A Practical Approach to Treatment of the Obese Patient

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besity is one of the most common conditions encountered by primary care physicians, yet both physicians and patients are often frustrated by current approaches to its management. Recent advances in our understanding of obesity enable the physician to evaluate the contributions of biologic and environmental factors to the patient's obesity, to determine the degree of medical risk posed by the obesity, and to establish realistic goals for treatment. The chronic and relapsing nature of obesity requires ongoing support and vigilance. An individualized approach to obesity management, based on careful evaluation of biologic, psychologic, and social factors, can be successfully developed and implemented by the office-based primary care physician.

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Obesity is one of the most common conditions encountered by primary care physicians. ¹⁻⁴ With more than 25% of US adults being significantly overweight, ⁵ one might expect physicians to be expert in weight management. Yet, interactions between primary care physicians and overweight patients are fraught with myth, judgment, guilt, denial, and resignation. Both physicians and patients are frequently unhappy with physician management of obesity. ^{6,7}

During the Greco-Roman era, obesity was viewed as a reflection of personal inadequacy, unresponsive to the "hygienic art" of medicine,⁸ and this perception has not changed to any great extent in modern times.^{9,10} Many physicians see obese patients as difficult to treat.¹¹ While they would like to take on the responsibility of addressing their patients' obesity as a medical issue, physicians know of few effective tools with which to accomplish this.¹² Most physicians are not adequately edu-

cated about our current understanding of the multiple factors underlying obesity, and fewer have received in-depth training in strategies for weight management.⁹

Obese patients bear their condition visibly and may be faced daily with public contempt, misunderstanding, and discrimination. The vast majority of severely obese persons report having been treated in a disrespectful manner by the medical profession because of their weight.¹³

Physicians who view themselves as competent in prescribing weight loss treatment and who believe that this treatment may be effective are significantly more likely to counsel patients on weight management, and patients whose obesity has been addressed by their physicians are significantly more likely to have successfully lost weight during the previous 5 years. This provides further impetus for physicians to acquire the skills to intervene with their obese patients.

This article presents the rationale for conceptualizing medically significant obesity as a chronic, heterogeneous disorder with multiple causes, and provides the office-based primary care physician with a prac-

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tical approach to the evaluation and treatment of obese patients.

OBESITY AS A CHRONIC DISORDER

Most physicians are well aware that obesity is associated with a host of medical complications. A National Institutes of Health Consensus Development Conference on Health Implications of Obesity found that a 20% increase in body weight beyond the desirable weight is associated with a variety of adverse health outcomes, including non-insulin-dependent diabetes mellitus, hypertension, hypercholesterolemia, and certain cancers.15 Patients with severe or morbid obesity—those whose weight is more than 45.4 kg or 100% higher their desirable weight-face even greater risks to health and life, including striking increases in the risk of sudden unexplained death. 16 Central (also called "android") obesity (waist to hip ratio >1.0 in men or >0.8 in women), which reflects increased visceral adipose tissue deposition, is associated with an increased risk of medical complications compared with patients of similar weight who have peripheral or "gynoid" obesity. 17,18 Family history of a comorbid disease, such as non-insulindependent diabetes mellitus, also confers increased risk for the disease at a given degree of obesity.19

While aware of the medical illnesses associated with obesity, most physicians do not think of obesity in and of itself as a chronic illness. When a medical model for obesity is used, obesity is most often treated as a subacute illness, which will respond to time-limited treatment with a complete cure. While great strides have been made in the last two decades in improving initial weight losses in the obese, our ability to help patients maintain those losses has been far less impressive. Most studies indicate that even with motivated patients using state-of-the art dietary and behavioral therapies, the vast majority of patients will regain most or all of their lost weight within 5 years. 20,21 The high prevalence of weight cycling (repeated loss and regain of weight) can be seen as an outgrowth of our current approach to weight management. We do not treat diabetic patients with a 6-month course of insulin and expect their blood glucose levels to remain in control with no further treatment 5 years later. Yet we expect that, after completion of a 6-month weight management program, obese patients should be able to maintain their weight loss years later. When they do not meet this unrealistic expectation, both physicians and patients react with dismay and frustration. Conceptualizing medically significant obesity as a chronic disorder of multifactorial origin has a number of advantages:

