg/day) as this drug inhibits magnesium clearance.

**Emend** (antinausea antiemetic during chemotherapy) AVOID grapefruit juice. ginkgo biloba, panax ginseng, and hawthorn, which may increase the side effects or toxicity of this drug. Also avoid St. John's wort, melatonin, yohimbe, ephedra and Ma Huang, which may decrease the efficacy of the drug.

**Ethambutol** DEPLETES zinc (thus, supplemental zinc may be useful). This drug binds copper, which may be beneficial in offering additional anti-angiogenesis effects. However, excessive copper depletion may increase the adverse effects of this drug on vision (your eye doctor should regularly perform a color vision examination).

**Famciclovir** (Famvir) No known or reported drug nutrient depletions or interactions.

**Fenofibrate** (Tricor) DEPLETES coenzyme Q10 and vitamin E. Supplementing coQ10 can reduce the risk of side effects (such as fatigue and muscle weakness) while taking this drug. AVOID high-dose niacin (vitamin B3) in doses above the supplied in a multiple vitamin, which may increase toxicity of this drug.

**Fentanyl** This pain-controlling patch has sedating and respiratory suppressing effects, use extreme caution with sedating supplements: high-dose melatonin (> 10mg/day), lemon balm, kava kava, california poppy, chamomile, passionflower, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of this drug.

**Finasteride** (Proscar) No known or reported drug-nutrient interactions in the scientific literature.

**Fiorinal** (aspirin, butalbital, caffeine) AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) and alcohol as these may exacerbate the sedative effects of butalbital. Aspirin DEPLETES folic acid, zinc, potassium, vitamin C, and iron. AVOID high doses of any of the following: vitamin E (above 800 iu/day), bromelain (above 6 caps/day), garlic (above 5,000 mg/day), ginger (above 10 gm/day), magnesium (above 800 mg/day), ginkgo biloba (above 120 mg/day) which can increase blood thinness and bleeding (hemorrhage). Caffeine DEPLETES calcium. AVOID ephedra and guarana as these herbs may exacerbate the stimulating side effects of caffeine.

**Flecainide** AVOID caffeine, which can reduce the efficacy of this drug.

**FloMax** No known or reported drug-nutrient interactions in the scientific literature.

**Flonase** (Fluticasone) (corticosteroid inhaler) DEPLETES calcium, folic acid, magnesium, potassium, selenium, vitamin C, vitamin D, and zinc.

**Fosamax** DEPLETES vitamin D, calcium, and phosphorous. A bone support supplement is recommended while taking this medication. It should provide calcium citrate (500-1000mg/day), magnesium (250-500mg/day) and vitamin D (400iu).. Take magnesium supplements at least one hour away from taking Fosamax, as they may increase the likelihood of upset stomach. DGL supplements may help protect against gastric and esophageal irritation in women taking this drug.

**Fragmin** (delteparin) No known or theoretical interactions at this time.

**Gianvi** (drospirenone and ethinyl estradiol) No known interactions with nutrients, herbs or specific foods.

**Glucotrol** (glipizide) Use caution with nutrients or herbs that help lower blood sugar, as these can necessitate that your dose of this drug be changed in order to prevent hypoglycemia. These nutrients include: alpha lipoic acid, chromium, biotin, berberine, vanadium, dandelion, ginseng and gymnema sylvestre. You may wish to use natural means to help control your blood sugar and desire to take some of the items listed here: please inform your doctor so that your dosage of Glucotrol can be adjusted as needed!

**Glyburide** DEPLETES coenzyme Q10, an important nutrient for muscle, heart and brain function. AVOID the following herbs: cocoa, kola, rosemary, black tea (can cause hyperglycemia). Use caution with nutrients or herbs that help lower blood sugar, as these can necessitate that your dose of this drug be changed in order to prevent hypoglycemia. These nutrients include: alpha lipoic acid, chromium, biotin, berberine, vanadium, dandelion, ginseng and gymnema sylvestre. You may wish to use natural means to help control your blood sugar and desire to take some of the items listed here: please inform your doctor so that your dosage of your medication can be adjusted as needed!

**Haloperidol** DEPLETES iron, sodium, glutathione and brain levels of vitamin E. This drug can also alter blood levels of potassium (high or low). AVOID alcohol and coffee while taking haloperidol! Vitamin C may increase the efficacy of this drug (based on a study using 4,500mg vitamin C per day). Milk thistle has been shown to help protect against liver damage caused by this drug.

**Hormone Replacement Therapy** HRT/Estrogen DEPLETES vitamins C, B12, B2, B6, folic acid, magnesium and zinc. Taking a multiple vitamin/mineral is highly recommended when taking estrogen replacement therapy. AVOID black cohosh and vitex supplements (contraindicated). In addition, increasing your dietary intake of cruciferous vegetables (broccoli, cauliflower, cabbage, Brussels sprouts, kale, mustard green, turnip and arugula) can increase the safety of this medication by promoting favorable metabolism of estrogens away from carcinogenic metabolites. A concentrated supplement of cruciferous indoles (diindolylmethane or DIM, 150-300mg/day) may also be warranted..

