Understanding Outcomes in Adolescent Bariatric Surgery

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We live in an era of evidence-based medicine. Doctors are expected to be knowledgeable about the relative risks and benefits of different treatment options and to share that information with patients as part of their treatment decision-making. For an invasive procedure such as major surgery, both doctors and patients must consider a host of medical and psychological risks. Before patients agree to undergo an elective surgery, they may be asking themselves a number of questions, including, “Is this treatment right for me?” and “Will life be better afterwards—or worse?”

Adolescents considering bariatric surgery are unable to answer these questions with the current evidence, because that evidence is inadequate. There are few longitudinal outcomes data. Moreover, patient-centered outcomes data that could inform clinicians and their young patients about adolescent experiences of surgery are missing from the clinical literature. The absence of these data means that surgical teams are treating severely obese adolescents with procedures that were developed and standardized with adults, without knowing the long-term impact on these patients’ lives. As a result, adolescents and their parents must take a giant leap of faith in their decision-making without knowing whether surgery will lead to permanent weight loss or to regain of weight and complications that have to be managed.

This evidence gap matters because bariatric surgery could play a major role in treating severely obese adolescents who cannot lose weight. Although the growth rate of obesity in US children and adolescents has been leveling off since 2008, severe obesity is on the rise. Nearly 1 in 10 children and adolescents is severely obese, with a BMI of ≥35. The prevalence of the most severe class of obesity, Class 3 obesity, defined as a BMI that is ≥140% higher than the 95th percentile (BMI of ≥40), doubled between 1999 and 2012. These rates mean that nearly 6 million children and adolescents in this country are carrying enormous fat reserves on their rapidly developing bodies during a critical period of their physical and psychological development.

Adolescents with severe obesity are at elevated risk of developing adult conditions, including type 2 diabetes, obstructive sleep apnea, high blood pressure, joint problems, and nonalcoholic fatty liver disease. These conditions place adolescents at increased risk of developing chronic health
problems early in life. Nonalcoholic fatty liver disease, for example, is now the leading cause of liver failure in adolescents.5

We know that long-term, structural changes to our society are needed to halt the rise of severe obesity in adolescents. But although posting calorie counts on cafeteria menus and banning soft drinks from schools may be important tools to curb obesity, adolescents who have become very obese and have developed ≥1 of these comorbidities may need immediate treatment. When a 17-year-old with a BMI of 50 has trouble breathing in his sleep every night, his pediatrician is not going to wait for public health interventions to take effect. She is going to treat him now.

Bariatric surgery is endorsed by medical, surgical, and public health organizations as an effective intervention for weight loss in adolescents with a BMI of ≥35 with serious comorbidities, or a BMI of ≥40 with less severe comorbidities. Not surprisingly, the surgical community makes the strongest claims for its benefits and necessity, arguing that conventional weight loss efforts fail, and severely obese adolescents should have surgery before they become adults.5

In truth, adolescents in nonsurgical weight loss programs can lose weight, which can improve related health problems, such as type 2 diabetes. But their weight loss tends to be modest, and they often regain the lost weight. In contrast, short-term data show that adolescents who undergo bariatric surgery lose significant weight within 1 year, and many comorbidities improve or resolve.1 They have few short-term complications, and their risk of death is low.5,6

Yet bariatric surgery for adolescents remains controversial, with only 1500 procedures performed each year in the United States. Historically, pediatricians and family doctors, who have both the first opportunity and the primary responsibility for referring their young patients to weight loss programs, have been divided on whether adolescents are candidates for bariatric surgery. For example, nearly half of 750 pediatricians and family physicians surveyed in 2007 indicated they would never refer adolescents for surgery.7 All expected patients to try supervised weight loss programs first, but they disagreed widely on how long treatment should last.

The absence of data about long-term safety and benefits may be one reason why primary care practitioners are reluctant to refer adolescents to surgery. To date, only the Teen-Longitudinal Assessment of Bariatric Surgery consortium, which is collecting patient data at 5 clinical sites, has tracked outcomes in adolescent patients for longer than a year.6 No one knows the long-term risks to their health and development, such as serious vitamin and mineral deficiencies, or the revision rates decades out. There are no randomized controlled studies comparing bariatric surgery with another weight loss intervention for this population. There are also significant ethical concerns associated with bariatric surgery for adolescents. Whose decision is it: theirs or their parents? Can they form realistic expectations of outcomes? Do they ever regret having surgery?

It is clear that more longitudinal data—medical, anthropomorphic, and psychosocial—are needed. But although quantitative outcome data are the bedrock of evidence-based medicine, these data alone will not transform adolescent bariatric surgery into an evidence-based practice. Numbers can tell us the whats, but they fail to tell us the hows or the why of surgical transformation for individuals.

The evidence base for adolescent bariatric surgery needs another kind of vital data: adolescents’ perspectives on their surgical decision-making and the challenges they experience in managing daily life after surgery. Adolescents who have undergone bariatric surgery have bodies that are reengineered to digest and metabolize food differently. They play an active role in managing their bodies and weight loss expectations after surgery. By gathering accounts of their experiences, we can begin to understand their role in the entire transformational arc that begins with the surgical team.

Patient-centered qualitative data could inform primary care practitioners whether patients can manage the lifestyle changes demanded by surgery. They could provide insight into what patients wish they had known before taking the plunge and whether they think their surgery was successful. And narratives gathered from teens could help those considering surgery to understand some of the challenges they will face afterward, during a developmental period of tremendous peer pressure to conform and increased opportunities to engage in risky behavior.

Adolescent patients are the only people who can say whether their surgery was a success and whether they would do it all over again. Obesity researchers need to seek their experiences to understand outcomes, and guideline panels need to incorporate their recommendations into best practices. Patient perspectives can help primary care practitioners develop a better sense of which patients they should refer to surgery, while offering adolescents and their parents insight from those who know what it means to manage daily life with a radically different body.

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