- It is consistent with current medical research demonstrating strong genetic and biologic components to both the development and maintenance of obesity. ²²⁻²⁴
- It decreases some of the stigma associated with obesity by recognizing that obesity is more than a failure of willpower or a moral weakness. 11
- It recognizes the heterogeneous nature of obesity and supports the concept of matching treatments to the individual, much as is currently done in the therapy of hypertension.²⁵
- It emphasizes the long-term nature of the disorder and allows both

physician and patient to develop realistic expectations for the time and commitment involved in treatment.²⁶

EVALUATION

Evaluate the Office Environment

Many physicians' offices are both inaccessible and unfriendly to the severely obese patient.7 Easily implemented changes may make a difference in the overweight patient's comfort with both physician and practice. These include having armless chairs available in the waiting area, using appropriately sized blood pressure cuffs (including thigh cuffs), and having large examination gowns available. Sensitivity training for staff about the special needs of severely obese patients may be useful. Physicians should be aware that many obese patients are extremely sensitive about being weighed, and may even avoid care because of anxieties that this engenders. The physician may wish to negotiate with these patients about how frequently weights are required for their health care as well as who will weigh them (eg, physician rather than other staff). Standard physicians' scales may not be designed to measure weights greater than 159 kg (350 lbs), but may easily be adapted to weigh larger patients (**Table 1**).²⁷ The National Association to Advance Fat Acceptance

Table 1. Adapting a Standard Scale for Patients Weighing More Than 159 kg (350 lb)*

- 1. Have an average-size person weigh himself on the scale
- 2. Record his weight
- Attach an elastic band to the earpieces of a stethoscope and attach the stethoscope to the outer edge of the balance bar; make sure the stethoscope is not touching the side of the scale—it must hang freely
- 4. Have the average-size person weigh himself again
- 5. Record his weight, subtract the second weight from the first, and note the difference
- With the stethoscope still attached to the balance, have your supersize patient weigh himself and record the weight (you will find that the weight is now measurable at less than 159 kg)
- Add the difference that was obtained in steps 1 through 5 to the weight recorded in step 6; the sum is your patient's accurate weight

^{*}Adapted from How to Weigh Your Supersize Patients.²⁷ If weighing is medically necessary, ensure that it takes place in a private setting, not in the presence of other patients or staff. The patient's weight should be recorded silently, free of any negative commentary.

Degree of Obesity	Percentage Higher Than Ideal Body Weight	Body Mass Index†	Degree of Medical Risk		
None	<20	20-24	None		
Mild	20-40	25-29	Low		
Moderate	40-100	30-39	Moderate to high		
Severe or morbid	>100 (or >45 kg higher than ideal body weight)	>40	Very high		

^{*}Based on a classification system developed by Stunkard.31 Adapted from Yanovski.32 †To calculate body mass index, divide weight in kilograms by height in meters squared.

(NAAFA, PO Box 188620, Sacramento, CA 95818) publishes a health kit available free to health professionals that contains useful suggestions for providing a more sensitive approach to severely obese patients.

Obtain an 'Obesity-Centered' History

The patient's initial visit with a physician may not be the optimal time for discussing obesity management. The physician should be cued by the patient, whose reason for the visit may not be obesity-related. The patient's chief complaint—not the physician's—should take priority. Toward the end of the visit, after the chief complaint has been addressed, the physician may ask if the patient's weight has been much of a problem. This will provide an opening should the patient want to discuss the issue.²⁸

For the established patient, the serious and deliberate consideration of the patient's obesity, distinct from the admonishment to "lose some weight," may come as a pleasant surprise and signal a fundamental change in the relationship between physician and patient.

It is likely that no physician has ever seriously inquired into the patient's struggles with obesity. This interview can be scheduled for a separate session with the patient and may be conducted by the physician or other professional staff members (such as a dietitian). The goals of this interview include determining the relative contribution of biologic factors (such as age of onset of obesity, fam-

ily history of obesity, and dieting history), environmental factors (including current dietary and exercise habits, presence of binge eating, and social support), motivation for weight loss (including current stresses in the patient's life, financial and time commitments the patient is willing to devote to treatment, and the patient's goals and expectations).^{29,30}