**Hydrochlorothiazide (HCTZ)** DEPLETES magnesium, folic acid, vitamin B6, zinc and coenzyme Q10. Take a multiple vitamin and 30-90mg coQ10 daily to replace these nutrients. Many herbs are also contraindicated: alder, buckthorn, cascara sagrada, cleavers, dandelion root, digitalis, forskolin, ginseng (panax or Siberian), horsetail, licorice, St. John's wort and uva ursi. Thiazide diuretics decrease calcium loss in the urine due to actions on the kidneys. As a result, it may be less important for some people taking thiazide diuretics to supplement calcium than it is for other people. AVOID taking calcium (above 400mg/day) or vitamin D (above 400iu/day) while taking this drug.

**Hydrocodone** bitartrate and acetaminophen (Norco) DEPLETES glutathione. Whey protein powder helps to boost glutathione. AVOID hibiscus within one hour of taking this drug as it may interfere with drug absorption.

Vitamin C may increase drug bioavailability, possibly reducing the amount of drug needed. Milk thistle, N-acetyl-cysteine, and schizandra may prevent liver toxicity caused by this drug.

**Hydroxychloroquine** May DEplete Calcium and Vitamin D. AVOID magnesium as it may reduce blood levels of this drug.

**Hytrin** BPH Specific nutrient depletions have not been documented for this medication.. There are no known or reported drug-nutrient or drug-herb interactions.

**Hyzaar** DEPLETES calcium, magnesium, potassium, sodium and phosphorous by increasing the loss of these minerals in the urine. A high-potency vitamin/mineral multiple product is highly recommended to help replace these nutrients.

**Ibuprofen** (see NSAIDs)

**Imitrex** Specific nutrient depletions have not been documented for this drug. AVOID St. John's Wort (hypericin).

**Imdur** (nitroglycerin, isosorbide) AVOID hawthorn and ephedra. Studies have shown that N-acetyl cysteine (NAC) and vitamin C may improve the efficacy of this drug.

**Imodium** (loperamide) No nutrient interactions or depletions have been reported.

**Insulin** AVOID the following herbs: cocoa, kola, rosemary, black tea (can cause hyperglycemia); also AVOID fibrous herbs such as flax seed (not oil), guar gum, fenugreek, and psyllium (can cause hypoglycemia). Goldenseal and other berberine-containing herbs have also been reported to lower blood sugar levels.

**Iscador** (mistletoe, motherwort, kelp, wild lettuce, and skullcap) AVOID garlic supplements as it may enhance the hypotensive side effect of Iscador. Sedative herbs and nutrients such as melatonin, valerian, lobelia, lemon balm (melissa), hops, camomile, kava kava, passionflower, wood betony, catnip, and ashwagandha may have an additive sedative effect when combined with Iscador. Diuretic herbs such as agrimony, horsetail, parsley, uva ursi, cleavers, buchu, juniper, marshmallow, plantain, nettles, burdock, dandelion, and hawthorn may result in exacerbated hypotension. Blood sugar lowering herbs such as alpha lipoic acid, chromium, biotin, berberine, vanadium, dandelion, ginseng and gymnema sylvestre may exacerbate Iscador's side effect of hypoglycemia. Mistletoe is inflammatory.

**Keppra** AVOID high doses of folic acid (above 2,000mcg/day), vitamin B6 (above 75mg/day), which can interfere with the anti-seizure actions of this drug. DEPLETES vitamins B6, B12, D, K, folic acid, calcium and magnesium. A multiple vitamin/mineral can help replace these nutrients.

**Klonopin** (clonazepam) No known nutrient depletions. AVOID sedating herbs (e.g., lemon balm, kava kava, californian poppy, catnip, St. John's wort, skullcap, and valerian) which may increase the sedative actions of the drug, causing disorientation, and serious lethargy. Of note: combining melatonin has been shown to offer beneficial effects, improving sleep, and also to assist individuals in discontinuing this class of drugs (benzodiazepines).

**Kytril** (granisetron) No reported interactions or depletions.

**Lanoxin/Digoxin** DEPLETES calcium, magnesium, phosphorus and vitamin B1. A high quality multiple vitamin/mineral is recommended to replace these depleted nutrients.

**Lamictal** Specific nutrient depletions have not been documented for this medication.

**Lasix** DEPLETES potassium, magnesium, calcium, and, if used for long periods, vitamin B1. You should avoid taking laxative type herbs (cascara sagrada, rhubarb, senna and aloe vera) with this drug, as the loss of electrolytes can be compounded by the combination. Also avoid diuretic type herbs, such as corn silk, uva ursi, juniper, parsley, and cleavers. Coffee and licorice also increase mineral loss associated with Lasix.

**Levitra** (vardenafil) No reported interactions or depletions.

**LevoxyI** DEPLETES calcium; you may need an extra calcium supplement to make up the loss (especially as decadron and anti-seizure medications also deplete calcium). Because some research suggests cancer patients may have improved prognosis when they have hypothyroid (low thyroid function), you may wish to speak with your doctor to ensure you really require this medication, and take only the lowest dose that ameliorates your symptoms. The herbs lemon balm and bugleweed have thyroid suppressing actions and may need to be avoided by you. Soy foods appear to interfere with the absorption of thyroid medications and the two should be taken at least 2 hours apart.

**Lidocaine** (Lidoderm patch). CAUTION: sedating nutrients or herbs may exacerbate the CNS depressant effects of this medication. Use caution with 5-HPT, GABA, kava kava, California poppy, lemon balm, valerian, and melatonin supplements. AVOID Foxglove (digitalis family) as it may exacerbate antiarrhythmic effects of this drug.

