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Roadmaps for Clinical Practice

Case Studies in Disease Prevention and Health Promotion

Assessment and Management of Adult Obesity:

A Primer for Physicians

7

Surgical Management

Surgical Management

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Assessment and Management of Adult Obesity: A Primer for Physicians is not intended to function as a clinical guideline, standard of medical care, or definitive resource for the assessment and management of obesity. The instruments included in this publication are clinical tools, not research tools. Consequently, they have not been evaluated to establish reliability and validity. The American Medical Association neither endorses nor encourages use of the programs and resources listed in this document. They are meant to be a starting point and are not intended to be an exhaustive list of educational resources for physicians or patients seeking medical information.

Medical care is determined on the basis of all the facts and circumstances involved in an individual case and is subject to change as scientific knowledge and technology advance and patterns of practice evolve. This publication reflects the view of the experts and reports in the scientific literature as of 2003.

Acknowledgments

Primary Author
Robert F. Kushner, MD, Professor, Department of Medicine, Northwestern University Feinberg School of Medicine; Medical Director, Wellness Institute, Northwestern Memorial Hospital, Chicago, Illinois

Contributing Writers
Dawn Jackson, RD, LD, Registered Dietitian, Wellness Institute, Northwestern Memorial Hospital, Chicago, Illinois (Booklet 4: *Dietary Management*)

Jim Lyznicki, MS, MPH, Senior Scientist, Unit on Science Policy, American Medical Association, Chicago, Illinois (Booklet 1: *Introduction and Clinical Considerations*)

Brad Saks, PsyD, Clinical Psychologist, Wellness Institute, Northwestern Memorial Hospital, Chicago, Illinois (Booklet 3: *Assessing Readiness and Making Treatment Decisions;* Booklet 8: *Communication and Counseling Strategies*)

William J. Wilkinson, MD, Cooper Institute, Dallas, Texas (Booklet 5: *Physical Activity Management*)

Medical Editor
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Reviewers
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Division of Obesity and Metabolic Diseases, Pennington Center

William H. Dietz, MD, PhD
Division of Nutrition and Physical Activity, Centers for Disease Control and Prevention

Karen A. Donato, SM, RD
Obesity Education Initiative, National Heart, Lung, and Blood Institute

J. Michael Gonzalez-Campoy, MD, PhD
Minnesota Center for Obesity, Metabolism and Endocrinology

Donald D. Hensrud, MD, MPH
Preventive Medicine and Nutrition, Mayo Medical School; Executive Health Program, Mayo Clinic

James O. Hill, PhD
Center for Human Nutrition, University of Colorado Health Sciences Center

Van S. Hubbard, MD, PhD
Division of Nutrition Research Coordination, National Institutes of Health, Department of Health and Human Services

Wendy L. Johnson-Taylor, PhD, MPH, RD
Division of Nutrition Research Coordination, National Institutes of Health, Department of Health and Human Services

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Reviewers continued
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Uniformed Services University

F. Xavier Pi-Sunyer, MD, MPH
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John F. Schneider, MD, PhD

Preface

In the United States, increasing trends in morbidity and mortality related to chronic diseases and injuries have led the American Medical Association (AMA) and others to address strategies for promoting health and preventing disease and disability. Over the past decade, the AMA has launched national campaigns against violence, alcohol abuse, and tobacco use. Recently, the AMA launched national programs to address low health literacy, patient safety, and disparities in health services and outcomes.

To further address the health challenges facing our nation, the AMA is developing a series of case-based publications for physicians as part of a new program titled *Roadmaps for Clinical Practice: Case Studies in Disease Prevention and Health Promotion.* The Roadmaps project fulfills an AMA and US Department of Health and Human Services (DHHS) partnership established through a Memorandum of Understanding (MOU) signed by both organizations in the year 2000. The series concentrates on the *Healthy People 2010* objectives, which were developed by the US Public Health Service to help professionals address the leading causes of morbidity and mortality in this country. The series also supports the goals of the DHHS *HealthierUS* initiative which was established in 2003 to help Americans lead longer, better, and healthier lives. This primer, produced with support from The Robert Wood Johnson Foundation, is part of the Roadmaps series.