Assess the Patient's Degree of Obesity and Medical Risk

Obesity may be conveniently characterized based on weight or body mass index (BMI) as mild, moderate, or severe (**Table 2**). ³¹ Body mass index (weight in kilograms divided by height in square meters) is an index of weight that is adjusted for the patient's height. While this does not actually measure body fat, it generally correlates well

with degree of obesity.³³ **Table 3** shows the BMI for a range of heights and weights. In children, the acceptable BMI varies considerably with age and ageadjusted tables must be used.³⁴ While there is controversy over which of the several available height-weight tables for adults may be desirable

for the population as a whole, ^{35,36} the US Department of Health and Human Services has recently published a table of healthy weights that may serve as a guideline for most obese patients. ³⁷ A BMI of greater than 25 in patients younger than 35 years or of greater than 27 in those older than 35 years

is a reasonable indicator of medically significant obesity in patients without concomitant risk factors or obesityrelated illnesses. In patients with such risk factors, more intensive treatment may be indicated at a lower BMI.³⁸ The office nurse can easily determine a patient's BMI using the height/weight conversions from Table 3 and can record the BMI in the chart along with other vital signs as a convenient reference for the physician. Because of the increased medical risk at a given BMI for patients with central obesity, accurate measurement of the waist-hip ratio provides valuable prognostic information (Table 4).

The medical evaluation should include assessment of family history of cardiovascular disease, hypertension, cancer, diabetes, and hyperlipidemia and determination of the patient's blood pressure, lipid profile, and fasting or postprandial blood glucose level. Other laboratory testing, such as evaluation for hypothyroidism or hypercortisolism, should be guided by the patient's symptoms and results of physical examination.32 In patients with hypertension, hyperlipidemia, family history of noninsulin-dependent diabetes mellitus, or a high waist-hip ratio, fasting serum insulin levels may provide evidence of hyperinsulinemia, which is

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associated with an increased risk of subsequent glucose intolerance and cardiovascular disease.³⁹

Studies^{40,41} have shown that medically significant obesity is recorded as a problem in the patient's medical record less than half of the time. When obesity is listed in the problem-oriented

medical record, the physician is more likely to recommend treatment ⁴⁰ and both physician and patient are reminded to address the issue. Therefore, when the physician has determined that the patient has medically significant obesity, its presence should be recorded on the problem list or flow sheet in the medical record.

After the evaluation has been completed, the physician should have a better understanding of the biologic and environmental factors underlying the patient's obesity as well as the degree of medical risk. The results of

Conceptualiz[e] medically significant obesity as a chronic disorder of multifactorial origin

the evaluation should be summarized for the patient. The patient's view of his or her condition, including beliefs about causation, health risks, and barriers to treatment, should be determined and any misconceptions addressed. Some patients, particularly men with

a high risk for medical complications of obesity, may need education to break through denial, while many women can be reassured that their evaluation places them at relatively low medical risk.

MANAGEMENT

Develop an Individualized Treatment Plan for the Patient

Given that obesity is a heterogeneous disorder with multiple causes, it is not surprising that attempts to treat all obese individuals as similar have met with

failure. The degree of obesity, its cause, the presence of concurrent binge eating or psychologic dysfunction, financial considerations, the patient's motivation for weight loss, and the

patient's health problems or risk of such problems will enable the physician to determine the urgency of the problem and to match appropriate treatment to the needs of the individual. 42

The desire for the patient to lose weight may be present in the phy-

sician alone (when the physician believes treatment would be desirable but the patient does not), in the patient alone (when the patient desires weight loss treatment, while the physician does not believe it is medically necessary), or in both the physician and the patient (when medically significant obesity is present and the patient is motivated for treatment). Each scenario requires a distinct management approach.

Unmotivated Patient With Medically Significant Obesity. Some obese patients, regardless of degree of obesity or medical complications, are not motivated to begin a long-term weight management program. Such patients are unlikely to follow through on even the most thoughtfully designed program. The reasons may range from lack of knowledge about the medical risks of obesity to despair over attaining permanent weight loss after a lifetime of "yo-yo" dieting. Careful assessment, as described previously, will ensure that physician and patient have an adequate understanding of the patient's degree of medical risk, motivations,

