

Nutrient depletions associated with common pharmaceuticals

The chart below primarily includes drug-nutrient depletions for which evidence from systematic reviews, meta-analyses, and randomized, double-blind, placebo-controlled, or randomized controlled human trials were available. The 21 pharmaceuticals included in this table are among the top-selling medications in the United States.

For an explanation of the classes of evidence, please see the Rating Scales at fullscript.com/hcp/evidence-based-decision-support.

Pharmaceutical	Class of drug	Nutrient depleted	Recommended dosage	Class of evidence
Acetaminophen/ hydrocodone Vicodin, Norco	Pain Narcotic, anti-Inflammatory	Glutathione	N-acetyl-cysteine: (FDA-approved protocol) Loading phase: 0.14 to 0.16 g/kg up to 17 doses as effervescent tablets Maintenance dose: 0.069 to 0.083 g/kg as effervescent tablets	B
Albuterol Ventolin, Proventil	Breathing Bronchodilator	No significant depletions confirmed.	n/a	n/a
Alprazolam Xanax, Niravam	Anxiety, panic Benzodiazepines	No significant depletions confirmed.	n/a	n/a
Amlodipine Norvasc	Blood pressure Calcium channel blocker	No significant depletions confirmed.	n/a	n/a
Amoxicillin Amoxil, Moxatag, Larotid	Antibiotic Penicillin-type	Microflora	Microflora: 5 Billion CFU b.i.d. as <i>B. bifidum</i> W23, <i>B. lactis</i> W18, <i>B. longum</i> W51, <i>E. faecium</i> W54, <i>L. acidophilus</i> W37 and W55, <i>L. paracasei</i> W72, <i>L.</i> <i>plantarum</i> W62, <i>L. rhamnosus</i> W71, and <i>L. salivarius</i> W24 for 2 weeks during and after 1 week of 500 mg b.i.d. of amoxicillin therapy. Separate antibiotic and probiotic administration by at least 2 hours	C

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Updated: February 2020

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Amoxicillin-clavulanate Augmentin, Amoclan	Antibiotic Penicillin-type/ beta-lactamase inhibitors	Microflora	Microflora: 5 Billion CFU q.d. as <i>L. paracasei</i> CRL-431, <i>B. lactis</i> BB-12, and <i>S. thermophilus</i> TH-4 for 1 month; or 20 billion CFU as <i>B. BB-02</i> , <i>B. lactis</i> BI-04 and BI-07, <i>L. acidophilus</i> NCFM, and <i>L. paracasei</i> LPC-37 for 3 weeks; or 25 billion CFU q.d. as <i>L. acidophilus</i> ATCC 700396 and <i>B. animalis</i> ssp. <i>lactis</i> ATCC SD5220 for 2 weeks; or 500 mg b.i.d. for 2 weeks as <i>S. boulardii</i> during and after 1 week of 1 g amoxicillin-clavulanate therapy	B
Atenolol Tenormin	Blood pressure, angina, migraine Beta-blockers	Zinc	Zinc: 20-30 mg (mild), 40-50 mg (moderate-severe) elemental zinc from zinc citrate or zinc gluconate q.d. for 6 months	A
		Melatonin	Melatonin: 2.5-5 mg q.d. one-hour before bed during ongoing 100 mg atenolol therapy	B
Atorvastatin Lipitor	Cholesterol Statin	Coenzyme Q10	CoQ10: 50-200 mg q.d. ongoing with 10 mg atorvastatin therapy	B
Citalopram Celexa	Antidepressant Selective-serotonin reuptake inhibitors (SSRI)	Sodium	Sodium: *Emerg.: 100 ml (oral) or 3% saline (i.v.)	A
		Melatonin	Melatonin: 2 mg q.d. one-hour before bed during ongoing 20-30 mg citalopram therapy	C
Fluticasone Flovent, Flonase	Asthma, rhinitis, allergy Glucocorticoids	No significant depletions confirmed.	n/a	n/a
Furosemide Lasix, Furocot	Blood pressure, edema Loop diuretics	Calcium	Calcium: 500-1000 mg of elemental Ca t.i.d. from Ca carbonate or Ca citrate and up to 2000 mg t.i.d. as needed *Emerg.: 100-200 mg (i.v.)	C