The Roadmaps series aims to help physicians prevent or reduce injury and chronic disease through early detection and disease management in addition to promoting healthier lifestyles through their medical practices and communities. Emphasis is directed at promoting personal behaviors that have both immediate and long-term health benefits and at modifying behaviors that cause the greatest burden of suffering. According to the US Preventive Services Task Force, counseling patients about personal health practices (smoking, diet, physical activity, drinking, injury prevention, and sexual behavior) remains one of the most underused but important parts of the health visit.

This primer focuses on the rising prevalence of a serious, chronic health condition—obesity. Two weight-linked behaviors—physical inactivity and unhealthy eating—are given important consideration. It is estimated that 300,000 preventable deaths occur each year in the United States due to diet and physical inactivity, both of which contribute to obesity—only tobacco use causes more preventable deaths in this country. Growing scientific consensus on the health risks of physical inactivity and improper diet mandates that physicians become informed and prepared to assist patients in leading more active and healthy lives. Physicians have an important opportunity to encourage improvements in health behaviors and outcomes, including influencing motivation and success with weight loss treatment. **It is never too late to start and have a favorable impact on health. Patients of all ages can and will benefit.**

We encourage you to review this primer and to participate in the accompanying continuing medical education (CME) program. Please also take some time to complete and return the evaluation form that accompanies this primer. Your feedback is valuable for updating this publication and for planning future physician education programs. We invite you to use these resources and take action—in your practice and community—to promote healthier lifestyles among your patients, colleagues, and neighbors.

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Objectives

This primer is designed to educate primary care physicians about providing medical care to overweight and obese adults. It is presented in a modular format to facilitate its use as an educational and teaching tool. Patient scenarios are included for self-evaluation and to reinforce information presented. A continuing medical education (CME) component worth 4.5 credit hours is also offered. After completing this program, physician participants should be able to:

- identify overweight and obesity in their patients
- describe the medical and public health implications of adult overweight and obesity and identify opportunities for patient, family, and community intervention
- incorporate assessment and management of adult overweight and obesity into their clinical practices
- identify specific patient comorbidities and health risks that are caused and/or exacerbated by overweight and obesity that may interfere or even contraindicate treatment
- understand the appropriate application of diet, physical activity, behavior changes, pharmacotherapy, and surgery in obesity treatment
- locate information about culturally and linguistically appropriate strategies and resources to prevent and treat adult overweight and obesity
- enhance personal and office practices to optimize sensitivity to the needs and concerns of overweight and obese patients

This primer is not intended to function as a clinical guideline, standard of care, or definitive resource for the assessment and management of obesity. However, more detailed information is available in the references and resources listed in each booklet of this primer.

Case presentation

Sophia, a 45-year-old African-American woman, has been struggling with her body weight since childhood. She has progressively gained weight with each passing decade. She is now at her heaviest weight of 260 pounds. Sophia has participated in multiple commercial and professional weight management programs in the past, each resulting in a 10- to 50-pound loss followed by rapid weight regain. Her medical history is significant for obstructive sleep apnea managed with continuous positive airway pressure (CPAP); hypertension; Type 2 diabetes mellitus; venous stasis of the legs; and arthralgias of the hips, knees, and ankles. At 66 inches, Sophia's body mass index (BMI) is 42, placing her in Class III (severe or extreme) obesity (also known as morbid obesity).

According to the 1999-2000 National Health and Nutrition Examination Survey (NHANES), 4.7% of the US adult population is considered severely or extremely obese, as defined by a BMI of 40 or higher, with the highest prevalence among non-Hispanic black women (15%).[1] Approximately 75% of adults with Class III (severe or extreme) obesity have at least one comorbid condition, such as hypertension or diabetes mellitus,[2] which significantly increases the risk for premature death. Although lifestyle modification and pharmacological treatment may have a temporary benefit, they rarely result in long-term weight loss and weight maintenance in this group of patients.