**Lipitor** DEPLETES coenzyme Q10 (coQ10), a nutrient essential for healthy heart and brain function. When this drug is taken long term, supplemental CoQ10 (60-90mg/day) is highly recommended.

**Lisinopril** DEPLETES zinc. Zinc may be replaced with a multivitamin mineral. AVOID potassium supplements or salt substitutes if you have advanced kidney disease or elevated blood potassium.

**Lithium** DEPLETES sodium, especially during initial therapy until stable blood levels of lithium are reached. Brain injury (from brain surgery or inflammation around a brain tumor) can also cause low sodium, compounding this side effect. Vomiting, diarrhea, extreme sweating or excess water intake can also lower your sodium levels. Your doctor can monitor your blood sodium levels. Do not restrict your salt intake at this time. The symptoms of dangerously low sodium (below 135 mmol/L on your blood work) are: fatigue, apathy, light-headedness, weakness, cramping, nausea, bloating or swelling, dizziness, headache, confusion, agitation or delirium, fainting and disorientation. In severe cases, seizures and coma may result. Limit your fluid intake and call your doctor immediately (or proceed to a hospital emergency room) if these symptoms develop.

Lithium ALSO DEPLETES brain stores of inositol, a vitamin in the B-complex family; replacement inositol is typically provided at 500mg 3x/day. Depletion of inositol can trigger or worsen psoriasis, which improves with inositol supplementation in those taking lithium. Some studies have shown that folic acid (200mcg/day) improves response to lithium (a multiple vitamin/mineral can supply this amount of folic acid for you). Of note, essential fatty acids may help reduce the side effects (such as tremor and ataxia) associated with lithium therapy. Take fiber supplements at least 1-2 hours away from your lithium, as fiber can bind to the drug and reduce its absorption. The supplement 5-HTP (a tryptophan precursor) has shown efficacy in improving bipolar disorder, however, it is contraindicated with patients with brain tumors (please avoid 5-HTP supplements)! Coffee appears to speed the clearance of lithium from the body: if you abruptly alter your coffee consumption, have your doctor monitor your lithium dosage.

**Lomotil** Take this drug away from tannin-containing herbs (green or black tea, uva ursi, black walnut, red raspberry, or witch hazel) which can decrease the drug's absorption.

**Lopid** (gemfibrozil) DEPLETES coQ10 and vitamin E. CoQ10 is essential to the healthy function of heart muscle cells and brain cells. A CoQ10 supplement (30mg 2-3x/day) is recommended for those taking this drug chronically, and can help protect heart and brain function. AVOID the herb called "red yeast rice extract" (marketed under the name "Cholestin") which can cause a dangerous interaction—resulting in a life-threatening muscle disease—if taken together with this medication.

**Losartan** (Cosaar) Increases blood potassium level. AVOID potassium supplements and perhaps even high potassium foods (vegetable juice, tomato juice, potatoes, winter squash, mushrooms, bananas).

**Lovastatin** (mevacor) DEPLETES coQ10, an important nutrient for the proper functioning of muscles, heart and brain. AVOID red rice yeast extract supplements, which are not safe to take with this medication. Take fiber supplements at least 1-2 hours away from this medication, to avoid binding the drug and reducing its absorption. Large amounts of niacin taken with lovastatin have been reported to cause potentially serious muscle disorders (myopathy or rhabdomyolysis). However, niacin also enhances the cholesterol-lowering effect of lovastatin. Taking as little as 500 mg TID of niacin with lovastatin has been shown to have these complementary, supportive actions with almost none of the side effects seen when higher amounts of niacin are taken. Consult with your doctor before taking niacin. Vitamin E may also benefit you. In a double-blind trial, lovastatin was found to increase oxidative damage to LDL cholesterol and vitamin E was reported to protect against such damage.

**Lovenox** (low-molecular weight heparin) No nutrient depletions known. AVOID high doses of any of the following: vitamin E (above 400iu/day), bromelain (above 6caps/day), garlic (above 5,000mg/day), ginger (above 10 gm/day), magnesium (above 800mg/day), licorice (above 5 grams/day), ginkgo biloba (above 120mg/day) which can increase blood thinness. Also use caution with the following: vitamin K supplements, vitamin C (above 5,000mg/day), coQ10 (above 200mg/day), which may interfere with the actions of this drug and increase your risk for a clot.

**Lyrica** No known nutrient depletions. AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of the drug, causing disorientation, and serious lethargy.

**Maxalt** Avoid St. John's wort and 5-HTP supplements while taking this drug.

**Meclizine** (Bonine) Use CAUTION with 5-HTP, GABA and sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian). These supplements may increase the sedative actions of this drug. Use caution with high-dose melatonin supplements, which also may increase the sedating properties of this drug.

**Medroxyprogesterone** (Provera) No drug-nutrient/herb reactions have been reported. May replenish vitamin A and folic acid levels during states of malnutrition. May decrease zinc and magnesium loss during osteoporosis. Unlike other progesterones, this form of progesterone increases VEGF expression in breast cancer cells. Fortunately, curcumin blocks this drug's secretion of VEGF (Carroll, Ellersieck & Hyder, 2008).

