

# Gastric Banding Improves Teens' Metabolic Profiles

BY MICHELE G. SULLIVAN  
Mid-Atlantic Bureau

SAN FRANCISCO — At 6 months after undergoing laparoscopic adjustable gastric banding, a small group of morbidly obese teenagers showed significant improvements in risk factors associated with the development of cardiovascular disease and diabetes, according to study findings.

Although the study included just 14 teens, it shows the potential of gastric banding in improving the metabolic profiles of young patients who are at risk for developing weight-related heart disorders, Dr. Ilene Fennoy reported in a poster presented at the annual meeting of the Endocrine Society.

The findings also may shed light on the causes of weight gain, said Dr. Fennoy, medical director of the comprehensive adolescent bariatric surgery program at New York–Presbyterian Hospital.

These initial data suggest that gastric banding “could be not only a weight-loss surgery, but a ‘metabolic surgery.’ We hope in the future to better understand changes in other markers, such as adipocytokines and gut peptides, that cause weight gain. Ultimately, we hope to use these data to design a preventive approach to obesity in the periadolescent population.”

The study included 14 patients (mean age, 16 years; 6 males, 8 females). The group included five white teens, one black,

five Hispanics, and three of other racial/ethnic origins. They all were morbidly obese, with a mean initial weight of 152 kg, and a mean initial body mass index of 53 kg/m<sup>2</sup>.

All patients underwent laparoscopic adjustable gastric banding between April 2006 and April 2008; they were followed for 6 months. At 6 months, the mean weight loss was 20 pounds (9 kg), a significant difference. The mean BMI decreased from 53 to 47, which was also a significant reduction.

The patients also showed significant improvements in the following risk factors for cardiovascular disease and diabetes. The mean waist circumference decreased

from 145 cm to 132 cm. Liver function tests improved, with alanine aminotransferase decreasing from 35 to 24 IU/L, and aspartate aminotransferase from 27 to 23 IU/L. Glycosylated hemoglobin (HbA<sub>1c</sub>) decreased from a mean of 5.6% to a mean of 5.5%. C-reactive protein improved, dropping from 9 to 6 mg/L, as did triglycerides, falling from 129 to 95 mg/dL.

In some patients, insulin resistance as measured by the homeostasis model assessment (HOMA-IR) and the percentage of  $\beta$ -cell secretory capacity also improved, Dr. Fennoy noted. These changes were most pronounced in the teens who lost the most weight, and decreased as the weight loss became less. ■

## Comorbidities Resolve After Gastric Banding

BY JEFF EVANS  
Senior Writer

OXON HILL, MD. — Obesity-related comorbidities are likely to improve or resolve in patients who undergo laparoscopic adjustable gastric banding after losing 20%-50% of their excess weight, according to a prospective study of patients with body mass indexes of 30-40 kg/m<sup>2</sup>.

The results indicate that even when less than 50% of excess weight is shed—which is often considered to be the cutoff for treatment failure—beneficial effects begin to occur, Samuel Sultan said at the annual meeting of the American Society for Metabolic and Bariatric Surgery.

Mr. Sultan and his coinvestigators in the department of surgery at New York University followed 50 patients for 2 years to determine the minimum percentage of excess weight loss that would provide the maximum probability of resolving or improving obesity-related comorbidities. Each patient had to have a history of obesity for at least 5 years as well as a history of failed attempts to lose weight by traditional methods.

All but one of the patients received the 9.5-cm band in the Lap-Band System. The patients' mean age was 47 years (ranging from 18 to 60 years), and most (96%) were women. The mean volume of saline added at each adjustment was 1.9 mL, according to Mr. Sultan, a medical student at the university.

After 2 years of prospective follow-up, losses of 20%-50% of excess weight provided the greatest probability of resolving or improving a variety of obesity-related comorbidities (see chart). At 2 years, 80% of all comorbidities had improved or resolved.

The patients' mean percentage of excess weight lost at 6 months was 41%, followed by 59% at 1 year and 61% at 2 years. Their body mass index dropped from a mean of 35 to 27 kg/m<sup>2</sup> at 2 years.

