

# Sleeve gastrectomy linked to improved glycemia in mice

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(HealthDay)—Sleeve gastrectomy (SG) is associated with an

improvement in glycemia, via increased insulin sensitivity, according to a study published online Feb. 23 in *Diabetes*.

Samir Abu Gazala, M.D., from the Hebrew University-Hadassah Medical School in Jerusalem, Israel, and colleagues performed SG on obese and diabetic leptin receptor-deficient mice (*db/db*) to examine the molecular mechanisms underlying improved glycemic control following bariatric surgery.

The researchers found that, compared with sham-operated controls, mice weighed 5 percent less and displayed improved glycemia one week post-surgery; islets from SG mice exhibited reduced expression of diabetes markers. SG mice weighed more at one month post-surgery than preoperatively, but they remained near-euglycemic and exhibited reduced hepatic lipid droplets. Surgery, and not [weight loss](#), was responsible for reduced glycemia following SG as indicated in pair-feeding of SG and sham *db/db* mice. Indistinguishable insulin secretion profiles were identified in islets of sham and SG [mice](#), but SG caused an improvement in muscle and hepatic insulin sensitivity, which was accompanied by hepatic regulation of HNF4a and PPAR $\alpha$  targets.

"We conclude that long-term [weight](#) loss following SG requires leptin signaling," the authors write. "Nevertheless, SG elicits a remarkable improvement in glycemia via insulin sensitization, independent of reduced feeding and weight loss."

**More information:** [Abstract/Full Text \(subscription or payment may be required\)](#)

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