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Financial Impact of Obesity and Bariatric Surgery 321
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Obesity constitutes a major health problem with serious social and economic consequences worldwide. In North America, nearly one third of the population is obese, and this figure includes children and adolescents who are likely to become obese adults. Obesity carries a great financial impact on society; consequently, treating morbidly obese patients with surgery may offer substantial economic savings. This article summarizes the financial burdens of obesity and the economics of treating obesity in North America. It addresses the medical effectiveness and cost-effectiveness of bariatric surgery and the new regulations and accreditations for bariatric surgery programs.

Preoperative Assessment and Perioperative Care of Patients Undergoing Bariatric Surgery 339
Rajesh Kuruba, Lisa S. Koche, and Michel M. Murr

The prevalence of morbid obesity in the United States and worldwide is increasing at an alarming rate. The number of bariatric surgical procedures also has steadily increased during the past decade. This article reviews the published literature and current practice trends for preoperative workup and assessment of patients undergoing bariatric surgery.
Bariatric Surgery Primer for the Internist: Keys to the Surgical Consultation
Daniel Leslie, Todd A. Kellogg, and Sayeed Ikramuddin

The increasing prevalence of morbid obesity in North America combined with the refinement of laparoscopic techniques for the performing of these operations has contributed to the exponential growth of bariatric surgery over the last 10 years. There are many important considerations for the internist who is referring a patient for bariatric surgery.

Management of the Challenging Bariatric Surgical Patient
Kent R. Van Sickle

Despite the continued increase in surgical procedures for weight loss, the dramatic increase in the prevalence of morbid obesity far outpaces the treatments to correct it. As a result, the primary care physician is increasingly more likely to be evaluating patients who are either candidates for weight loss surgery or who have already undergone a weight loss procedure. Unique medical and social situations must be considered when evaluating these patients, and it is anticipated that all physicians will be seeing a greater number of complex or challenging patients.

Metabolic Aspects of Bariatric Surgery
Franco Folli, Antonio E. Pontiroli, and Wayne H. Schwesinger

Insulin resistance is a nearly universal finding in morbid obesity. It may be compensated and latent or uncompensated with single or multiple clinical abnormalities. Although lifestyle interventions and medical measures alone may control most metabolic problems in the short term, the ultimate benefits of such an approach are usually limited by the complexity of available therapeutic regimens and the difficulty of maintaining full patient compliance. Many studies now document that bariatric surgery can effectively and safely control these complications in the short term and long term or even prevent their occurrence. Further investigations are needed to understand better the mechanisms involved and to define more clearly the appropriate indications and contraindications of the treatments proposed.

Impact of Obesity and Bariatric Surgery on Cardiovascular Disease
Michael A. Mathier and Ramesh C. Ramanathan

Morbid obesity is a growing public health concern with multiple associated cardiovascular comorbidities. Bariatric surgery has emerged as a safe and effective treatment for morbidly obese patients
at risk for, or already suffering from, cardiovascular disease. Weight loss induced by the surgery has been shown to improve cardiovascular risk factors, cardiac structure and function, and the clinical course of established cardiovascular disease. The role of adipocyte-derived cytokines in mediating cardiovascular pathophysiology in obesity—and its modulation after weight loss—is under active investigation.

Pulmonary Considerations in Obesity and the Bariatric Surgical Patient
Garth Davis, Jitesh A. Patel, and Daniel J. Gagne

Severe obesity can be associated with significant alterations in normal cardiopulmonary physiology. The pathophysiologic effects of obesity on a patient’s pulmonary function are multiple and complex. The impact of obesity on morbidity and mortality are often underestimated. Bariatric surgery has been shown to be the most effective modality of reliable and durable treatment for severe obesity. Surgical weight loss improves and, in most cases, completely resolves the pulmonary health problems associated with obesity.