Allergan Inc., which makes the Lap-Band System, funded the study. Some of the investigators have received honoraria for teaching and being on an advisory committee for Allergan. ■

### Recommended Excess Weight Loss to Resolve Comorbidities

Comorbidity	Recommended Excess Weight Loss
Type 2 diabetes	20%-30%
Obstructive sleep apnea	50%
Hypertension	40%-50%
Dyslipidemia	30%-40%

Notes: Recommendations based on a 2-year follow-up of 50 obese patients who underwent gastric banding. In 73%-88% of patients who achieved recommended weight loss, comorbidities were resolved.

Source: Mr. Sultan

ELSEVIER GLOBAL MEDICAL NEWS

## Family Physician's Program Takes Bite Out of the Childhood Obesity Epidemic

BY BRUCE JANCIN  
Denver Bureau

ESTES PARK, COLO. — Family physicians can make a difference in the childhood obesity epidemic by using a simple, family-centered program that is created with their busy office practice schedules in mind.

The 8-week family fitness plan is an intervention that encourages families to choose from evidence-based activity and nutritional options, Dr. Walter L. Larimore said at the annual conference of the Colorado Academy of Family Physicians. The emphasis is on self-guided, small-step behavioral changes toward a healthier lifestyle, rather than on weight or body mass index. Nevertheless, clinical trials evaluating the plan have documented improvements in BMI, waist circumference, and blood pressure in obese and at-risk children, said Dr. Larimore, a Monument, Colo., family physician and medical journalist.



The family fitness plan suggests 8 weeks' worth of options in six categories: family projects, activities, mealtimes at home, nutrition, rest, and media. Families are encouraged to select one option to work on from each category every week. For example, under the media heading in week 1, a family might choose to limit the child's total television, computer, video game, and cell phone time to less than 4 hours a day. The media options in week 2 include having the family try one TV-free night a week.

The family fitness assessment tool is a quick quiz consisting of three sections—the nutrition and activity sections, each with 10 questions, and a BMI section, with 4 questions. Each of the three sections receives a score of A, B, C, D, or F. If any family member scores anything other than an A in any of the sections and the family is interested in reducing the risks for obesity, Dr. Larimore suggests trying the 8-week plan.

“We do not mind giving kids and families an F. We do not mind labeling this disease. In this we go against the American Academy of Pediatrics' recommendation that kids not be labeled as obese, that it's pejorative. We say it's potentially lifesaving to label that disorder,” he explained.

Typically, Dr. Larimore has an assistant explain the assessment tool, give it to the parent to fill out at home, and schedule a follow-up visit to discuss the results and introduce the 8-week plan.

A second follow-up visit is set up after the 8-week program is completed. If the child's BMI and blood pressure percentiles are not improved, then the slightly more intensive level-2 8-week plan is assigned. If the child's BMI and blood pressure percentiles are not normalized at the third follow-up visit, upon completion of the level-2 plan, Dr. Larimore

**The emphasis is on self-guided, small-step behavioral changes toward a healthier lifestyle.**

DR. LARIMORE

In an uncontrolled pilot study of the 8-week fitness plan supported by a grant from Florida Hospital in Orlando, the preintervention prevalence of borderline or high blood pressure in 60 children aged 4-12 years was 30%. After the 8-week program, the rate dropped to 13%, a reduction of 57%. At the same time, the proportion of children falling within the 6th-74th BMI percentile, defined as normal, rose from 27% to 37%, for a 37% improvement, according to Dr. Larimore.

Two simple steps that all family physicians can take to tackle the childhood obesity epidemic are to routinely record a BMI percentile as well as systolic and diastolic blood pressure for height percentiles on each child at every office visit, he said.

“If a child is in the 85th-94th BMI percentile, label it. Don't be scared to say, ‘This is overweight, it's a vital sign about which I have concern,’” he continued. Similarly, if a child is in the 90th-94th blood pressure percentile, label it pre-high blood pressure if based on one measurement and prehypertension if based on three.

And then react: Recommend the 8-week fitness plan or another intervention, Dr. Larimore urged.

The 8-week fitness plan and the accompanying fitness assessment tools are available as appendices to the book “SuperSized Kids,” which Dr. Larimore coauthored. The tools and the level-2 8-week plan are also available on the Web sites, [www.drwalt.com](http://www.drwalt.com) and [www.supersizedkids.com](http://www.supersizedkids.com). ■