This booklet reviews the role of surgical treatment in the management of severely obese patients.

When should I consider surgery?

According to the National Heart, Blood, and Lung (NHLBI) Institute Guidelines,[3] surgical intervention is an option for carefully selected patients with *clinically severe obesity (a BMI ≥40 or a BMI ≥35 with comorbid conditions),* when patients are at high risk for obesity-associated morbidity or mortality and when less invasive methods of weight loss have failed. For these patients, the benefits of a more invasive intervention should outweigh the risks. Although there is no defined criteria for a specified length of time or description of what constitutes an eligible less invasive treatment, many consider formal participation in a medically supervised diet and physical activity program for 6 months or longer a standard gauge. Patients who elect to undergo bariatric surgery often have previously engaged in multiple weight loss attempts, including commercial and professional programs and self-imposed diets. These approaches may result in short-term success, but result eventually in weight regain.

In addition to these selection criteria, take the following patient factors into account when considering surgery:

- realistic expectations about what the surgical procedure entails
- ability/desire to follow the surgically-imposed dietary changes
- good social support system
- no active substance abuse or clinically significant and unstable psychopathology, such as untreated psychosis, uncontrolled depression, borderline personality disorder, or bulimia nervosa
- demonstrated adherence to medical recommendations (eg, taking medication, keeping follow-up appointments, agreeing to laboratory testing)

Sophia may be considered for surgery based on her BMI and comorbid conditions. You believe that she will be a good candidate because she has adhered to medical recommendations in the past, has an excellent social support system, and does not have a history of substance abuse or other psychopathology. When you tell Sophia that surgery is an option for weight control, she wants to know more about what is actually done.

What operations are performed?

Bariatric surgeries, ie, surgeries for weight loss, fall into one of two categories:

Restrictive Restrictive surgeries limit the amount of food the stomach can hold and slow the rate of gastric emptying.[4] The two gastric restriction operations are:

1. **Vertical Banded Gastroplasty (VBG)** In this procedure, the stomach is partitioned by a linear stapling line to produce a 30 mL gastric pouch along the lesser curvature. The outlet of the pouch is 10 to 12 mm in diameter and is usually reinforced with a 1.5 cm-wide strip of either Marlex mesh or Gore-Tex (see Figure 7.1). The VBG may be performed with an open incision or laparoscopically. It is endorsed by the National Institutes of Health (NIH) 1991 Consensus Development Panel.[5]

   Siliastic Ring Vertical Gastroplasty In this procedure, the stomach is partitioned by a linear stapling line to produce a gastric pouch along the lesser curvature. The outlet of the pouch is reinforced by a silicone band to produce a narrow passage into the larger distal stomach (see Figure 7.2).

2. **Laparoscopic Adjustable Silicone Gastric Banding (LASGB)** A technical advancement of the banding procedure was achieved in 2001 when the US Food and Drug Administration approved the adjustable gastric banding system (LAP-BAND).[6] In contrast to previous devices, the diameter of this band is adjustable by way of its connection to a reservoir that is implanted under the skin. Saline is injected into or removed from the reservoir to tighten or loosen the band's internal diameter, thus changing the size of the gastric opening.