**Megace** Specific nutrient depletions and interactions have not been documented for this drug.

**Methadone** Because this drug uses the liver's cyp450-3A4 pathway, avoid herbs that also use this pathway and which may cause unwanted contraindications when combined with the drug: curcumin, quercetin, bioflavonoids, grapefruit, soy isoflavones (especially genistein), resveratrol, cat's claw. Also AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of the drug, causing disorientation, and serious lethargy. When combining melatonin with this drug, begin with a low dose (1-2.5mg) and continue gradually while monitoring for sedating effects.

**Metoprolol** (beta-blocker) DEPLETES coenzyme Q10, a nutrient essential for healthy heart function. When this drug is taken long term, supplemental CoQ10 (60-90mg/day) is highly recommended.

**Metformin** DEPLETES coenzyme Q10, an important nutrient for muscle, heart and brain function. AVOID the following herbs: cocoa, kola, rosemary, black tea (can cause hyperglycemia). Use caution with nutrients or herbs that help lower blood sugar, as these can necessitate that your dose of this drug be changed in order to prevent hypoglycemia. These nutrients include: alpha lipoic acid, chromium, biotin, berberine, vanadium, dandelion, ginseng and gymnema sylvestre. You may wish to use natural means to help control your blood sugar and desire to take some of the items listed here: please inform your doctor so that your dosage of your medication can be adjusted as needed!

**Methyldopa** (Aldomet, Alfamet) DEPLETES CoQ10.

**Methylphenidate** (Ritalin) No known or reported drug-nutrient interactions in the scientific literature. However, avoid alcohol when taking this drug, which can result in impaired coordination, dizziness or drowsiness, increasing the risk of accident or injury.

**Minocycline** DEPLETES vitamins B1, B2, B3, B6, B12, K, biotin, inositol, calcium, and magnesium. A multiple vitamin/mineral can help replace these nutrients. Also depletes Lactobacillus acidophilus and bifidobacteria, they friendly bacteria that colonize the intestinal tract and support healthy digestion and immune function. The probiotic bacteria should be replaced with a supplement during and following use of this medication.

**MiraLax** No known nutrient depletions when used to control constipation without causing ongoing diarrhea (diarrhea can deplete electrolyte minerals). Use caution with high-dose calcium supplements, as calcium can exacerbate constipation. On the other hand, the mineral magnesium is useful in addressing constipation.

**Mirtazapine** This drug increases nighttime secretion of melatonin. Talk to your doctor before considering melatonin supplementation while using this drug.

**Morphine** No known or reported nutrient depletions or interactions. Use CAUTION with 5-HTP, GABA and sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian). These supplements can increase the sedative actions of narcotic pain relievers, causing drowsiness, disorientation, and serious lethargy. Use caution with high-dose melatonin supplements, which also may increase the sedating properties of this drug.. Use care with high dose calcium supplements, which may worsen the constipation side effect of this drug.

**Multaq** No known or reported depletions or interactions. However, taking high doses of calcium may be problematic while taking this drug, especially in light of recent research suggesting calcium supplements may be contraindicated in older individuals with heart disease. Avoid grapefruit juice while taking this drug.

**NSAIDS** (Tylenol, Advil, Ibuprofen) DEplete folic acid and vitamin C, which can be replaced with a dietary supplement (such as a multiple vitamin). Also depletes melatonin, a very important anti-cancer hormone.

**Nasonex** DEPLETES calcium, magnesium, potassium, selenium, zinc, folic acid, and vitamins C, and D. A high-potency multiple vitamin/mineral is recommended to replace these nutrients. AVOID digitalis (foxglove) family herbs, which interact negatively with the medication.

**Neulasta** (pegfilgrastim), Neupogen (filgrastim) No known nutrient depletions or interactions.

**Neurontin** (gabapentin) DEPLETES vitamins B6, B12, A, D, and K, folic acid, biotin, carnitine, calcium and magnesium. A multiple vitamin/mineral can help replace these nutrients. If you take this medication long-term, carnitine supplements may help reduce fatigue.

**Nexium** DEPLETES vitamins B1, B12, and D, iron, calcium and zinc. Nexium can cause bacterial overgrowth of the small intestine, and taking a probiotic (acidophilus/bifidus) while taking the drug is important. AVOID St. John's wort. Take magnesium 1-2 hrs away from this drug, as this mineral can bind to the drug and reduce its activity.

**Niaspan** (time-release niacin) No known nutrient depletions or interactions.

**Nifedipine** AVOID the following (unsafe to combine with this medication): pleurisy root, foxglove, grapefruit juice and pomegranate juice. Smoking tobacco can interfere with the efficacy of this drug.

**Norvasc** DEPLETES magnesium and potassium, so you need a healthy diet and multiple vitamin/mineral to help replace these. AVOID grapefruit or grapefruit juice, which can raise your blood levels of this drug and increase your side effects. No additional known interactions at this time.

**Numoisyn** lozenges (saliva substitute). No known drug nutrient interactions.

**Nystatin** No known drug-nutrient interactions.

**Oxycodone** No known or reported nutrient depletions. AVOID sedating 5-HTP, GABA and sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian). These supplements can increase the sedative actions of narcotic pain relievers, causing drowsiness, disorientation, and serious lethargy. Use caution with high-dose melatonin supplements, which also may increase the sedating properties of this drug.

**Pepcid** DEPLETES iron, calcium, folic acid, zinc, and vitamin B12. Taking a multiple vitamin/mineral is recommended (see below for recommended multiple products).

