

Magnesium may modestly lower blood pressure

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Magnesium, an essential element in the human body, may modestly lower blood pressure, according to research published in the American Heart Association's journal *Hypertension*.

Magnesium is found in whole grains, beans, nuts and [green leafy vegetables](#).

Researchers have long debated whether [magnesium](#) plays a role in regulating [blood pressure](#) with inconsistent and controversial evidence from studies in humans. This meta-analysis, however, collected data from 34 clinical trials, involving 2,028 participants, and found a small but significant association between magnesium intake and reduced blood pressure.

Researchers found:

- People receiving a median of 368 milligrams (mg) of magnesium a day for an average of three months had overall reductions in [systolic blood pressure](#) of 2.00 millimeters of mercury (mm Hg) and [diastolic blood pressure](#) of 1.78 mm Hg.
- Taking 300 mg/day of magnesium for just one month was enough to elevate blood magnesium levels and reduce blood pressure.
- High magnesium levels in the blood were linked to improvements in blood flow, another factor associated with lowered blood pressure.

The daily dosage of [magnesium supplements](#) in this study ranged from 240 to 960 mg, most of which (82 percent) were equal to or higher than the U.S. Recommended Dietary Allowance for adults (310 - 320 mg/day for women and 400 - 420 mg/day for men).

"With its relative safety and low cost, magnesium supplements could be considered as an option for lowering blood pressure in high-risk persons or hypertension patients," said Yiqing Song, M.D., Sc.D., lead author and associate professor in the department of epidemiology at the Richard M. Fairbanks School of Public Health at Indiana University.

However, American Heart Association spokesperson Penny Kris-Etherton, Ph.D., noted that magnesium supplements are not necessary.

"This study underscores the importance of consuming a healthy diet that provides the recommended amount of magnesium as a strategy for helping to control blood pressure," said Kris-Etherton, a distinguished professor of nutrition at the University of Pennsylvania. "Importantly, this amount of magnesium (368 mg/day) can be obtained from a healthy diet that is consistent with AHA dietary recommendations."

The meta-analysis is limited by the small size of most of the studies (ranging from 13 to 461 participants) and by high dropout rates. Those studies that were higher quality and maintained lower dropout rates and showed the greatest reductions in blood pressure. In addition, when the researchers examined sub-groups of people in the studies, they discovered that added magnesium may only reduce blood pressure in people with magnesium deficiency.

"Consistent with previous studies, our evidence suggests that the anti-hypertensive effect of magnesium might be only effective among people with [magnesium deficiency](#) or insufficiency," Song said. "Such suggestive evidence indicates that maintenance of optimal magnesium

status in the human body may help prevent or treat hypertension."

Provided by American Heart Association

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