Restrictive Malabsorptive The two restrictive malabsorptive bypass procedures combine the elements of gastric restriction and selective malabsorption:

1. **Roux-en-Y Gastric Bypass (RYGB)** The RYGB is the most commonly performed and accepted bypass procedure. It involves forming a 10 to 30 mL proximal gastric pouch by either surgically separating (see Figure 7.3) or stapling the stomach across the fundus (see Figure 7.4). Outflow from the pouch is created by performing a narrow (10 mm) gastrojejunostomy. The distal end of jejunum is then anastomosed 50 to 150 cm below the gastrojejunostomy. Roux-en-Y refers to the Y-shaped section of the small intestine created by the surgery. The Y is created at the point where the pancreo-biliary conduit (afferent limb) and the Roux (efferent) limb are connected. Bypass refers to the exclusion or bypassing of the distal stomach, duodenum, and proximal jejunum. Like the VBG, RYGB may be performed with an open incision or laparoscopically and is endorsed by the NIH 1991 Consensus Development Panel.[5]

Figure 7.1*

Figure 7.2*

*Source: American Society for Bariatric Surgery

Figure 7.3*

Figure 7.4*

*Source: American Society for Bariatric Surgery

2. **Biliopancreatic Diversion (BPD)** More complicated and less commonly performed, this operation involves a subtotal gastrectomy that leaves a much larger gastric pouch compared with the VBG or RYGB. The small bowel is divided 250 cm proximal to the ileocecal valve and connected directly to the gastric pouch, producing a gastroileostomy. The remaining proximal limb (bilio-pancreatic conduit) is then anastomosed to the side of the distal ileum 50 cm proximal to the ileocecal valve. In this procedure, the distal stomach, duodenum, and entire jejunum are bypassed, leaving only a 50 cm distal ileum common channel for nutrients to mix with pancreatic and biliary secretions (see Figure 7.5).

   Biliopancreatic Diversion with Duodenal Switch (BPDDS) BPDDS is a variation of the BPD that preserves the first portion of the duodenum. In this procedure, a vertical subtotal gastrectomy is performed and the duodenum is divided just beyond the pylorus. The distal small bowel is connected to the short stump of the duodenum, producing a 75 to 100 cm ileal-duodenal common channel for absorption of nutrients. The other end of the duodenum is closed and the remaining small bowel is connected onto the enteral limb at about 75 to 100 cm from the ileocecal valve (see Figure 7.6).

Figure 7.5*

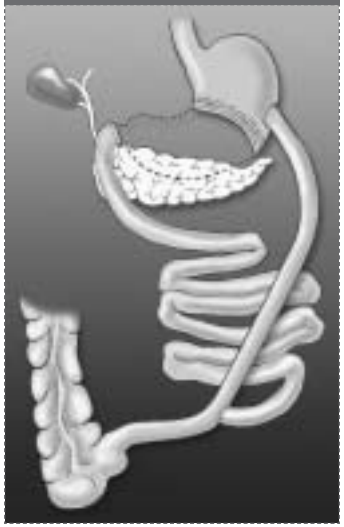
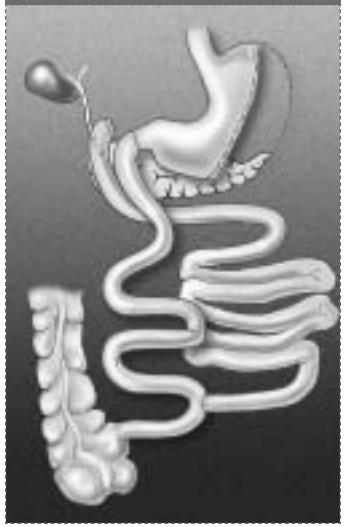


Figure 7.6*



*Source: American Society for Bariatric Surgery

You discuss the general principles of bariatric surgery with Sophia, and describe how it can help her lose weight. Sophia would like some time to decide whether surgery is right for her and would like to know more about the benefits and risks before making any decisions or talking to her family. You provide Sophia with some Internet sites to educate her further (See Figure 7.7).