**Percocet** is a combination of two drugs paracetamol and oxycodone.

For paracetamol: AVOID hibiscus, which may decrease absorption of the drug. Also AVOID alcohol, which can increase the risk of liver damage, cause drowsiness, dizziness or blurred vision when taken with darvocet. Milk thistle may help protect against liver damage if you need to take darvocet for an extended time period (but be aware that milk thistle may be contraindicated with anti-seizure drugs, chemotherapy agents or other drugs). Schisandra may be a better liver protectant with darvocet, and animal studies confirm this benefit. Food, especially foods high in pectin (including jellies), carbohydrates, and large amounts of cruciferous vegetables (broccoli, Brussels sprouts, cabbage, and others) can interfere with paracetamol absorption. Moderate to high amounts of paracetamol have caused liver damage in people with alcoholism. To prevent problems, people taking paracetamol should avoid alcohol. This drug may cause constipation: increase daily intake of fluids, and fiber (but take the fiber  $\pm$ 2 hrs away from percocet).

In regards to the Oxycodone portion of this drug: AVOID sedating 5-HTP, GABA and sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian). These supplements can increase the sedative actions of narcotic pain relievers, causing drowsiness, disorientation, and serious lethargy. Use caution with high-dose melatonin supplements, which also may increase the sedating properties of this drug.

**Pentamidine** No known or reported nutrient depletions or interactions. The metabolism of this drug in humans is unknown. The mechanism of action of this drug is unknown.

**Phenergan** DEPLETES coenzyme Q10 and vitamin B2. CoQ10 appears to be a very helpful enzyme in fighting breast cancer, and you may wish to consider supplementation (see further info on coQ10 later in this report). Vitamin B2 can be replaced with a multiple vitamin.

**Phenylpropanolamine** with hydrocodone AVOID ephedra (Ma huang) and caffeine as these may cause interactions such as increasing blood pressure.

**Plaquenil** DEPLETES vitamin D. In a case report, plaquenil was shown to block the formation of active vitamin D, which can lead to reduce absorption of calcium. Taking calcium and vitamin D supplements is suggested while taking this drug. AVOID taking magnesium supplements at the same time as this drug (keep the two  $\pm 2$  hours apart). Magnesium can bind to the drug and reduce its absorption.

**Pravachol** (Pravastatin) DEPLETES coQ10, an important nutrient for the proper functioning of muscles, heart and brain. AVOID red rice yeast extract supplements, which are not safe to take with this medication. Take fiber supplements at least 1-2 hours away from this medication, to avoid binding the drug and reducing its absorption. Large amounts of niacin taken with statin drugs has been reported to cause potentially serious muscle disorders (myopathy or rhabdomyolysis). However, niacin also enhances the cholesterol-lowering effect of statins. Taking as little as 1,500 mg per day of niacin with the drug has been shown to have these complementary, supportive actions with almost none of the side effects seen when higher amounts of niacin are taken. Consult with your doctor before taking niacin. Fish oil (at a dose of 900-1,800 mg of EPA per day) may enhance this drugs efficacy by lowering triglycerides and raising HDL to lower coronary artery disease risk. Vitamin E may also benefit you. In a double-blind trial, a statin drug was found to increase oxidative damage to LDL cholesterol and vitamin E was reported to protect against such damage.

**Prevacid** (lansoprazole) may DEplete beta-carotene, folic acid, vitamin B12. No other herb or nutrient interactions reported.

**Prilosec** With long-term use, this drug DEPLETES vitamin B12, calcium, folic acid, vitamin C, zinc and iron. It may also interfere with protein digestion. Use this medication only as long as is medically necessary. A multiple vitamin/mineral is recommended to help reduce the risk of nutrient deficiencies. AVOID St. John's wort while taking this drug, which can reduce the activity of the drug.

**Pristiq** (desvenlafaxine) No known reactions with foods, nutrients or other supplement compounds. Drugs in a slightly different class of antidepressants (SSRIs) do have interactions with supplements and other nutrients that are worth noting. SSRIs DEplete melatonin: be sure to sleep in complete darkness to prompt your body to secrete adequate melatonin. However, use caution with high dose melatonin supplements (above 10mg/day) if you have a history of severe depression lasting 2 years or more. While one study suggests that melatonin in high doses can worsen depression in patients with chronic, severe depression, several other studies have shown melatonin to be a useful aid in treating depression. You may wish to start melatonin supplements at lower doses, and gradually increase the dose while monitoring your mood and sleep habits. This allows you to be certain the melatonin is not causing side effects. AVOID St. John's wort and 5-HTP (5-hydroxytryptophan) supplements when taking antidepressants, which can increase serotonin and lead to serotonin excess (causing anxiety). Deficiency of B complex vitamins can reduce the efficacy of SSRIs (and this likely also applies to Pristiq): a quality multiple vitamin can replenish them.

**Protonix** No known or reported interactions or depletions in the scientific literature at this time.

**Provigil** No known or reported drug-nutrient interactions. However, it may be wise to avoid herbs that have a stimulating effect on the central nervous system, as these may increase the risks associated with this drug: gotu kola, yerba mate, ginseng and caffeine.

**Prozac** AVOID high dose melatonin (above 10mg/day), and 5-HTP, which can increase serotonin and lead to serotonin excess (causing anxiety). DEPLETES melatonin: be sure to sleep in complete darkness to prompt your body to secrete adequate melatonin, a very important anti-cancer hormone.

