

# Calcium, vitamin D modulate human energy metabolism

March 12 2012

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(HealthDay) -- There is considerable evidence that calcium and vitamin D intake are influential in modulating energy metabolism in humans, according to a study published online March 2 in *Obesity Reviews*.

Mario J. Soares, M.B.B.S., Ph.D., of Curtin University in Perth, Australia, and associates conducted a literature review of [randomized controlled trials](#) (RCTs) to explore the role of calcium and vitamin D in regulating body weight and adiposity.

The researchers found consistent evidence that calcium and vitamin D increase whole body fat oxidation after meals and that calcium induces modest [energy loss](#) through increased fecal fat excretion. Equivocal evidence exists for the association with increased diet-induced thermogenesis and lipolysis, suppression of lipogenic enzymes, and

decreased hunger ratings or energy/macronutrient intake. A potential improvement in [insulin sensitivity](#) has been suggested following vitamin D, which would impact food intake and substrate oxidation, but very few RCTs have explored postprandial routes of action.

"It is our opinion that calcium with or without [vitamin D](#) modulates human energy metabolism. The evidence is convincing that calcium increases fat oxidation after a single meal and over several meals of the day," the authors write. "While it is clear that nutrition and public health recommendations demand consistency of observation from a variety of study designs, the inclusion of mechanistic pathways in such investigations is essential in cementing the biological plausibility of the outcomes."

**More information:** [Abstract](#)  
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Citation: Calcium, vitamin D modulate human energy metabolism (2012, March 12) retrieved 24 April 2024 from  
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