Figure 7.7

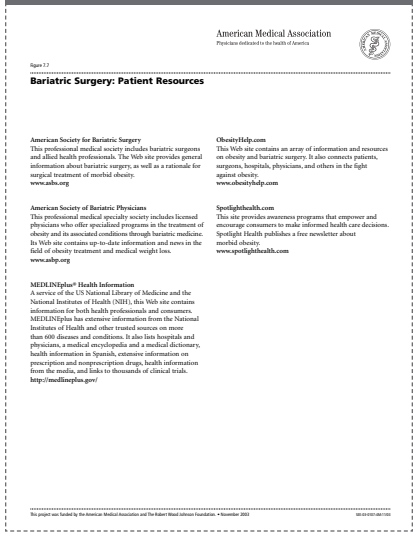


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Figure 7.7

Bariatric Surgery: Patient Resources

American Society for Bariatric Surgery
This professional medical society includes bariatric surgeons and allied health professionals. The Web site provides general information about bariatric surgery, as well as a rationale for surgical treatment of morbid obesity.
www.asbs.org

American Society of Bariatric Physicians
This professional medical specialty society includes licensed physicians who offer specialized programs in the treatment of obesity and its associated conditions through bariatric medicine. Its Web site contains up-to-date information and news in the field of obesity treatment and medical weight loss.
www.asbp.org

MEDLINEplus® Health Information
A service of the US National Library of Medicine and the National Institutes of Health (NIH), this Web site contains information for both health professionals and consumers. MEDLINEplus has extensive information from the National Institutes of Health and other trusted sources on more than 600 diseases and conditions. It also lists hospitals and physicians, a medical encyclopedia and a medical dictionary, health information in Spanish, extensive information on prescription and nonprescription drugs, health information from the media, and links to thousands of clinical trials.
http://medlineplus.gov/

ObesityHelp.com
This Web site contains an array of information and resources on obesity and bariatric surgery. It also connects patients, surgeons, hospitals, physicians, and others in the fight against obesity.
www.obesityhelp.com

SpotlightHealth.com
This site provides awareness programs that empower and encourage consumers to make informed health care decisions. Spotlight Health publishes a free newsletter about morbid obesity.
www.spotlighthealth.com

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Figure 7.7 is shown at full size on pages 16-17.

What are the expected benefits and risks from surgery?

Mean weight loss following VBG and RYGB is approximately 30% to 35% of the pre-operative weight, respectively, and is reached between 12 and 18 months post-operatively. The RYGB is currently the preferred method because weight loss is superior to that typically achieved after other gastric restrictive operations. Weight loss following malabsorptive procedures is reported to be greater than with gastric restrictive procedures but with a greater incidence of metabolic complications (see below).

Multiple studies have demonstrated complete resolution or improvement of obesity-related comorbid conditions following surgery — most notably, Type 2 diabetes, obstructive sleep apnea, obesity hypoventilation, gastroesophageal reflux disease (GERD), and peripheral edema.[7,8]

Often, medications for diabetes and cardiovascular disease may be reduced or eliminated entirely.[9] Although there is an immediate reduction in the incidence of hypertension, these benefits may diminish over time.[10]

Risks from the operation are related to both the complications of any gastrointestinal procedure in a high-risk population and the complications specific to the bariatric procedure. Data from the International Bariatric Surgery Registry — a registry of more than 10,000 patients — reveals a 30-day mortality rate of 0.3%.[11]

The most common complications tend to be related to the underlying obesity and include respiratory complications, venous thromboembolic events, and wound infections. The most serious complication following bariatric surgery is peritonitis from an anastomotic or staple-line leak.[11]

Post-operative complications Following hospital discharge, the most common surgical complications include stomal stenosis or marginal ulcers (occurring in 5% to 15% of patients) that present with prolonged nausea and vomiting after eating or inability to advance the diet to solid foods. These complications are typically treated with endoscopic balloon dilatation and acid suppression therapy, respectively. Abdominal and incisional hernias (occurring in approximately 15% to 20% of patients with the open incision) necessitate an operative repair, the timing of which is determined by symptoms and stabilization of body weight.[12]

Long-term post-surgical complications A surgically induced effect of the RYGB procedure is the dumping syndrome. This syndrome represents a constellation of vasomotor and neuroendocrine events that collectively serve as negative re-enforcers to the consumption of simple sugars. The syndrome, which is initiated by rapid emptying of food into the jejunum, results in a variety of unpleasant and distressing symptoms, including nausea, abdominal cramping, diarrhea, lightheadedness, tachycardia, flushing, and syncope. Although the symptom-induced intolerance to sugar-containing foods is a powerful incentive to dietary changes after surgery, the dumping syndrome often disappears within 12 to 18 months in many patients.

