

Intranasal insulin linked to reduced food intake

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(HealthDay) -- Intranasally administered insulin is associated with higher brain energy levels and reduced calorie intake, according to a study published online May 14 in *Diabetes*.

To examine whether intranasal insulin reduced food consumption by increasing neuroenergetic levels, Kamila Jauch-Chara, M.D., from the University of Luebeck in Germany, and colleagues intranasally administered insulin (40 IU) or a placebo (within subject comparison) to 15 young (22 to 28 years of age), healthy, normal-weight men after an overnight fast and then measured cerebral energy metabolism by [magnetic resonance spectroscopy](#). At 100 minutes after treatment, the men were allowed to eat freely from a test buffet.

The researchers found that intranasal insulin increased [brain energy](#), as determined by increased adenosine triphosphate and phosphocreatine levels, which was associated with a reduction in subsequent free-choice [calorie consumption](#). The authors note that, consistent with this, their previous study showed that higher cerebral energy content was associated with lower [body mass index](#).

"Brain energy levels may therefore constitute a predictive value for food intake," Jauch-Chara and colleagues conclude. "Given that the brain synchronizes food intake behavior in dependence of its current energetic status, a future challenge in obesity treatment may be to therapeutically influence cerebral energy homeostasis."

More information: [Abstract](#)
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