Height, cm		Body Mass Index, kg/m²												
	19	20	21	22	23	24	25	26	27	28	29	30	35	40
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147.3	41.2	43.4	45.6	47.7	49.9	52.1	54.3	56.4	58.6	60.8	62.9	65.1	76	86.8
149.9	42.7	44.9	47.2	49.4	51.7	53.9	56.1	58.4	60.6	62.9	65.1	67.4	78.6	89.8
152.4	44.1	46.5	48.8	51.1	53.4	55.7	58.1	60.4	62.7	65	67.4	69.7	81.3	92.9
154.9	45.6	48	50.4	52.8	55.2	57.6	60	62.4	64.8	67.2	69.6	72	84	96
157.5	47.1	49.6	52.1	54.6	57	59.5	62	64.5	67	69.4	71.9	74.4	86.8	99.
160	48.7	51.2	53.8	56.3	58.9	61.5	64	66.6	69.1	71.7	74.3	76.8	89.6	102.
162.6	50.2	52.9	55.5	58.1	60.8	63.4	66.1	68.7	71.3	74	76.6	79.3	92.5	105.
165.1	51.8	54.5	57.2	60	62.7	65.4	68.1	70.9	73.6	76.3	79	81.8	95.4	109
167.6	53.4	56.2	59	61.8	64.6	67.4	70.3	73.1	75.9	78.7	81.5	84.3	98.4	112.
170.2	55	57.9	60.8	63.7	66.6	69.5	72.4	75.3	78.2	81.1	84	86.9	101.4	115.
172.7	56.7	59.7	62.6	65.6	68.6	71.6	74.6	77.6	80.5	83.5	86.5	89.5	104.4	119.
175.3	58.4	61.4	64.5	67.6	70.6	73.7	76.8	79.9	82.9	86	89.1	92.1	107.5	122.
177.8	60.1	63.2	66.4	69.5	72.7	75.9	79	82.2	85.4	88.5	91.7	94.8	110.6	126.
180.3	61.8	65	68.3	71.5	74.8	78.1	81.3	84.6	87.8	91.1	94.3	97.6	113.8	130.
182.9	63.5	66.9	70.2	73.6	76.9	80.3	83.6	87	90.3	93.6	97	100.3	117.1	133.
185.4	65.3	68.8	72.2	75.6	79.1	82.5	86	89.4	92.8	96.3	99.7	103.1	120.3	137.
188	67.1	70.7	74.2	77.7	81.3	84.8	88.3	91.9	95.4	98.9	102.5	106	123.7	141.
190.5	69	72.6	76.2	79.8	83.5	87.1	90.7	94.4	98	101.6	105.2	108.9	127	145.
193	70.8	74.5	78.3	82	85.7	89.4	93.2	96.9	100.6	104.3	108.1	111.8	130.4	149.

^{*}To calculate height in centimeters, multiply height in inches by 2.54; weight in kilograms, multiply weight in pounds by 0.45.

strengths, and limitations. Many such severely obese patients have difficulty finding a physician who will provide them with routine medical care in a nonpunitive and nonjudgmental manner. 7 The physician can provide these patients with encouragement to consume a healthful diet as an aid to feeling better, without stressing the goal of weight loss. 43 Many severely obese patients are also very inactive, and may be easily discouraged by the idea of vigorous exercise.44 Encouragement of gradual increases in physical activity, such as a progressive walking program, can be negotiated between physician and patient. 45 Both exercise videotapes and exercise classes developed for the severely overweight are available in many communities, and can eliminate much of the embarrassment inherent in a trip to the health club. Benefits of increased physical activity such as reduction of medical risk44 and enhanced sense of well-being46 occur independent of weight loss. The physician can communicate continued concern and availability to work with the patient to design an individualized weight management program should the patient become ready. The primary care physician who provides sensitive and compassionate care for severely obese patients without denigrating them for their inability to lose weight performs a much needed service.

Motivated Patient Without Medically Significant Obesity. Unfortunately, many Americans who are most committed to the \$30 billion-peryear weight-loss industry47 are not overweight, and a large percentage of these dieters are young white women who, as a group, have the lowest prevalence of obesity.48 The emotional and financial costs of attempted weight loss in this population probably outweigh any benefits to health.49 The normal-weight or slightly overweight young woman who attempts weight loss dieting is also at risk for developing an eating disorder.50 Rather than encouraging weight loss in these patients, the physician should stress stabilization of Table 4. Accurate Measurement of Waist-Hip Ratio

- 1. Locate the waist: The waist is defined as the smallest circumference of the torso, and is not necessarily at the umbilicus. In obese patients, narrowing at the waist may not be present, and the "waist" should then be defined as the smallest horizontal circumference between the 12th rib and the iliac crest. In obese patients, it is often easier to have the patient locate the 12th rib.
- 2. Measure the waist