**Raloxifene** DEPLETES magnesium and vitamin B6. A multiple vitamin/mineral is highly recommended while taking this medication.

**Reglan** (metoclopramide) This GI stimulant may interfere with absorption of nutrients in the intestines. Use of a multiple vitamin/mineral can help protect against deficiencies. AVOID supplements of N-Acetyl-Cysteine (NAC) which can interact with this drug causing potentially serious side effects. Also note, lactose intolerant individuals may experience more severe side effects from eating dairy products while taking this medication.

**Reneron** No known or reported interaction at this time.

**Restoril** No known nutrient depletions. AVOID sedating herbs (e.g., lemon balm, kava kava, california poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of the drug, causing disorientation, and serious lethargy. Of note: combining melatonin with this drug has been shown to offer

beneficial effects, improving sleep, and also to assist individuals in discontinuing this class of drugs (benzodiazepines).

**Rifampin** DEPLETES vitamin D. Have your blood level of vitamin D monitored regularly (twice per year), and consider supplementation to keep it in the range of 60-80ng/dl.

**Risperidone** AVOID alcohol, which may increase this drug's sedative effects. AVOID herbs with sedative actions—chamomile, California poppy, catnip, elecampane, ginseng Siberian, goldenseal, gotu kola, hops, Jamaican dogwood, kava, lemon balm, passionflower, sage, St. John's wort, saffron, skullcap, shepherd's purse, valerian, and yerba mansa—which may increase CNS sedation while taking this drug. Use caution with high-dose melatonin (begin with a low dose and gradually increase to find tolerated dose. Do not take lithium with Risperdal, which can cause fever, confusion and/or delirium. The amino acid glycine can support the efficacy of this drug. Vitamins E and B6 may help reduce side effects associated with this drug.

**Ritalin** (Methylphenidate) No known or reported drug-nutrient interactions in the scientific literature. However, avoid alcohol when taking this drug, which can result in impaired coordination, dizziness or drowsiness, increasing the risk of accident or injury.

**Senna** (Senokot) DEPLETES potassium and magnesium.

**Septtra** (trimethoprim and sulfamethoxazole) DEPLETES folic acid, biotin and B complex vitamins and vitamin K. Also depletes Lactobacillus acidophilus and bifidobacteria, the friendly bacteria that colonize the intestinal tract and support healthy digestion and immune function. The probiotic bacteria should be replaced with a supplement during and following use of this medication.

**Seroquel** Use CAUTION with sedating herbs (e.g., lemon balm, kava kava, California poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of the drug.

**Sertraline** (SSRI antidepressant) DEPLETES melatonin: be sure to sleep in complete darkness to prompt your body to secrete adequate melatonin (melatonin is very important in helping you fight cancer). However, use caution with high dose melatonin supplements (above 10mg/day) if you have a history of severe depression lasting 2 years or more. While one study suggests that melatonin in high doses can worsen depression in patients with chronic, severe depression, several other studies have shown melatonin to be a useful aid in treating depression. Begin melatonin supplements at lower doses (2-2.5mg per night), and gradually increase the dose while monitoring your mood and sleep habits. This allows us to be certain the melatonin is not causing side effects. AVOID St. John's wort and 5-HTP (5-hydroxytryptophan) supplements when taking antidepressants, which can increase serotonin and lead to serotonin excess (causing anxiety). Deficiency of B complex vitamins can reduce the efficacy of this medication; a quality multiple vitamin is recommended.

**Simethicone** (Phazyme) No known nutrient/herb interactions or depletions.

**Simvastatin** DEPLETES coQ10, an important nutrient for the proper functioning of muscles, heart and brain. AVOID red rice yeast extract supplements, which are not safe to take with this medication. Take fiber supplements at least 1-2 hours away from this medication, to avoid binding the drug and reducing its absorption. Large amounts of niacin taken with statin drugs has been reported to cause potentially serious muscle disorders (myopathy or rhabdomyolysis). However, niacin also enhances the cholesterol-lowering effect of statins. Taking as little as 500 mg TID of niacin with the drug has been shown to have these complementary, supportive actions with almost none of the side effects seen when higher amounts of niacin are taken. Consult with your doctor before taking niacin. Vitamin E may also benefit you. In a double-blind trial, a statin drug was found to increase oxidative damage to LDL cholesterol and vitamin E was reported to protect against such damage.

**Sinemet** Food, especially foods high in protein, compete with levodopa for absorption. However, levodopa may be taken with food to avoid stomach upset. It is important to take levodopa at the same time every day, always with or always without food. People with questions about levodopa and food should ask their prescribing doctor or pharmacist. Taking sustained-release Sinemet CR with food may increase blood levels of levodopa. It is important to take Sinemet at the same time every day, always with or always without food. AVOID iron and 5-HTP or St. John's wort supplements. Iron supplements taken with carbidopa interfere with the action of the drug. People taking carbidopa should not supplement iron without consulting the prescribing physician. Several cases of scleroderma-like illness have been reported in patients using carbidopa and 5-HTP. People taking carbidopa should not supplement 5-HTP (or the herb St. John's wort, which elevates 5-HTP levels) without consulting the prescribing physician.

**Singulair AND Albuterol** AVOID the herbal product forskolin, it can increase the effects (and side effects) of these drugs.

