

# Resveratrol boosts spinal bone density in men with metabolic syndrome

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Resveratrol, a natural compound found in red wine and grapes, increased spinal bone density in men with metabolic syndrome and could hold promise as a treatment for osteoporosis, according to a new study published in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism*.

Resveratrol is one of a group of plant compounds known as polyphenols. In addition to [red wine](#) and grapes, [resveratrol](#) is found in nuts. The compound has anti-inflammatory properties and has been found to protect against bone loss in mice and rats.

Danish researchers set out to investigate whether resveratrol could help men with metabolic syndrome, which has been linked to low-grade inflammation that can cause bone loss. Metabolic syndrome is a cluster of risk factors that raise the risk of developing heart disease, stroke and diabetes. Risk factors can include abdominal obesity, high levels of fats in the blood called triglycerides, elevated blood pressure, high fasting blood sugar and reduced high-density lipoprotein (HDL), or good, cholesterol levels.

"Our study is the first to reveal resveratrol's potential as an anti-[osteoporosis](#) drug in humans," said one of the study's authors, Marie Juul Ørnstrup, MD, of Aarhus University Hospital in Aarhus, Denmark. "Our findings suggest the compound stimulates bone-forming cells within the body."

The randomized, double-blinded, placebo-controlled trial assessed bone mineral density and signs of bone formation and resorption in 66 middle-aged men with [metabolic syndrome](#). For a 16-week period, the men took either a 500-miligram dose of resveratrol, a 75-miligram dose of the compound or a placebo twice a day.

Men who took the higher dose of resveratrol had a 2.6 percent increase in lumbar spine volumetric bone mineral density compared to men who had

taken the placebo. The high resveratrol group also had a 16 percent increase in levels of the bone formation marker bone alkaline phosphatase (BAP) compared to the control group.

"In just four months on high-dose resveratrol, we saw significant improvements in [bone mineral density](#) at the spine and elevated levels of the bone formation marker BAP," Ørnstrup said. "These are encouraging results. Additional research is needed to assess whether these bone protective effects occur in populations at risk of osteoporosis during the course of long-term treatment."

Provided by The Endocrine Society

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