

# First Gastric-Banding Trial for Obese Teens Begins

BY SHERRY BOSCHERT  
San Francisco Bureau

SALT LAKE CITY — Recruitment is underway for participants in the first U.S. study of laparoscopic adjustable banding for obese adolescents, Dr. Ai-Xuan Le Holterman said in a poster presentation at the annual meeting of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition.

Early data on the off-label use of the procedure for obese adolescents in the United States are the basis for the study protocol, which will recruit 50 patients and follow them for 5 years after the surgery. Ten adolescents have enrolled so far, and it may take 3 years before enrollment is complete because of the study's strict protocol, Dr. Holterman said.

The surgery seemed as effective in 10 adolescents as in 506 U.S. adults, said Dr. Holterman of the University of Illinois at Chicago. The adult data were drawn from patients who received laparoscopic adjustable gastric banding at the University of Illinois as part of the clinical trial that led to Food and Drug Administration approval in 2001 of the LAP-BAND device.

Dr. Holterman and her associates found that the surgery required 55 minutes in adolescents and 66 minutes in adults. Hospitalizations lasted 12 and 22 days, respectively. On average, body mass index (BMI) for adolescents fell from 49 kg/m<sup>2</sup> before surgery to 34 at 18 months post surgery, with an estimated 57% weight loss at that follow-up, she reported. In adults, the average BMI fell from 47 before surgery to 37 at the 18-month follow-up, with an estimated 39% weight loss.

The adolescents had a much higher complication rate, however, with three patients (30%) developing pouch enlargement, compared with 11% of adults. The

pouch enlargement required reoperation to reposition or replace the band in two adolescents (20%) and 2% of adults. More than 90% of pouch enlargements can be treated with band deflation, so the higher reoperation rate in adolescents probably reflects a delay in diagnosis of the complication.

Drawing on the results of their review, the investigators designed the trial's protocol to include closer and more frequent follow-up of the adolescents than is called for by adult protocols. So far, none of the adolescent patients enrolled in the trial have developed pouch enlargement.

In gastric bypass surgery, gastric stapling restricts food intake, and an intestinal bypass adds malabsorption to promote weight loss. In laparoscopic gastric banding, surgeons place an adjustable silicone band that induces weight loss

by creating a small proximal gastric pouch. The outlet of the pouch is adjusted by controlling the lumen of the band through an inflatable reservoir accessed via a subcutaneous port.

"We encourage people to consider this before bypass because this is reversible and can be tailored to the changing lifestyle of the patient," Dr. Holterman said. If the patient gets pregnant or ill and needs to eat more or needs more fluid, "we can adjust the band to accommodate for that." The impermanence of adjustable gastric bands is a drawback in the eyes of Dr. Michael Helmrath, a pediatric surgeon at Texas

DR. HOLTERMAN

Children's Hospital, Houston. Experience in adults shows that the bands break in a few patients each year, necessitating replacement.

"You're dealing with a problem that is lifelong. There isn't an implantable device that's going to last the lifetime of a patient," he said in an interview. Dr. Helmrath prefers to perform gastric bypass surgery for morbidly obese patients who fail other therapies.

Gastric bypass surgery, however, has taken a hit from two recent studies showing higher than expected rates of death and complications in some adults. In one large study, 40% of patients were readmitted to the hospital one or more times during the 3 years after gastric bypass, double their hospitalization rate in the 3 years before the surgery (JAMA 2005;294:1918-24). Another study found that 5% of Medicare patients receiving gastric bypass died within 30 days, more than double the death rates seen with other surgical procedures commonly performed on the elderly (JAMA 2005;294:1903-8). ■



**We encourage people to consider banding before bypass because it is reversible and can be tailored to lifestyle changes.**



Plain anteroposterior radiograph shows the LAP-BAND device before adjustment.



Postoperative esophagogram with adjustment shows the LAP-BAND device in the proper position.

PHOTOS COURTESY DR. AI-XUAN LE HOLTERMAN

## Prenatal Factors Set Up Trend Toward Childhood Overweight

BY MICHELE G. SULLIVAN  
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Factors such as race, maternal prepregnancy weight, and smoking during pregnancy all exert a significant, long-lasting influence on childhood weight by creating an early tendency for a child to become overweight, which carries forward as the child ages.

Findings from the investigation led by Pamela J. Salsberry, Ph.D., and Patricia B. Reagan, Ph.D., suggest that prepregnancy maternal counseling to lose weight and stop smoking, as well as aggressive action to help even young children lose weight, could help prevent childhood obesity (Pediatrics 2005;116:1329-38).

In addition, certain factors may help "to identify children who are at high risk for the development of overweight at very young ages, thus providing an opportunity to target intensive preventive strategies before the establishment of an unhealthy weight pattern," wrote Dr. Salsberry and Dr. Reagan of Ohio State University, Columbus.

The investigators examined weight trends in 3,022 children, from age 2 years up to nearly 8 years. They also looked at the influence of conditions that might affect weight, including race, maternal prepregnancy weight, maternal smoking, and breastfeeding. The participants weighed in for the study at the mean ages of 3, 5, and 7 years.

At each of the three weigh-ins, black and Hispanic children were more likely to be overweight than white children, although the percentage of children who were overweight decreased in all race groups as the children aged.

There were no significant differences between boys and girls in their risk of being overweight.

A history of breastfeeding was associated with a significant reduction in the risk of being overweight, especially at the first weigh-in (19% decreased risk).

Children whose mothers were underweight before pregnancy had a decreased risk of becoming overweight, an effect that grew more significant as they aged.

Conversely, children whose mothers

Factors Affecting Childhood Weight, by Age (odds ratios)			
Child Factors	3 years	5 years	7 years
Black	1.61	1.57	1.73
Hispanic	1.65	1.43	1.64
Breastfeeding	0.81	0.90	0.94
Overweight at age 3		2.70	
Overweight at age 5			16.47
<b>Maternal Factors</b>			
Smoking during pregnancy	1.37	1.43	1.74
Prepregnancy underweight	0.97	0.75	0.63
Prepregnancy overweight	1.04	1.40	2.11
Prepregnancy obesity	1.37	1.69	2.91

Source: Pediatrics

were obese before pregnancy were almost three times more likely to become overweight by the last weigh-in than were children of normal-weight mothers.

Children who were overweight at the first weigh-in were more likely to be in-

creasingly overweight later on. Children who were overweight at the second weigh-in were more than 16 times more likely to be overweight at the last weigh-in, compared with those who were not overweight at the second weigh-in. ■