**Sitagliptin** (Januvia) No known nutrient depletions or interactions at this time.

**Spironolactone** (potassium-sparing diuretic) DEPLETES folic acid and sodium. AVOID the following herbs which may cause undesirable interactions: buchu, cleavers, dandelion, gravel root, horsetail, juniper, and uva ursi. Avoid taking potassium supplements (or using potassium-based salts) while using this drug.

**Sulfasalazine** DEPLETES folic acid, which can be replaced with a multiple vitamin.

**Synthroid** DEPLETES calcium; you may need an extra calcium supplement to make up the loss (especially as decadron and anti-seizure medications also deplete calcium). AVOID two herbs: lemon balm and bugle weed, which may interfere with the actions of this medication. Soy foods appear to interfere with the absorption of thyroid medications and the two should be taken at least 2-3 hours apart.

**Tagamet** (Cimetidine) DEPLETES (or interferes with the absorption or function of) iron, vitamin B12 and vitamin D. A multiple vitamin/mineral is suggested to replenish these nutrients. AVOID taking magnesium at the same time, which may bind to the medication and reduce its efficacy. Take magnesium at least two hours away from Tagamet. Also avoid caffeine—found in coffee, tea, soft drinks, chocolate, guarana (*Paullinia cupana*). Cimetidine may decrease the clearance of caffeine from the body, causing increased caffeine blood levels and unwanted actions.

**Tamoxifen** A bioflavonoid called tangeretin has been shown to interfere with and increase the side effects of tamoxifen. You should avoid any bioflavonoid supplement that contains a mixture of the bioflavonoids. Tamoxifen can increase the risk of blood clots, particularly in individuals with limited mobility, high inflammation, or blood type O. You could ask your doctor to monitor the risk with a simple blood test called Prothrombin Time (PT time). If your blood is "clotty," you could use supplements like Nattokinase to reduce the risk considerably, without thinning your blood. Also, a study at Cleveland Clinic has shown that cancer patients with low thyroid function respond better to tamoxifen than those with normal thyroid function. Have your thyroid function tested. If it is normal or elevated, we can take steps to slightly suppress it (unless you have malignant melanoma, for which TSH appears to be a stimulating agent).

**Tegretol** (Carbamazepine) DEPLETES vitamin D, biotin, calcium and folic acid. You can help replace these nutrients by taking a quality multiple vitamin/mineral supplement. AVOID high doses of folic acid (above 2,000mcg/day), vitamin B6 (above 75mg/day), which may interfere with the anti-seizure actions of this drug.

**Tetrathiomolybdate** DEPLETES copper as part of its therapeutic action. Do not take copper supplements or a multiple vitamin/mineral that contains copper. AVOID molybdenum in doses higher than that provided in a multiple vitamin mineral, zinc at doses above 150mg per day, MSM in doses higher than 3-5 grams per day.

**Thalidomide** No known or reported nutrient depletions. AVOID sedating herbs (e.g., lemon balm, kava kava, California poppy, catnip, St. John's wort, skullcap, and valerian) which can increase the sedative actions of thalidomide, causing drowsiness, disorientation, and serious lethargy.

**Thyroid medications** AVOID two herbs: lemon balm and bugle weed, which may interfere with the actions of this medication.

**Tianeptine** (Coaxil) No nutrient/herb interactions or depletions are known or expected for this drug.

**Tramadol** This drug blocks the re-uptake of serotonin in the brain. Taking supplements that increase serotonin could potentially lead to excess serotonin and increase tramadol-induced side effects. AVOID St. John's wort and 5-HTP (tryptophan) while taking this drug. Avoid alcohol, which may intensify the effects and increase the risk of accidental injury.

**Trazodone** AVOID St. John's wort, 5-HTP, Ginkgo biloba, and herbs containing digitalis (like foxglove), which are unsafe to take with this medication. This drug has no known nutrient depletions.

**Triamcinolone** No known or reported drug nutrient interactions at this time.

**Trileptal** (oxycarbazepine) Depletes biotin, calcium, folic acid, and vitamin D.

**Tylenol** AVOID hibiscus within one hour of taking this drug as it may interfere with drug absorption. Vitamin C may increase drug bioavailability, possibly reducing the amount of drug needed. Milk thistle, N-acetyl-cysteine, and schizandra may prevent liver toxicity caused by this drug.

**Tylenol with codeine** AVOID hibiscus and herbs that are high in tannins (green tea, black tea, uva ursi, black walnut, red raspberry, oak, and witch hazel) within one hour of taking this drug as they may interfere with drug absorption. Vitamin C may increase drug bioavailability, possibly reducing the amount of drug needed. Milk thistle, N-acetyl-cysteine, and schizandra may prevent liver toxicity caused by this drug.

**Valtrex** (valacyclovir) No known nutrient or supplement interactions at this time.

**Vancomycin** DEPLETES folic acid, biotin and B complex vitamins and vitamin K. Also depletes Lactobacillus acidophilus and bifidobacteria, the friendly bacteria that colonize the intestinal tract and support healthy digestion and immune function. The probiotic bacteria should be replaced with a supplement during and following use of this medication.