Management of Gastrointestinal Disorders in the Bariatric Patient
Troy A. Markel and Samer G. Mattar

Morbid obesity continues to grow at an alarming rate. As of 2004, 35% of Americans were considered to have a body mass index (BMI) over 30. As the number of patients undergoing weight loss surgery increases, the patient population presenting to primary care physicians with previous gastric bypass will also increase. Accordingly, it will become imperative for primary care physicians to be familiar and comfortable with the care of these patients. This review focuses on the management of gastrointestinal disorders in postoperative gastric bypass patients.

Psychosocial and Behavioral Status of Patients Undergoing Bariatric Surgery: What to Expect Before and After Surgery
Thomas A. Wadden, David B. Sarwer, Anthony N. Fabricatore, LaShanda Jones, Rebecca Stack, and Noel S. Williams

Extreme obesity, characterized by a body mass index (BMI) of 40 kg/m² or greater, is associated with significantly increased mortality, principally from cardiovascular disease, type 2 diabetes, and several cancers. It also is associated with an increased risk of psychosocial complications, including depression, eating disorders, and impaired quality of life. This article briefly examines the psychosocial status of extremely obese individuals who seek bariatric
surgery and describes changes in functioning that can be expected with surgically induced weight loss. The article combines a review of the literature with clinical impressions gained from the more than 2500 candidates for bariatric surgery whom the authors have evaluated at the Hospital of the University of Pennsylvania.

**Outpatient Complications Encountered Following Roux-en-Y Gastric Bypass**

Peter P. Lopez, Nilesh A. Patel, and Lisa S. Koche

Practitioners taking care of postoperative bariatric patients need to keep in mind all of the complications that this population faces to prevent unnecessary morbidity. Bariatric patients presenting postoperatively with abdominal pain, tachycardia, vomiting, tachypnea, and a sense of impending doom should be worked up aggressively to find the cause of their symptoms. Because the incidence of obesity is rising in children and adults, more patients will have surgery to help with their weight loss. Physicians caring for these patients must be able to diagnosis and treat their complications quickly and efficiently to prevent further complications.

**Laparoscopic Gastric Band Complications**

Jeff W. Allen

Weight loss surgery, also known as bariatric surgery, has evolved from a specialty dominated by intestinal bypasses and vertical banded gastroplasty to its current state of a specialty characterized by minimal access techniques and Centers of Excellence. Bariatric surgery has remained the only reliably effective option for significant weight loss for the morbidly obese. This article reviews common problems occurring after laparoscopic adjustable gastric band with emphasis on conservative diagnosis and effective treatment.

**Nutritional Consequences of Weight-Loss Surgery**

Olga N. Tucker, Samuel Szomstein, and Raul J. Rosenthal

Nutritional deficiencies are already present in many morbidly obese patients before weight-loss surgery. Appropriate preoperative detection and correction is essential. The severity and pattern of deficiencies is dependent on the presence of preoperative uncorrected deficiency, the type of procedure performed varying with the degree of restriction or the length of bypassed small intestine, the modification of eating behavior, the development of complications, compliance with oral multivitamin and mineral supplementation, and compliance with follow-up. Rigorous control of fluids and electrolytes with establishment of adequate oral nutrition is important in the immediate postoperative period. Regular follow-up of the metabolic and nutritional status of the patient is essential, with life-long multivitamin and mineral supplementation.
The majority of bariatric surgical procedures are performed in young women. There is a concern about safety and outcomes of pregnancies after weight loss surgery. Pregnancy after weight loss surgery is not only safe, but is associated with more favorable outcomes in comparison to obese populations who do not undergo weight loss surgery. An interval of 2 years is recommended from surgery to pregnancy. This delay helps avoid most of the potential nutritional complications. Optimal patient care is achieved in an experienced, multidisciplinary center. Early involvement of the bariatric surgeon in evaluating abdominal pain is critical because the underlying pathology may relate to the previous weight loss surgery. Although infertility is improved after weight loss surgery, reliable modes of contraception may be limited in this population.