Dietary concerns The dietary implications of the VBG and RYGB procedures are predictable and should be treated proactively.[13] Immediately after surgery, caloric intake must be reduced to <1000 kcal/d, divided into multiple small meals and snacks. Liquid and pureed foods are prescribed for the first month, after which patients may, in most instances, advance to more solid foods as tolerated.

For the first 6 months, nutritional counseling is focused on consuming at least 60 grams of protein per day, primarily from dairy, eggs, fish, poultry, and soy, and ample use of dietary protein-fortified supplements. Patients are advised to consume beverages apart from solid foods to allow greater intake of protein calories.

During the first year, total caloric intake increases proportional to changes in pouch volume, stomal size, pouch-emptying rate, and increased consumption of solid food. Due to maldigestion, meat and dairy (in lactase-deficient patients) often remain poorly tolerated.

Dietary deficiencies Protein-calorie malnutrition is uncommon following the restrictive operations (VBG, LASGB) or the RYGB provided there are no mechanical complications that profoundly disrupt the diet. In contrast, the more malabsorptive procedures (BPD and BPDDS) may cause macronutrient deficiency, resulting in symptoms related to protein malnutrition (eg, ankle edema, muscle loss, low serum albumin level).

Deficiencies of micronutrients (vitamins and minerals) can occur after the RYGB procedure and the more malabsorptive operations and need to be treated prophylactically. A predictable risk for deficiencies of vitamin B_{12}, iron, folate calcium, and vitamin D is based on the surgical anatomical changes produced by the operations, as described here.

- **Cobalamin (vitamin B_{12}) deficiency** has been reported to occur in >30% of patients 1 to 9 years after RYGB. As a preventive measure, all patients should be supplemented with crystalline vitamin B_{12} of at least 350 mg/d by oral, sublingual, or intranasal routes. Alternatively, patients may receive monthly vitamin injections.
- **Iron deficiency** has been reported to occur in 33% to 50% of patients following RYGB and is more likely to occur in menstruating women. All patients should be prescribed one prenatal vitamin and mineral tablet daily to supplement dietary iron and folate. Iron-deficient and anemic patients may require an additional iron supplement.
- **Folate deficiency** occurs with a lower frequency than vitamin B_{12} or iron deficiency but should be considered when evaluating patients who develop anemia. All patients should be prescribed one prenatal vitamin and mineral tablet daily to supplement dietary iron and folate.
- **Calcium deficiency** can result from several factors. All patients should receive calcium supplements of 1200 to 1500 mg/d in divided doses, depending on the adequacy of dietary calcium. Calcium citrate is the preferred preparation because it is more soluble than calcium carbonate in the absence of gastric acid production.

You tell Sophia that she could expect to lose approximately 87 pounds (or one-third of her pre-operative weight) within 12 to 18 months after undergoing the RYGB procedure. This would place her at 173 pounds and a BMI of 28, representing a change from severe Class III (severe or extreme) obesity to overweight. You also tell her that control of her obstructive sleep apnea, hypertension, and diabetes should improve.

Is participation by a comprehensive bariatric treatment team necessary?

