

Drugs that Lower Magnesium Status

Drug Group (Drug Substance)	Mechanism/Effect
Aminoglycosides (e.g., gentamicin, tobramycin, amikacin)	increased renal magnesium loss, secondary hyperaldosteronism
Antimicrobial medication (Pentamidine)	increased renal magnesium loss
Antiviral medication (foscarnet)	nephrotoxicity, increased renal magnesium loss
Beta adrenergic agonists (e.g., Fenoterol, salbutamol, theophylline)	increased renal magnesium excretion, metabolic abnormalities (magnesium shift into cells)
Bisphosphonates (pamidronate)	renal impairment, magnesium excretion
Chemotherapeutic agents (e.g., amsacrine, cisplatin)	nephrotoxicity, cisplatin accumulates in renal cortex, increased renal magnesium loss
Immunosuppressants (cyclosporine, sirolimus)	2- to 3-fold increased urinary magnesium excretion (→ magnesium wasting)
Loop diuretics , esp. long-term use	increased renal magnesium loss, secondary (e.g., furosemide) hyperaldosteronism
Monoclonal antibody (e.g. cetuximab, panitumumab)	EGFR blockade in the nephron impairs the active transport of magnesium (→ magnesium wasting)
Polyene antifungals (amphotericin B)	nephrotoxicity
Proton pump inhibitors	loss of active magnesium absorption via transient receptor potential melastatin-6 and -7 (TRPM6/7)
Thiazide diuretics , esp. long-term use (e.g., hydrochlorothiazide)	increased renal magnesium loss, secondary hyperaldosteronism

Chart Date 8/7/2019

©2019 GrassrootsHealth

Gröber et al., Nutrients, 2015



GrassrootsHealth

Moving Research into Practice

www.grassrootshealth.net