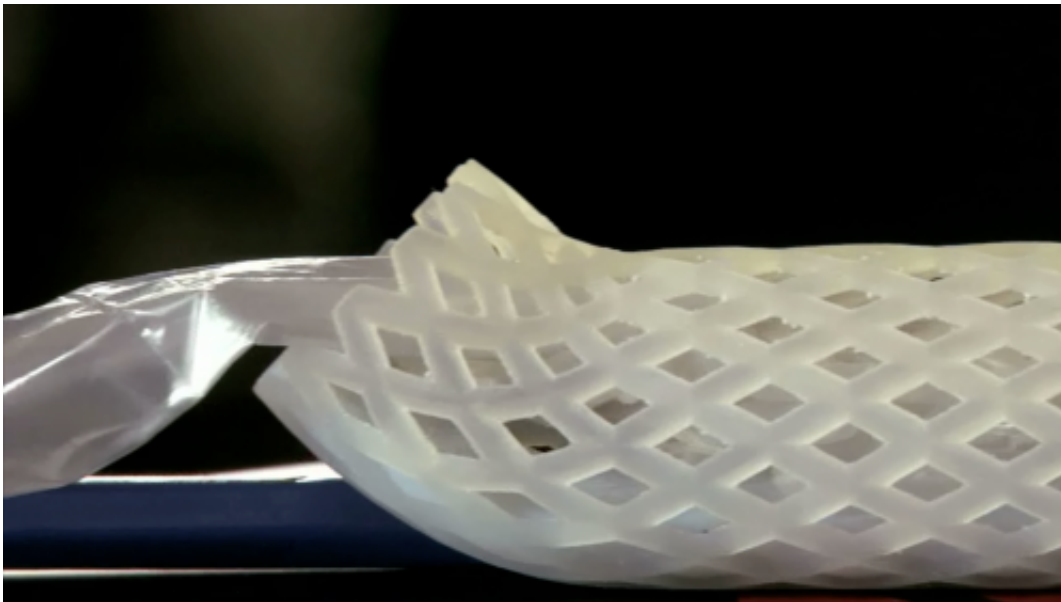


Curvy plastic tube fights obesity, no surgery required

August 28 2013



No general anesthesia, no incisions, no tissue damage: Students in the Biodesign program of the Hebrew University of Jerusalem and Hadassah Medical Center designed a new type of gastric sleeve to block food absorption and fight obesity. Credit: Hebrew University of Jerusalem

The rapidly growing obesity epidemic and its complications are estimated to cost the American economy over \$140 billion annually due to loss of productivity and medical complications. Attempts to solve this problem using weight loss programs have thus far failed due to low compliance.

To solve this problem, students at the Hebrew University of Jerusalem's Biodesign program developed a new type of gastric sleeve, called MetaboShield (see video). The endoscopic insertion of the sleeve requires no general anesthesia, no incisions and no tissue damage. "The idea was to follow the shape of the duodenum, a curved structure at the beginning of the intestine," said Dr. Ishay Benuri-Silbiger, a pediatric gastroenterologist at Hadassah Medical Center, and the group clinical expert. The natural C-shape anatomy of this region helps keep the sleeve in place, blocking food absorption without damaging the intestine.

The group believes that this new endoscopic procedure would appeal to millions of obese individuals who are worried about the complication of current gastric bypass procedures. "This is a huge untapped market," said Yair Timna, an MBA student leading the project's business development.

Other students in the group include Dr. Elad Spitzer, an orthopedic surgeon in Hadassah Medical Center, Gabi Menagen, an MBA student, and Esther Feldblum, an engineering student.

Biodesign is a multi-disciplinary, team-based approach to medical innovation, created by the Hebrew University of Jerusalem and Hadassah Medical Center in partnership with Stanford University. The program takes outstanding medical fellows, bioengineering and business graduate students, and tutors them in the science and practice of bringing a medical innovation to the market. The program is directed by Dr. Yaakov Nahmias, head of the Bioengineering program at the Hebrew University, and Prof. Chaim Lotan, director of the Heart Institute at Hadassah Medical Center.

Other teachers include Prof. Dan Galai, Dr. Niron Hashai, and Dr. David Planer.

Provided by Hebrew University of Jerusalem

Citation: Curvy plastic tube fights obesity, no surgery required (2013, August 28) retrieved 11 May 2024 from <https://medicalxpress.com/news/2013-08-curvy-plastic-tube-obesity-surgery.html>

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