

Mariah Watts

Bariatric Surgery—Weighing the Pros and Cons



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By the time she was 16 years old, Mariah Watts was five-feet eight-inches tall, suffered from sleep apnea, had pre-diabetes—and weighed over 350 pounds. In addition to being unable to breathe well while sleeping (sleep apnea) and facing a high risk for type 2 diabetes, she also had a difficult time with many ordinary activities, such as sitting in seats at school. “I was always so self-conscious,” says the now 17-year-old who struggled with being overweight for many years, as well as with some of the serious health conditions that accompany obesity. “I wouldn’t wish this on anybody,” she says.

In January, 2008, Mariah underwent bariatric surgery, an operation that promotes weight loss. Seven months later, Mariah was down to 234 pounds, no longer had trouble breathing or sleeping, and no longer had pre-diabetes. Both she and her family are delighted with these results. “The surgery has changed Mariah’s attitude and given her a whole new lease on life,” says her mother, Mazie.

Although bariatric surgery can have dramatic health benefits, researchers caution that it also carries substantial risks.

Today, Mariah is voluntarily participating in the Teen Longitudinal Assessment of Bariatric Surgery, Teen-LABS, an observational study supported by the NIDDK to help determine if bariatric surgery is an appropriate treatment option for extremely overweight teens. Mariah enrolled in the study just before her surgery, enabling researchers to assess her health and quality of life in great detail both before and after the surgery, for comparison. Teen-LABS is being conducted at several medical centers in the U.S. and is led by Dr. Thomas Inge, a pediatric surgeon at the Cincinnati Children’s Hospital Medical Center.

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Although bariatric surgery is not a common procedure in adolescents, its use has been increasing in clinical practice as a treatment for very severe obesity in this age group. Thus, the NIDDK is supporting the Teen-LABS study to collect health outcome data on adolescents who were already planning to have bariatric surgery, so as to evaluate its risks and benefits. (NIDDK does not pay for the surgery.) With these data, future adolescent patients, their parents, and health care teams will be able to make more informed, evidence-based decisions.

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Bariatric Surgery and Adolescents

Bariatric surgery promotes substantial weight loss by restricting food intake and, in some cases, decreasing the amount of calories and nutrients the body absorbs. This surgery can also reduce the risk for—and in some cases even reverse—type 2 diabetes, a devastating disease.

However, the surgery also comes with substantial risks. Early complications may include bleeding, infection, leaks from the site where the intestines are sewn together (in certain operations), and blood clots in the legs that can progress to the lungs and heart. Later complications may include malnutrition, especially in patients who do not take their prescribed vitamins and minerals, hernias, and other health problems.

Teen-LABS, an observational study supported by the NIDDK, enrolls teens who are already planning to have bariatric surgery. The study collects health outcome data so that future adolescent patients, their parents, and health care teams will be able to make more informed, evidence-based decisions.

Therefore, recommended criteria for accepting an adolescent as a candidate for bariatric surgery are more stringent than for adults. Teens considered for this surgery have extreme obesity (as defined by body mass index, a measure of weight relative to height). Many of the adolescents who have enrolled in Teen-LABS so far have weighed 300 or 400 pounds, or more. Additionally, the teens who are candidates for this surgery have serious weight-related health problems, such as sleep apnea, type 2 diabetes, or other conditions. Furthermore, they must have tried other approaches to lose weight, without success.

In addition, experts recommend that potential adolescent patients and their parents should be

evaluated to see whether they are emotionally prepared for the operation and the lifestyle changes they will need to make. A teen must be motivated and have strong family support, because the fact is bariatric surgery is not an easy way out to control weight. Even after surgery, patients will have to continue follow-up with health care professionals throughout their lives—and they will need to maintain a lifetime of healthy habits, including eating less food and exercising regularly.

Mariah says she is committed to making those life-long changes.

A Family Decision

A number of factors contribute to obesity. These include environmental and behavioral factors as well as genetic susceptibility. In Mariah's case, as in most obese individuals, the exact contribution of each is not known. "My father, his sisters and their children are all big people," says Mariah's mother. In addition, she says Mariah struggled with eating as a child. "I ate constantly," adds Mariah. "I'd get full and 30 minutes later would want to eat again."