The answer is absolutely yes. An experienced and knowledgeable multidisciplinary team composed of health care providers with medical, nutritional, and psychological expertise should evaluate all patients. The pre-operative and post-operative education and care of prospective surgical candidates is performed by the team. The team often consists of the following health professionals:

- **Obesity-specialist:** An internist, endocrinologist, or bariatrician is commonly involved in the peri-operative evaluation and management of patients. This individual, along with the surgeon, has a special interest and training in obesity care and often functions as team leader. Other specialists, including a cardiologist and pulmonologist, may be consulted based on the comorbid conditions present in patients.
- **Surgeon:** The surgeon should have substantial experience with the procedure and with pre- and post-operative management of severely or extremely obese patients.
- **Registered dietitian:** Because the operative procedure is behavioral rather than curative and only considered a tool for long-term weight control, the decision for surgical therapy must include an assessment of your patients' ability to comply with the post-operative regimen. This includes behavioral modification of eating habits and food choices. A dietitian performs a dietary assessment and provides instruction before the operation to help patients initiate dietary changes consistent with the surgery. The dietitian also helps patients prepare their home with the foods and kitchen appliances (eg, blender and measuring cups) needed immediately upon discharge from the hospital. The registered dietitian provides continued counseling for patients as they advance their diet during the post-operative period.

- **Psychologist:** A thorough psychological evaluation is crucial for two reasons. First, the procedure's success depends on the ability of patients to adhere to the dietary alterations forced upon them; as inability to do so will result in vomiting, development of the dumping syndrome (see below), and weight regain. Second, many patients present with clinically significant psychopathology that may hinder adherence with the post-surgical plan; other patients suffer from body image disturbance or poor coping skills that may worsen during rapid weight loss. These patients benefit from ongoing therapy.
- **Primary care physician:** The primary care physician coordinates patient care and provides monitoring and treatment of the chronic medical conditions. The physician will help manage the patients pre- and post-operatively (as discussed in the following section).

You refer Sophia to the bariatric surgical treatment team in your community for consideration of surgery. After being evaluated by the dietitian, psychologist, and surgeon, she is deemed a good surgical candidate. The surgeon will perform a laparoscopic RYGB procedure. An insurance pre-operative approval letter is sent by the surgeon. Sophia makes an appointment to see you in anticipation of undergoing surgery over the next several months.

How do I manage my patients post-operatively?

First, perform a complete history and physical examination on all patients, specifically evaluating for obesity-related comorbidities that require preoperative management (see Booklet 2: *Evaluating Your Patients for Overweight or Obesity*). Pre-operative control of diabetes and hypertension should be maximized to reduce intra-operative complications. Depending on symptoms and other risk factors, patients may require a polysomnography (sleep study) to assess for obstructive sleep apnea and initiation of appropriate therapy. Perform a cardiac stress test if warranted. Similar to other operations, some medications may need to be discontinued prior to undergoing anesthesia.

Post-operative medical management of bariatric patients encompasses the following:

- adjusting treatment for ongoing chronic medical problems
- monitoring for post-surgical complications
- managing the known nutritional implications of the surgical procedures

The bariatric treatment team should closely follow patients for ongoing dietary, physical activity, behavioral, psychological, and medical education and monitoring. Frequency of follow-up visits with the primary care physician over the first 6 months will vary depending on management-sharing with the bariatric team. During each visit, track patient weight and assess and monitor any comorbid conditions.

Significant and rapid improvement in diabetes, hypertension, peripheral edema, sleep apnea, GERD, urinary incontinence, osteoarthritis, and other comorbid conditions often occurs after surgery. As a general guide, reduce diabetes medication dosage regimen by one-half after discharging diabetic patients from the hospital in anticipation of improved glucose control. Pay particular attention to sulfonylureas, meglitinides/phenylalanines, and insulin because these agents may cause hypoglycemia. Encourage patients to monitor their blood glucose levels daily to assist in medication management. Discontinue or reduce diuretic agents for hypertensive patients, in anticipation of the post-operative diuresis that normally occurs secondary to caloric restriction. Medications prescribed for other medical or psychiatric conditions may be resumed post-operatively without dose adjustment.

