

Select Drug-Induced Nutrient Depletions

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Most healthcare professionals are aware of concerns about the potential for drug-supplement interactions. Drug-induced nutrient depletion is a separate issue. Use of some prescription and over-the-counter drugs may result in nutrient deficiencies over time. Each of these interactions can be rated based on the potential severity as follows:

- **Major** - A supplement is needed for most patients. Many patients taking this medication will require a supplement to prevent nutrient depletion and symptoms of nutrient depletion.
- **Moderate** - Monitor for depletion; a supplement is needed in some patients. Some people might develop nutrient depletion and related symptoms. Nutrient depletion might not occur in most patients, but it occurs in enough patients that monitoring for depletion is needed.
- **Insignificant** - A supplement is not needed for most patients. There is some evidence of changes in nutrient levels, but these changes are either transient or clinically insignificant.
- **Insufficient Evidence** - Clinical significance is not known. Some evidence suggests that there are effects on nutrient levels; however, it is unclear if potential nutrient depletion is significant.

Despite these general classifications, it is important to understand that different people respond differently to medications and supplements. It is possible that certain interactions will occur in some people, but not others.

Medication(s)	Nutrient/Supplement	Rating	Comments
Anticonvulsants <ul style="list-style-type: none"> • Carbamazepine • Phenytoin • Phenobarbital 	Calcium Vitamin D	Moderate	Certain anticonvulsants make vitamin D inactive. This can slow calcium absorption from the gut. Monitor for depletion; calcium and vitamin D supplementation may be needed if anticonvulsants are used for more than 6 months.
	Folic acid	Moderate	Certain anticonvulsants might reduce absorption and increase excretion of folic acid. Monitor for depletion; a supplement is needed in some patients. Patients should consult their physicians before taking folic acid. Folic acid, in high doses, can reduce levels of phenytoin and increase the risk of seizures.
Biguanides <ul style="list-style-type: none"> • Metformin 	Vitamin B12	Moderate	Long term use and higher doses of metformin can reduce vitamin B12 absorption. Monitor for depletion; a supplement is needed in some patients.
Bile Acid Sequestrants	Vitamin A Vitamin D Vitamin K	Moderate	Bile acid sequestrants reduce absorption of fat soluble vitamins from the gut. Monitor for depletion; a supplement is needed in some patients.
Corticosteroids <ul style="list-style-type: none"> • Hydrocortisone • Prednisone 	Calcium Vitamin D	Moderate	Long-term use of corticosteroids decreases absorption and increases excretion of calcium. Monitor for depletion; a supplement is needed in some patients. Vitamin D is given to improve calcium absorption.
	Magnesium	Moderate	Long-term use of corticosteroids increases excretion of magnesium. Monitor for depletion; a supplement is needed in some patients.
	Potassium	Moderate	Corticosteroids cause sodium retention and potassium depletion. Monitor for potassium depletion; a supplement is needed in some patients.
Diuretics <ul style="list-style-type: none"> • Loop Diuretics 	Calcium	Moderate	Loop diuretics, especially in high doses, can increase calcium excretion. Monitor for depletion; a supplement is needed in some patients.
Diuretics <ul style="list-style-type: none"> • Loop Diuretics • Thiazide Diuretics 	Potassium	Major	Diuretics increase potassium excretion in the urine. A supplement is needed for most patients.
	Magnesium Thiamine	Moderate	Diuretics, especially loop diuretics, increase magnesium and thiamine excretion in the urine. Monitor for depletion; a supplement is needed in some patients.
Diuretics <ul style="list-style-type: none"> • Thiazide Diuretics 	Zinc	Moderate	Thiazide diuretics increase zinc excretion. Monitor for depletion; a supplement is needed in some patients.
Estrogens <ul style="list-style-type: none"> • Oral contraceptives 	Folic acid Magnesium	Moderate	Estrogens can reduce levels of folic acid and magnesium in the body. This is unlikely to become a problem in women with adequate dietary intake of folate and magnesium. Monitor for depletion; a supplement is needed in some patients.
Proton Pump Inhibitors (PPIs)	Magnesium	Major	PPIs reduce absorption of magnesium, especially when used for longer than one year. A supplement is needed for most patients.
PPIs & H2-Blockers	Vitamin B12	Moderate	H2-blockers and PPIs can reduce absorption of dietary vitamin B12. This is unlikely to be a problem unless H2-blockers and PPIs are used chronically (2 years or more) and in high doses. Monitor for depletion; a supplement is needed in some patients taking these drugs in high doses for prolonged periods.
Salicylates <ul style="list-style-type: none"> • Aspirin 	Vitamin B12	Moderate	Aspirin might reduce levels of vitamin B12. Monitor for depletion; a supplement is needed in some patients.
	Vitamin C	Insignificant	Large doses of aspirin might reduce the uptake of vitamin C from the blood and gut. However, taking a baby aspirin long-term or taking larger doses intermittently for pain relief is unlikely to result in a significant depletion. A supplement is not needed for most patients.
Statins	Coenzyme Q10	Insufficient Evidence	Statins can reduce coenzyme Q10 levels in the blood. This is thought to contribute to statin-induced muscle pain. However, there's conflicting evidence on whether coenzyme Q10 supplements reduce statin-induced muscle pain.

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