By age 11, Mariah weighed between 230 and 250 pounds and started dieting. She went to nutritionists and tried different types of diets. But nothing seemed to work. As time passed, Mazie observed her daughter becoming increasingly depressed and lethargic. "I started taking her to doctors and dieticians," says Mazie. "It was painful to watch her go through all of this."

Finally, as a last resort, Mazie encouraged her daughter to consider bariatric surgery. Mariah, desperate to lose weight, was agreeable to the idea—and did her homework. Mariah researched the procedure so thoroughly over the internet "that I could have done the surgery myself," she adds with a smile.

There are several types of bariatric surgery. Mariah underwent the Roux-en-Y gastric bypass version.

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This surgery limits Mariah's food intake because it reduced her stomach to the size of a small pouch. It also decreases the absorption of calories and nutrients by preventing food from contacting most of the stomach and the upper part of her small intestine. The surgery changes the digestive tract so that food is routed directly from the small stomach pouch to a lower part of the small intestine.

According to Mariah, the worst thing about having had the surgery is the fact that she sometimes will eat more than her post-surgery digestive tract can handle, leaving her feeling weak, dizzy, and sweaty. "It's horrible. It feels like you're dying," she says, adding that the feeling lasts for about 25 or 30 minutes. She also adds that she's been learning how to restrict her eating habits further. "When I go to a restaurant now, I know what to eat and what not to eat," says Mariah. And in general, she says she's eating much healthier.

As a result, she has much more energy than she had before. "Before the surgery I used to come home from school, lay around, sleep or watch TV," says Mariah. "Now I find something physical to do every day. My little sister likes when I jump on the trampoline with her. This summer I swam in the family pool all the time and really enjoyed it. And when my friends come over, we go for walks; stuff I didn't do before."

"Mariah is an entirely different person," says her mother. "She's dating for the first time. Life is just more normal. I just see so much joy in her."

Participating in the Teen-LABS Study

Shortly after Mariah and her parents decided to go forward with the surgery, Mariah's parents encouraged her to take part in the Teen-LABS study. "The study was something new to us," says Mazie. "We had never experienced anything like this, but we thought it was important for us to get involved so

that other parents and their teenage children could make more informed decisions about whether or not to have this type of surgery." Mariah agrees.

"... We thought it was important for us to get involved [in the Teen-LABS study] so that other parents and their teenage children could make more informed decisions about whether or not to have this type of surgery."

The Teen-LABS study began in 2007 and is based on the related LABS study, which is assessing risks and benefits of bariatric surgery in adults and is also supported by NIDDK. Over the span of 5 years, Teen-LABS will collect data on teens like Mariah, who had bariatric surgery as adolescents, and will compare this information with data from adult participants in the LABS study who had bariatric surgery as adults, after having been obese since their teen years. Teen-LABS and LABS researchers are collecting information on the pre-operative and 2-year post-operative status of adolescent and adult participants, including measuring body composition, body fat, cardiovascular disease risks, sleep apnea episodes, diabetes indicators, depressive symptoms, quality of life, eating habits, and nutritional status. Additionally, the investigators are storing serum and plasma (components of blood), urine, and genetic samples for future studies.

What would Mariah tell other teens and their families who are considering bariatric surgery? "They need to do their homework first," she says. This homework will become more informative in the future with new data, thanks to her participation in Teen-LABS, along with the other study volunteers. "And," Mariah adds, "they need to commit to eating better and exercising more."

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For additional information about bariatric surgery:

Bariatric Surgery for Severe Obesity (NIDDK publication)—

<http://win.niddk.nih.gov/publications/gastric.htm>

For more information on the Teen-LABS study—

<http://www.cincinnatichildrens.org/research/project/teen-labs>

As part of its multifaceted research portfolio on the causes, prevention, and treatment of obesity, the NIDDK additionally encourages research to understand how bariatric surgery has its effects. Certain bariatric surgical procedures are associated with remission of diabetes soon after surgery, even before substantial weight loss has occurred. Through increased understanding of potential mechanisms by which alterations in the gut reduce risk for or ameliorate type 2 diabetes in obese individuals, researchers may be able to improve surgical and nonsurgical therapies for obesity-related health conditions.