


When is Bariatric Surgery the Best Solution?

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Objectives

- Understand the efficacy of bariatric surgery in this patient population in comparison to the adult population
- Become familiar with the indications for bariatric surgery in adolescents
- Review the components of an Adolescent Bariatric Surgery Program
- Be familiar with the surgical procedures offered and their potential complications

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Why? Risk of Death

Obese adolescents are more than twice as likely than non-obese adolescents to die prematurely, before age 55, of illness or self-inflicted injury



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Why? Shorter Life

Obese children may face a 10-20 year shorter life span and may develop health problems in their twenties that are typically seen in 40-60 year-olds



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Why? Health Risks



Nearly two-thirds of morbidly obese children have
2+ cardiovascular risk factors

A substantial proportion have significant co-morbidities typically seen in adults, including:

- Obstructive sleep apnea
- Type 2 diabetes
- Severe depression
- Nonalcoholic fatty liver disease
- Significant hypertension
- Enlarged heart

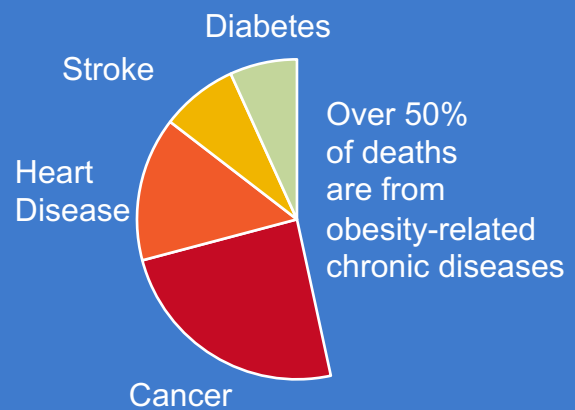
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Impact of Obesity on Children

Significant Comorbidities

- Hepatic steatosis
- Obstructive sleep apnea
- Cholelithiasis
- Musculo-skeletal issues
- Dyslipidemia
- Hypertension
- Type 2 Diabetes
- PCOS
- 2-4x increased risk of cancer



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Bariatric Surgery



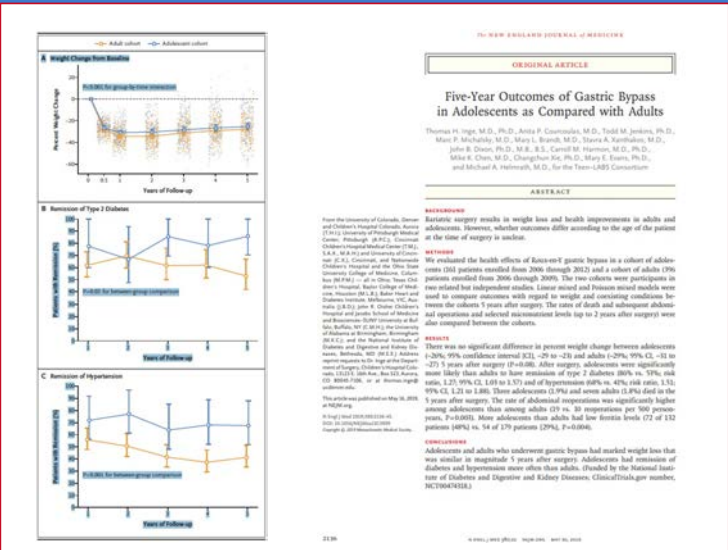


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Outcomes

Diabetes		
	Adolescents	Adults
Incidence:	14%	31%
Pre op	88% patients with diabetes on meds 5 years	76% patients with diabetes on meds 5 years
Post op	0% on meds	26% on meds
Patients no longer meeting criteria for diabetes diagnosis post-op	86%	53%

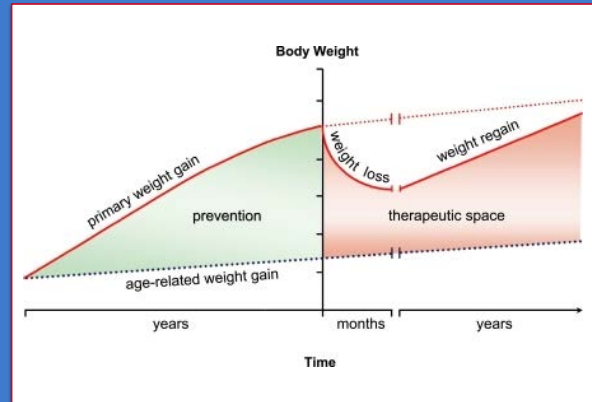


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Weight Loss

- On average 30% BMI decrease over the first year
- Typical weight loss of 1 lb per day for first 30 days



Long-term results dependent on lifestyle changes introduced in pre-op program

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Pre-operative Requirements: Adolescent

Requirements (ASMBS and Insurance)

- 6-8 months medically-managed weight loss
- Multi-disciplinary approach
 - Nutrition
 - Psychology
 - Pulmonology
 - Ped/Adol Gynecology
 - Endocrinology
 - Gastroenterology
 - Cardiology
 - PASS clinic (anesthesiology)
 - ENT
 - Orthopedic
- Overseen by surgical director (pediatric surgeon) and Medical Director (endocrinologist)
- Emphasis on **sustainable** lifestyle changes
- BMI \geq 40

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Who *Should* be Referred?

