

Common drug-nutrient interactions and depletions

This table provides an overview of drug-nutrient interactions and depletions associated with common medications. It is not intended to be an exhaustive list. For more details on depletions and interactions, please refer to your source of interactions/depletions, Mytavin, or the Natural Medicines Comprehensive Database.

Disclaimer: These statements have not been evaluated by the Food and Drug Administration. The Fullscript Integrative Medical Advisory team has developed or collected this data to help healthcare providers make decisions. This content is for informational purposes only, is not intended to replace your professional judgment, and may not be appropriate for every patient or situation.

Category	Medication	Interactions		Depletions	
		Nutrient	Mechanism of action	Nutrient	Suggested form and typical dosing
Analgesics	Acetaminophen	Numerous botanicals	Interactions with liver metabolism enzymes (CYP2E1, CYP1A2) (Lee 1996) (Zaher 1998)	Glutathione (Kanno 2017)	N-acetylcysteine (NAC): 600–4,000 mg (Ghezzi 2018)
Antibacterials	Penicillin	N/A	N/A	Microflora (NIH 2023)	Probiotics: <i>Lactobacillus</i> and <i>Bifidobacterium</i> spp.: 400 million–120 billion CFU (Goodman 2021) <i>Saccharomyces boulardii</i>: 3–10 billion CFU (McFarland 2010) Given on day two of antibiotics, two hours away from antibiotics (Goodman 2021)
	Cephalosporin (cefalexin)	Zinc	↓ absorption at higher doses (50 mg) (Ding 2012)	Microflora (NIH 2023)	Probiotics: <i>Lactobacillus</i>, <i>Bifidobacterium</i> spp. and <i>Saccharomyces boulardii</i> (dosing same as above)
				Vitamin K (if on antibiotics for >10 days) (Jung 2022)	Vitamin K: 50–120 mcg (NIH 2021)

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Anticonvulsants	Gabapentin	THC and CBD	↓ symptoms of withdrawal (Kazantzis 2016)	Folate (Linnebank 2011)	Folic acid or methyl folate: 400–800 mcg per day (NIH 2023)
				Vitamin B12 (Linnebank 2011)	Methylcobalamin: 500–1,000 mcg per day (NIH 2024)
Anti-inflammatories	Prednisone (steroid)	N/A	N/A	Calcium (Jehle 2003)	Calcium citrate, malate, or microcrystalline calcium hydroxyapatite compound (MCHC): 500 mg 2–3 times per day (Jehle 2003)
				Potassium (McKay 2006)	Potassium citrate or bicarbonate: 10 –20 mEq per day* (Viera 2015) * Not over-the-counter dosing: Defer to the prescribing healthcare provider for monitoring.
				Vitamin D (Jehle 2003)	Vitamin D3: 400–1,000 IU per day (Jehle 2003)
Blood glucose regulators	Insulin glargine	Berberine	Influence on blood glucose (Zhang 2010)	Magnesium (Djurhuus 1995)	Magnesium glycinate: 300–400 mg per day (Zghoul, 2018)
	Metformin (hepatic glucose reducer)	Berberine	Influence on blood glucose (Zhang 2010)	Folate (Owen 2021)	Folic acid or methylfolate: 400–800 mcg per day (NIH 2023)
				Vitamin B12 (Strong 2016)	Methylcobalamin: 500–1,000 mcg per day (NIH 2024)
	GLP-1 receptor agonists	Berberine and chromium	Influence on blood glucose (Zhang 2010)	Vitamin B12 (Kani 2024)	Methylcobalamin: 500–1,000 mcg per day (NIH 2024)
				Zinc (Kani 2024)	Zinc citrate, bis-glycinate, or acetate (especially with ↓ stomach acid): 20–30 mg per day (mild), 40–50 mg per day (moderate-severe) for six months (NIH 2022)
Cardiovascular agents	Atenolol (beta-blocker)	N/A	N/A	Zinc (Braun 2012)	Zinc citrate, bis-glycinate, or acetate: 20–50 mg per day (moderate-severe) for six months (NIH 2022)
				Melatonin (Chang 2016)	Melatonin: 2–3 mg per day, one hour before bed (Carter 2012)
	Atorvastatin (statin)	Grapefruit	↑ serum levels of statin (CYP3A4) (Lilja 1999)	Coenzyme Q10 (CoQ10) (Pourmoghaddas 2014)	CoQ10 or ubiquinol: 100–200 mg per day (Pourmoghaddas 2014)
		St. John's wort	↑ low-density lipoprotein and total cholesterol (Andrén 2007)		
		Green tea extract	↓ absorption (OATP) (Abdelkawy 2020)		

