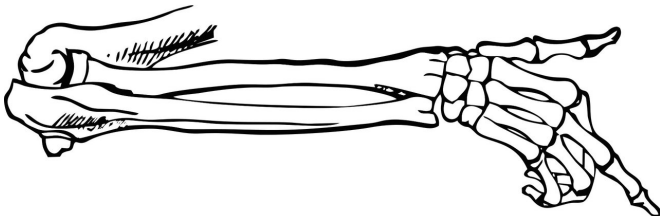


Trial questions benefits of organic nitrates for bone health

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Several clinical trials have reported beneficial effects of organic nitrates on bone health, which could lead to a reduced risk of fractures. Some of these trials have been retracted because of scientific misconduct; however. A new study published in the *Journal of Bone and Mineral Research* found that organic nitrates do not have clinically relevant effects on bone mineral density or bone turnover in postmenopausal women, and the medications caused significant side effects.

The study was a double-blind, randomized, placebo-controlled trial of three different nitrate preparations and two different doses in [postmenopausal women](#) with [bone loss](#). There were no differences in changes in bone mineral density or bone turnover markers between organic nitrate treatment and placebo.

The results call into question the validity of previous clinical research reporting large positive effects of nitrates on [bone health](#).

"Based on previous [clinical trials](#), we had high hopes that treatment with nitrates might be a safe and highly effective treatment for preventing age-related bone loss and fractures. We assessed several different doses and forms of nitrates and

our results show clearly that no preparation or dose had any effect on bone density or bone turnover, but they did cause significant side-effects for women," said lead author Mark Bolland, MBChB, Ph.D., of the University of Auckland, in New Zealand. "Sadly, this research area has recently had several studies with strongly positive results retracted because of scientific misconduct. We think our paper provides closure, with fairly definitive evidence that nitrates do not affect surrogate measures of bone health and thus there is no reason to think they would prevent fractures."

More information: Mark J Bolland et al, Nitrates Do Not Affect Bone Density or Bone Turnover in Postmenopausal Women: A Randomized Controlled Trial, *Journal of Bone and Mineral Research* (2020). [DOI: 10.1002/jbmr.3982](https://doi.org/10.1002/jbmr.3982)

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