- BMI \geq 40
- Age \geq 14 years old
- Younger patients or patients with BMI $<$ 40 with severe co-morbidities can be seen on a case-by-case basis



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Course for a Bariatric Patient

Initial Visit

- Meet with surgeon, dietician, social worker
- Labs and studies

Continuing Visits

- Dietician, PA-C, social worker as needed over 5 months
 - "Homework assignments"


Support Group

- Binge eating therapy group
- Common Threads group


Additional Visits

- Psychology
- Sleep study
- Sub-specialists as needed

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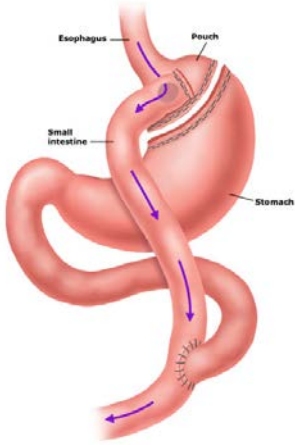


Common Procedures

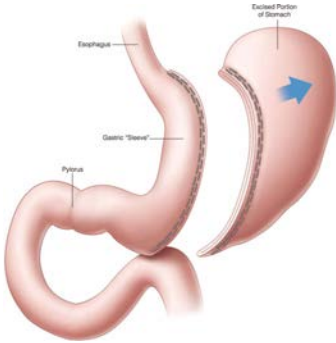


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Gastric Bypass



Gastric Sleeve



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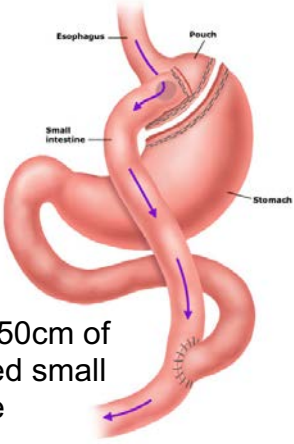
Gastric Bypass

Morbidity: 0.22%

- Gallbladder removal: 0.15% mortality rate
- Hip replacement: 0.29% mortality rate
- Cesarean section ("C-Section"): 0.40% mortality rate

Weight Loss Effectiveness:

- 1-year weight loss: 65% of excess weight, on average
- 5-year weight loss: 60% of excess weight, on average, after weight regain



Effects absorption of vitamins and nutrients

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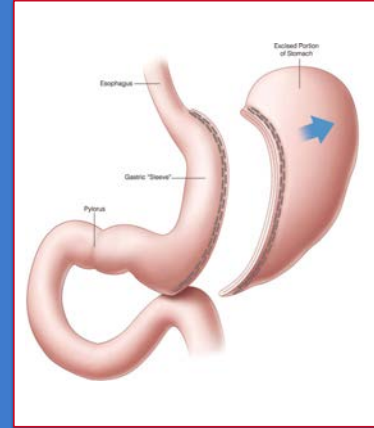
Gastric Sleeve

Morbidity: 0.19%

- Gallbladder removal: 0.15% mortality rate
- Hip replacement: 0.29% mortality rate
- Cesarean section ("C-Section"): 0.40% mortality rate

Weight Loss Effectiveness:

- 1-year weight loss: 70% of excess weight, on average
- 5-year weight loss: 55% of excess weight, on average, after weight regain



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Amazing Results



First Clinic Visit
June 21, 2018

One Month After Surgery
March 22, 2019

Six Months After Surgery
September 13, 2019

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From the American Academy of Pediatrics Policy Statement

Pediatric Metabolic and Bariatric Surgery: Evidence, Barriers, and Best Practices

Sarah C. Armstrong, Christopher F. Bollig, Marc P. Michalsky, Kirk W. Reichard and SECTION ON OBESITY, SECTION ON SURGERY
Pediatrics December 2019; 144(6):e20190223. DOI: https://doi.org/10.1542/peds.2019-0223

Abstract

Severe obesity among youth is an "epidemic within an epidemic" and portends a shortened life expectancy for today's children compared with those of their parents' generation. Severe obesity has outpaced less severe forms of childhood obesity in prevalence, and it disproportionately affects adolescents. Emerging evidence has linked severe obesity to the development and progression of multiple comorbid states, including increased cardiometabolic risk resulting in end-organ damage in adulthood. Lifestyle modification treatment has achieved moderate short-term success among young children and those with less severe forms of obesity, but no studies to date demonstrate significant and durable weight loss among youth with severe obesity. Metabolic and bariatric surgery has emerged as an important treatment for adults with severe obesity and, more recently, has been shown to be a safe and effective strategy for groups of youth with severe obesity. However, current data suggest that youth with severe obesity may not have adequate access to metabolic and bariatric surgery, especially among underserved populations. This report outlines the current evidence regarding adolescent bariatric surgery, provides recommendations for practitioners and policy makers, and serves as a companion to an accompanying technical report.

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HEALTH ISSUES

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Is Weight-Loss Surgery an Option for Preteens & Teens?

A 15-year-old weighing 270 pounds, an 18-year-old weighing nearly 400 pounds; they are both fighting a war they can't win on their own—severe obesity.

According to national data, 4.5 million children in the United States are classified as "severely obese"—a number that has nearly doubled since 1999.

And unlike kids who may need to lose a few pounds, traditional dieting and exercise are not going to help these kids—who may also suffer from a host of other physical health problems such as diabetes, sleep apnea, and high blood pressure at very young ages. They need something more.

Weight-loss surgery is one of the only evidence-based, safe, and effective ways shown to help preteens and teens struggling with severe obesity. The most common weight-loss surgery in the U.S.—the gastric sleeve and gastric bypass—help people lose about 30% of their bodyweight and keep it off. Unfortunately, it is widely underutilized by those who could benefit from it most.

The American Academy of Pediatrics (AAP) policy statement provides evidence and

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Questions?

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