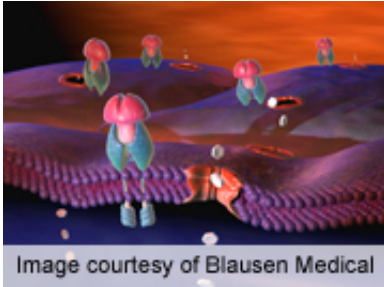


Decrease in fat cell volume improves insulin sensitivity

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(HealthDay)—For obese women, a reduction in fat cell volume after bariatric surgery is strongly associated with improvement in insulin sensitivity, with the peak incidence seen among older women, according to a study published online April 23 in *Diabetes Care*.

Daniel P. Andersson, from the Karolinska Institutet in Stockholm, and colleagues examined whether changes in [fat cell](#) volume and [fat mass](#) correlate with improvements in metabolic risk profile in a cohort of 62 [obese women](#) who underwent Roux-en-Y gastric bypass (RYGB). Fat cell volume and number were measured in abdominal subcutaneous adipose tissue before and after RYGB.

The researchers observed a 33 percent decrease in body weight with RYGB, which was accompanied by a decrease in the volume, but not number, of adipocytes. After RYGB, there was a decrease in fat mass in the measured regions and improvement in all metabolic parameters (P cell size and improved insulin sensitivity (P = 0.0057), but this correlation was not seen for regional changes in fat mass, except for weak associations between changes in visceral fat mass, insulin sensitivity, and triglycerides. After weight loss, there was an alteration in the curve-linear relationship between fat cell size and fat mass (P =

0.03).

"An altered relationship between adipocyte size and fat mass may be important for improving insulin sensitivity after weight loss," the authors write. "Fat cell size reduction could constitute a target to improve [insulin sensitivity](#)."

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More information: [Abstract](#)
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