

Endoscopic procedure burns stomach lining to reduce 'hunger hormone' and lead to weight loss

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A new weight-loss treatment could be on the horizon with an innovative

endoscopic procedure that ablates (burns) the stomach lining to reduce production of ghrelin, a hormone that triggers hunger, resulting in decreased appetite and significant weight loss, according to a first-in-human trial to be presented at [Digestive Disease Week](#) (DDW) 2024.

The six-month trial involving 10 [female patients](#) with [obesity](#) resulted in a 7.7% loss of body weight and a reduction of more than 40% in fasting [ghrelin](#) levels. Patients reported through validated questionnaires that their hunger was diminished by more than a third. The procedure also caused a 42% reduction in stomach capacity, according to a standard drink test.

"Obesity is chronic, lifelong disease that is predicted to affect nearly half of the U.S. population by 2030. Its effect on overall health, quality of life, and global health care costs is massive, and we need as many [treatment options](#) as possible," said lead author Christopher McGowan, MD, a gastroenterologist and medical director of True You Weight Loss, a physician-owned clinic based in North Carolina.

"This relatively brief, outpatient, non-surgical procedure can facilitate weight loss and significantly curb hunger, and it could be an additional option for patients who don't want or aren't eligible for anti-obesity medications, such as Wegovy and Ozempic, or bariatric surgery."

The procedure, an endoscopic mucosal ablation, targets ghrelin, the primary hunger hormone that controls appetite, by altering the lining of the stomach where the hormone is produced.

The ablation begins when an endoscopist inserts fluid to protect underlying stomach tissues and then uses a tiny device to ablate—or burn—the mucosal lining of the upper portion of the stomach, known as the gastric fundus. Feelings of hunger originate in the gastric fundus when the chamber empties, leading to increased production of ghrelin.

Hunger subsides as the gastric fundus fills with food and ghrelin production dips. Mucosal ablation reduces the number of ghrelin-producing cells.

"Obesity and weight are very complex and regulated by multiple hormone pathways. This procedure alters one of these many pathways that make it difficult for people to lose weight and maintain weight loss," McGowan said. Levels of ghrelin are typically higher in patients with obesity and rise when people lose weight for any reason, making it hard to maintain weight loss.

Previously, the only proven method of reducing ghrelin was to surgically remove or bypass the gastric fundus. There is currently no pharmacologic method of reducing ghrelin. Newer anti-obesity medications, like Ozempic and Wegovy, employ a different hormonal pathway—GLP-1.

If the procedure is proven effective over longer periods of time and in larger trials, it could complement endoscopic sleeve gastrectomy, a non-surgical [weight-loss](#) procedure that reduces the size of the stomach, or it could potentially be offered as a one-time procedure that replaces or complements other treatments, McGowan said.

"This is just the beginning. The first question was whether we can endoscopically reduce hunger and ghrelin. The answer is: yes, we can."

Dr. McGowan will present data from the study, "Endoscopic ablation of the gastric fundus in adults with obesity: A first-in-human study," abstract 516, on Sunday, May 19, at 2:32 p.m. EDT.

Provided by Digestive Disease Week

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