**Verapamil** (calcium-channel blocker) AVOID excessive supplementation with calcium or vitamin D (beyond dose in a multiple vitamin/mineral or the RDA) which can interfere with the ability of this drug to control your blood pressure. Also avoid Panax ginseng and licorice which can interfere with this medication. You should avoid drinking daily grapefruit juice, which can interfere with the proper metabolic clearance of this drug and increase your risk of an overdose and side effects or toxicity. This drug is metabolized in the liver via the cyp450-3A4 pathway. Herbs that also use this metabolic pathway may interact with this drug (*see box above*). Of note, you may be pleased to learn that taking this drug together with chemotherapy may improve the efficacy of the chemotherapy by inhibiting the mechanism cancer cells use to extrude (eliminate) the chemo drug.

✗ Supplements that affect the <u>3A4 metabolic pathway</u>		
<ul style="list-style-type: none"> <li>• Andrographis</li> <li>• Artemisia</li> <li>• Baikal</li> <li>• Bloodroot</li> <li>• Bioflavonoids</li> <li>• Caffeine</li> <li>• Cat's Claw</li> <li>• Chamomile</li> <li>• Cranberry</li> <li>• Curcumin</li> <li>• Dan shen</li> </ul>	<ul style="list-style-type: none"> <li>• Echinacea</li> <li>• Genistein</li> <li>• Ginkgo biloba (not in humans)</li> <li>• Goldenseal</li> <li>• Grapefruit</li> <li>• Green tea</li> <li>• Hops</li> <li>• Licorice</li> <li>• Milk thistle</li> <li>• Oregano</li> <li>• Panax ginseng</li> </ul>	<ul style="list-style-type: none"> <li>• Pomegranate</li> <li>• Pycnogenol</li> <li>• Quercetin</li> <li>• Resveratrol</li> <li>• Rhodiola</li> <li>• Schizandra</li> <li>• Skullcap</li> <li>• Soy isoflavones</li> <li>• St. John's wort</li> <li>• Turmeric</li> <li>• Valerian</li> </ul>

**Vicodin** No known nutrient depletions. AVOID hibiscus (which decreases the level of this drug, reducing its efficacy). Vitamin C in high doses (at or above 3,000mg/day) has been shown to prolongs the amount of time this drug stays in the body. This effect may allow you to decrease the dose of your drug, however, it could also increase the risk of side effects. Milk thistle (200mg/day containing 80% silymarin) and/or the herb schisandra, have been reported to help protect the liver from damage in patients taking this drug.

**Vimpat** (lacosamide) No known or reported nutrient or supplement interactions with this drug.

**Vorinostat** There are currently no published data on drug-nutrient depletions or interactions for this new drug. However, reviewing the pharmacology and mechanism of action data, the following supplements are expected contraindications: N-acetyl-cysteine and acetyl-L-carnitine.

**Wellbutrin** Specific nutrient depletions have not been documented for this drug. AVOID alcohol while taking this drug.

**Zantac** (ranitidine) DEPLETES iron, calcium, folic acid, zinc, and vitamin B12. Taking a multiple vitamin/mineral can replace these nutrients.

**Zegerid** No known nutrient/herb depletions or interactions at this time.

**Zetia** inhibits cholesterol absorption, without interfering with the absorption of fat-soluble vitamins and essential fats. However, it does block the absorption of plant-based sterols, with unknown effects on the body. Increasing fiber consumption, reducing sugar/carbohydrates, and exercise are complementary strategies to help control your cholesterol.

**Ziac** DEPLETES potassium, magnesium, calcium, and, if used for long periods, vitamin B1. You should avoid taking laxative type herbs (cascara sagrada, rhubarb, senna and aloe vera) with this drug, as the loss of electrolytes can be compounded by the combination. Also avoid diuretic type herbs, such as corn silk, uva ursi, juniper, parsley, and cleavers. Coffee and licorice also increase mineral loss associated with diuretics.

**Zocor** DEPLETES coenzyme Q10 (coQ10), a nutrient essential for healthy heart and brain function. When this drug is taken long term, supplemental CoQ10 (60-90mg/day) is highly recommended.

**Zofran** (ondansetron) AVOID ipriflavone with Zofran, which may increase the drug's side effects or risk of toxicity. Use caution with DHEA supplements, which may possibly increase Zofran's effects.

**Zolodex** AVOID vitex, black cohosh, maca, tribulus, horny goat weed, and tongkat ali (*Eurycoma longifolia*) which may potentially interfere with the actions of this drug.

**Zolpidem** AVOID St. John's wort, 5-HTP and tryptophan which can cause harmful side effects when combined with this drug (such as hallucinations).

**Zometa** (zoledronic acid) No known or reported interactions at this time.

**Zomig** AVOID caffeine (in coffee, tea, mate, cola nut, guarana), nicotine, alcohol, 5-HTP, St. John's wort, capsaicin, Feverfew, Ginkgo. Prolonged use of the following herbs: Black Hellebore, Buckthorn, Cascara sagrada, Chinese rhubarb, Frangula, Lily-of-the-Valley, Ma-Huang, and Strophanthus can cause arrhythmias as a side effect and therefore, may potentiate the adverse reactions of this drug.

**Zyprexa** AVOID 5-HTP, St. John's wort and L-tryptophan supplements while taking this drug. Vitamin B6 and E may reduce the side effects associated with this drug. Supplemental glycine (an amino acid) has been shown in research studies to enhance the efficacy of the drug.

**Zyrtec** AVOID herbs that have sedative effects, which may increase drowsiness when taking this drug. These herbs include: kava kava, valerian, passionflower, chamomile, lemon balm, catnip and california poppy.