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Cardiovascular agents (con't)	Furosemide (loop diuretic)	N/A	N/A	Potassium (Liang 2017)	Potassium citrate or bicarbonate: 10–20 mEq per day* (Viera 2015) * Not over-the-counter dosing: Defer to the prescribing healthcare provider for monitoring.
				Calcium (Oueslati 2022)	Calcium citrate or malate: 500 mg 2–3 times per day (NIH 2024)
				Magnesium (Kuller 1985)	Magnesium citrate or glycinate: 300–400 mg per day (Cohen 2003)
				B6 (pyridoxine) (Mydlik 1999)	Pyridoxine hydrochloride and P5P: 25–50 mg per day (NIH 2023)
				Vitamin C (Mydlik 1999)	Ascorbic acid or calcium-L-ascorbate: 200–500 mg (NIH 2021)
	Lisinopril (ACE inhibitor)	N/A	N/A	Zinc (Braun 2012)	Zinc citrate, bis-glycinate, or acetate: 20–50 mg per day, depending on the severity (NIH 2022)
	Losartan (angiotensin II receptor blocker)	N/A	N/A	Zinc (Braun 2012)	Zinc citrate, bis-glycinate, or acetate: 20–50 mg per day, depending on the severity (NIH 2022)
				Calcium (Burnier 1993)	Calcium citrate or malate: 500 mg 2–3 times per day (NIH 2024)
				Magnesium (Burnier 1993)	Magnesium citrate or glycinate: 250–300 mg per day (NIH 2022)
	Simvastatin (statin)	N/A	N/A	CoQ10 (Zaleski 2018)	CoQ10 or ubiquinol: 100–200 mg per day (Zaleski 2018)
				Beta-carotene (Vasankari 2004)	Beta-carotene: 30 mg per day for five weeks (IOM 2000)
				Vitamin E (Rasmussen 2016)	D-alpha tocopherol: 100–400 IU per day (NIH 2021)
Contraceptives	Sprintec®, Junel®, Apri® (combined oral contraceptive)	Grapefruit	Influences metabolism (CYP3A4) (Sunaga 2021)	Vitamins B2, B6, B9 (folate), and B12 (Shere 2015) (Palmerly 2013)	B-complex with riboflavin 5' phosphate: 5 mg (Berger 2022) Pyridoxine hydrochloride and P5P: 25–50 mg (NIH 2023) Folic acid or methyl folate: 400–800 mcg (NIH 2023) Methylcobalamin: 500–1,000 mcg (NIH 2024)

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Contraceptives (con't)	Sprintec®, Junel®, Apri® (combined oral contraceptive) (con't)	St. John's wort	↓ medication effect (Murphy 2005)	Vitamin C (Palmerly 2013)	Ascorbic acid or calcium-L-ascorbate: 200–500 mg (NIH 2021)
		DHEA	Influences estrogen and other hormones (Zhu 2021)	Vitamin E (Palmerly 2013)	D-alpha tocopherol: 100–400 IU per day (NIH 2021)
				Magnesium (Blinov 2017)	Magnesium citrate or glycinate: 250–300 mg per day (NIH 2022)
				Selenium (Palmerly 2013)	Selenium: 100 mcg (IOM 2000)
				Zinc (Palmerly 2013)	Zinc citrate, bis-glycinate, or acetate: 20–50 mg per day, depending on the severity (NIH 2022)
Gastrointestinal agents	Omeprazole, pantoprazole (proton pump inhibitors)	Grapefruit	Influences metabolism, ↑ drug levels (CYP3A4) (Tassaneeyakul 2000)	Vitamin C (Henry 2005)	Ascorbic acid or calcium-L-ascorbate: 200–500 mg (NIH 2021)
		St. John's wort	↑ metabolism (CYP2C19 and CYP3A4) (Wang 2004)	Vitamin B12 (Mumtaz 2022)	Methylcobalamin: 1,000 mcg per day (sublingual) (NIH 2024)
				Iron (Hamano 2020)	Ferrous bis-glycinate: 10–20 mg per day for prevention of deficiency (Gunning 2016) (NIH 2023)
				Zinc (Farrell 2011)	Zinc acetate: 20–50 mg per day, depending on the severity (NIH 2022) (Henderson 1995)
				Magnesium (FDA 2011) (Florentin 2012)	Magnesium glycinate: 250–300 mg per day (NIH 2022)
				Calcium (Mohn 2018)	Calcium citrate or malate: 500 mg three times per day (NIH 2024)
Hormonal agents	Synthetic thyroxine (levothyroxine, Synthroid®)	Vitamin C	↑ absorption (Skelin 2017)	N/A	N/A
		Calcium	↓ absorption (Skelin 2017)		
		Iron			
		Grapefruit	↓ absorption organic anion transport polypeptides (OATP) (Johnson 2017)		

All the evidence presented ranges between A–D levels of evidence based on Fullscript's [Rating Scale](#). This is not intended to be an exhaustive list but a guide for common interactions and depletions. For more details on depletions and interactions, please refer to your source of interactions/depletions, Mytavin, or the Natural Medicines Comprehensive Database. For more information on forms, please refer to the [Fullscript Ingredient library](#).

Class	Qualifying studies	Minimum requirements
A	Systematic review or meta-analysis of human trials	
B	Human RDBPC	≥ 2 studies and/or 1 study with ≥ 50 subjects
C	Human RDBPC or RCT	1 study with < 50 subjects
D	Human trials or in-vivo animal trials	
E	In-vivo studies	
F	Theoretical based on biochemistry/physiology/pharmacokinetics	

Last updated: June 2024