

# Medications and Their Potential Effect on Vitamin D

Medication	Type	Effect on Vitamin D
Metformin	Antidiabetic	May lower vitamin D levels, with other oral antidiabetic medications
Thiazolidinediones (TZDs)	Antidiabetic	Increases risk of bone loss, especially in women
Thiazide Diuretics	Diuretic	Potential increased risk of hypercalcemia
Loop Diuretics	Diuretic	Potential increased risk of hyperparathyroidism and increased conversion of 25(OH)D to 1,25(OH)2D
Potassium-Sparing Diuretics	Diuretic	Mixed findings
Calcium Channel Blockers	Cardiovascular	Increase risk of vitamin D deficiency
Angiotensin-Converting Enzyme (ACE) Inhibitors	Cardiovascular	May lower vitamin D levels
Statins	Cardiovascular	Mixed findings; some have shown increased vitamin D levels while others have found decreased levels with statin use
Bile Acid Sequestrants	Cardiovascular	May decrease vitamin D absorption, increase risk of osteomalacia at certain doses
Vitamin K Antagonists	Cardiovascular	May lower vitamin D levels
Platelet Aggregation Inhibitors	Cardiovascular	Mixed findings
Heparin	Cardiovascular	Negatively affects vitamin D metabolism, increases risk of osteoporotic fractures, especially seen with unfractionated heparin
Digoxin	Cardiovascular	Linked to lower vitamin D
Benzodiazepines	CNS	Linked to lower vitamin D
Antidepressants (SSRIs)	CNS	Linked to lower vitamin D
Enzyme-Inducing Antiepileptic Drugs (AEDs)	CNS	Linked to lower vitamin D and vitamin D deficiency
Newer Antiepileptic Drugs	CNS	Mixed findings; may lower bone mineral density and increase risk of fracture
Proton Pump Inhibitors (PPIs)	Gastrointestinal	May increased risk of osteoporosis; vitamin D and calcium supplementation recommended
Histamine H2-Receptor Antagonists	Gastrointestinal	May decrease vitamin D, mixed findings
Lipase Inhibitors	Gastrointestinal	May inhibit vitamin D uptake and absorption
Laxatives	Gastrointestinal	Reduce vitamin D absorption, may result in osteomalacia
Corticosteroids	Anti-Inflammatory	May reduce vitamin D levels, increase risk of osteoporosis
Inhaled Corticosteroids (ICS)	Anti-Inflammatory	Mixed findings; long term use may negatively impact bone metabolism and bone mineral density, especially in those with COPD
Hydroxychloroquine	Anti-Inflammatory	May increase vitamin D levels
Antimicrobials	Anti-infectives/Antivirals	May decrease vitamin D; increased risk of osteomalacia with prolonged use
Sulphonamides and Urea Derivatives	Anti-infectives/Antivirals	Lower vitamin D levels
Highly Active Antiretroviral Therapy (HAART)	Anti-infectives/Antivirals	Mixed findings, may lower vitamin D
Chemotherapeutic Agents	Cancer	May lower vitamin D levels; studies show vitamin D may enhance the effect of these therapies

CNS = Central Nervous System

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Wakeman et al., *Risk Manag Healthc Policy*, 2021.



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