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Furosemide Lasix, Furocot (cont.)	Blood pressure, edema Loop diuretics	Magnesium	Magnesium: 300 mg q.d. as Mg citrate during > 80 mg furosemide therapy	C
		Pyridoxine (B6)	Pyridoxine (B6): 25-50 mg q.d. as pyridoxine hydrochloride	C
		Sodium	Sodium: *Emerg.: 100 ml (oral) or 3% saline (i.v.)	C
		Thiamin (B1)	Thiamin (B1): 100 mg b.i.d. (i.v.) for 2 days, orally for 1 week and 200 mg long term during 80-230 mg furosemide treatment	C
		Vitamin C	Vitamin C: 200-500 mg q.d.	C
		Zinc	Zinc: 20-30 mg (mild), 40-50 mg (moderate-severe) elemental zinc from zinc citrate or zinc gluconate q.d. for 6 months	C
Gabapentin Neurontin, Neuraptine	Neuropathy, pain	Folic acid	Folic acid: 400 mcg q.d. (RDA)*	B
Hydrochlorothiazide Apo-Hydro	Blood pressure, edema Thiazide diuretics	Potassium	Potassium: ~780-1560 mg (20-40 mmol) q.d. as potassium chloride or potassium magnesium citrate during 50 mg hydrochlorothiazide treatment	A
		Sodium	Sodium: *Emerg.: 100 ml (oral) or 3% saline (i.v.)	A
		Zinc	Zinc: 20-30 mg (mild), 40-50 mg (moderate-severe) elemental zinc from zinc citrate or zinc gluconate q.d. for 6 months	A
		Magnesium	Magnesium: 500-600 mg q.d. as magnesium citrate during 25-50 mg hydrochlorothiazide therapy	B
		Chloride	Chloride: *Emerg.: 0.9% saline (i.v.)	C
		Folate	Folate: 1-5 mg q.d. as folic acid	C

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Insulin glargine injection Lantus Solostar	Diabetes Insulin analogue	Magnesium	Magnesium: 336 mg elemental magnesium from Mg-l-lactate q.d. for 3 months during insulin therapy	B
Levothyroxine Levothroid, Synthroid	Thyroid Synthetic thyroxine	No significant depletions confirmed.	n/a	n/a
Lisinopril Prinivil, Zestril	Blood pressure ACE inhibitor	Zinc	Zinc: 11 mg q.d. for men and 8 mg q.d. for women (RDA)*	A
Losartan Cozaar	Blood pressure Angiotensin receptor blockers	Zinc	Zinc: 20-30 mg (mild), 40-50 mg (moderate-severe) elemental zinc from zinc citrate or zinc gluconate q.d. for 6 months	A
		Calcium	Calcium: 500-1000 mg of elemental Ca t.i.d. from Ca carbonate or Ca citrate and up to 2000 mg t.i.d. as needed *Emerg.: 100-200 mg (i.v.)	C
		Chloride	Chloride: *Emerg.: 0.9% saline (i.v.)	C
		Magnesium	Magnesium: 300-600 mg q.d. as Mag citrate	C
		Sodium	Sodium: *Emerg.: 100ml, 3% saline (i.v.)	C
Metformin Glucophage XL, Gluformin	Diabetes (biguanide) Hepatic glucose reducer	Folate	Folate: 5 mg q.d. for 8 weeks during metformin therapy	B
		Vitamin B12	Vitamin B12: 1000 mcg q.d. as sublingual methylcobalamin during metformin therapy	B
Metoprolol Lopressor, Toprol-XL	Blood pressure Beta-blocker	No significant depletions confirmed. See white paper for details.	n/a	n/a

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Omeprazole Prilosec, Zegerid	Acid reflux Proton pump inhibitor	Magnesium	Magnesium: 250-300 mg q.d. as Mag citrate	A
		Vitamin B12	Vitamin B12: 1000-2000 mcg q.d. as sublingual methylcobalamin	C
		Calcium	Calcium: 500-1000 mg elemental calcium t.i.d. from Ca carbonate or Ca citrate and up to 2000 mg t.i.d. as needed	C
		Iron	Iron: 105-210 mg elemental iron q.d. from ferrous sulfate, fumarate, or gluconate	C
Rosuvastatin Crestor	Cholesterol Statin	Coenzyme Q10	CoQ10: 50-200 mg q.d. ongoing with statin therapy	A
Sertraline Zoloft	Antidepressant Selective-serotonin reuptake inhibitors (SSRI)	Sodium	Sodium: *Emerg.: 100 ml (oral) or 3% saline (i.v.)	A
Simvastatin Zocor	Cholesterol Statin	Coenzyme Q10	Coenzyme Q10: 100-150 mg q.d as ubiquinol during 20 mg simvastatin treatment	A
		β-carotene	β-carotene: 30 mg q.d for 5 weeks	B
		Vitamin E	Vitamin E: 670mg (1000 IU) q.d as d-alpha tocopherol during 10-40 mg simvastatin	B
		Glutathione	Glutathione: 500-1000 mg liposomal GSH, or 150 mg t.i.d as sublingual GSH for 2-3 weeks	C

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