Upon discharge, you hold Sophia's sulfonylurea and ask her to check her blood sugars twice a day. You ask her to continue CPAP therapy for her obstructive sleep apnea.

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Suggested additional reading

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Internet resources

American Society for Bariatric Surgery
This professional medical society includes bariatric surgeons and allied health professionals. The Web site provides general information about bariatric surgery, as well as a rationale for surgical treatment of morbid obesity.
www.asbs.org

American Society of Bariatric Physicians
This professional medical specialty society includes licensed physicians who offer specialized programs in the treatment of obesity and its associated conditions through bariatric medicine. Its Web site contains up-to-date information and news in the field of obesity treatment and medical weight loss.
www.asbp.org

MEDLINEplus® Health Information
A service of the US National Library of Medicine and the National Institutes of Health (NIH), this Web site contains information for both health professionals and consumers. MEDLINEplus has extensive information from the National Institutes of Health and other trusted sources on more than 600 diseases and conditions. It also lists hospitals and physicians, a medical encyclopedia and a medical dictionary, health information in Spanish, extensive information on prescription and nonprescription drugs, health information for the media, and links to thousands of clinical trials.
http://medlineplus.gov/

ObesityHelp.com
This Web site contains an array of information and resources on obesity and bariatric surgery. It also connects patients, surgeons, hospitals, physicians, and others in the fight against obesity.
www.obesityhelp.com

Spotlighthealth.com
This site provides awareness programs that empower and encourage consumers to make informed health care decisions. Spotlight Health publishes a free newsletter about morbid obesity.
www.spotlighthealth.com

Figure 7.7

Bariatric Surgery: Patient Resources

American Society for Bariatric Surgery
This professional medical society includes bariatric surgeons and allied health professionals. The Web site provides general information about bariatric surgery, as well as a rationale for surgical treatment of morbid obesity.
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This project was funded by the American Medical Association and The Robert Wood Johnson Foundation. • November 2003

Strategy for treatment of overweight and obesity

Evaluate your patients for current and potential health risks related to weight (Booklet 2)

- Measure body mass index (BMI)
- Measure waist circumference
- Assess for presence/extent of suspected comorbid diseases

Talk to your patients about weight loss (Booklet 3)

- Explain the importance of weight loss
- Assess your patients' readiness to make behavior changes
- Work with your patients to establish realistic treatment goals

Help your patients manage weight through dietary management (Booklet 4)

- Collaborate on strategies for reducing calories and balancing the diet
- Recommend weight loss programs and resources as needed
- Follow up with your patients to monitor progress and provide support

Help your patients manage weight through physical activity (Booklet 5)

- Collaborate on strategies for increasing physical activity in the daily lifestyle
- Recommend physical activity programs and resources as needed
- Follow up with your patients to monitor progress and provide support

If indicated, help your patients manage weight through pharmacotherapy (Booklet 6)

- Determine whether your patients are candidates for pharmacotherapy at this time
- If pharmacotherapy is an option, help your patients make and carry out treatment decisions
- Monitor your patients for weight loss and medication side effects

If indicated, help your patients manage weight through surgery (Booklet 7)

- Determine whether your patients are candidates for bariatric surgery at this time
- If surgery is an option, help your patients and their bariatric team make and carry out treatment decisions
- Manage your patients post-operatively

Optimize your communication and counseling style (Booklet 8)

- Establish an effective patient–physician partnership
- Help your patients obtain skills for self-management
- Be sensitive to anti-fat bias and approach the topic of weight sensitively

Optimize your office environment (Booklet 9)

- Be more sensitive to your patients' needs by adapting office practices and the waiting room configuration
- Set up your office with the equipment needed to assess and manage your patients
- Facilitate patient care through a team approach

Adapted from Serdula MK, Khan LK, Dietz WH. Weight loss counseling revisited. *JAMA.* 289;1747-1750:2003.

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