The patient should have no clothing at the waist

The patient should be standing with abdomen relaxed, arms at sides, and feet together Place a flexible, nonstretchable tape measure horizontally at the waist; do not compress the skin

Measure

- Locate the hip (buttocks): The hip is defined as the level of the maximum extension of the buttocks posteriorly. In obese patients, the anterior abdominal wall may sag, and by default, have to be included in the measurement
- 4. Measure the hip

The patient should be wearing only underwear

The patient should stand tall but relaxed, with arms at sides

The practitioner should kneel or squat so as to be at eye level laterally with the buttocks Place a flexible, nonstretchable tape measure horizontally around the buttocks at the point of maximum circumference; do not compress the skin

Measure

 Calculate the waist-hip ratio: Divide waist circumference by hip circumference. A waist-hip ratio of 1 or lower in men or 0.8 or lower in women is acceptable. Higher ratios indicate increased health risk.

current body weight and prevention of medically significant obesity. Patients should be encouraged to consume a diet that is low in fat and high in complex carbohydrates, as recommended in the current US Department of Agriculture guidelines, ³⁷ and increase physical activity, especially through changes in life-

style such as climbing stairs and walking. The President's Council on Physical Fitness and Sports has developed a patient handout that contains an "exercise prescription." Use of such a prescription may reinforce the physician's

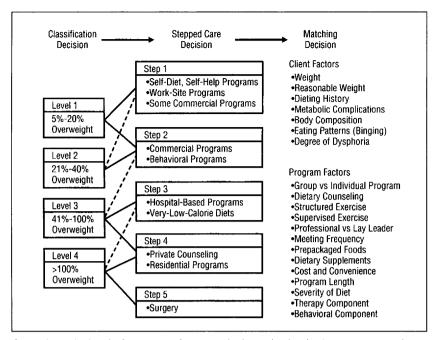
recommendations for increased physical activity.

Motivated Patient With Medically Significant Obesity. A "stepped care" approach (Figure) can be developed for the motivated patient with medically significant obesity, taking into account his or her individual needs, financial resources, and avail-

ability of community resources. 42 The mildly obese patient with few risk factors for medical complications can be treated in much the same way as the nonobese patient. Some patients may also benefit from more structured support, such as self-help groups or programs that incorporate behavioral treatment. For the moderately

strong genetic and biologic components to both the development and maintenance of obesity [have been demonstrated]

to severely obese patient or the patient with medical complications responsive to weight loss, more intensive treatment may be indicated. These include hospital-based behavioral treatment programs and very-low-calorie diet programs that incorporate behavior modification, nutrition education, and physical activity. While pharmacotherapy with serotoninergic agents such as fenflu-



Approach to selecting obesity treatment. A conceptual scheme showing the three-stage process in selecting a treatment for an individual. The first step, the "classification decision," classifies individuals into four levels by percentage overweight. These levels dictate which of the five steps would be reasonable in the second stage, the "stepped care decision." This indicates the least intensive, costly, and risky approach, which will be used from among alternative treatments. The third stage, the "matching decision," is used to make the final selection of a program and is based on a combination of client and program variables. The dashed lines between the classification and stepped care stages show the lowest level of treatment that may be beneficial, but more intensive treatment (solid lines) is usually necessary for people at the specified weight level (from Brownell and Wadden*2).

ramine hydrochloride or fluoxetine (weight loss is an unlabeled use for fluoxetine) may be effective for some obese patients, rapid regaining of lost weight after discontinuation makes its short-term use a problem. Longterm use of medications is wellestablished in the treatment of other chronic diseases, and such use of medications in the treatment of obesity is promising.53 Studies of the longterm efficacy and safety of pharmacologic antiobesity agents are ongoing,54,55 but both regulatory barriers and questions about the optimal use of such agents preclude the longterm use of these medications except in the context of research studies.56 Residential treatment is an option for some moderately and severely obese individuals who are both motivated and can afford the time and expense required for treatment.57 For the severely obese patient (those weighing >100% more than their ideal body weight) with medical complications who has failed with more conservative weight loss methods, gastric surgery can provide very satisfactory long-term results, improving both psychosocial⁵⁸ and physiologic^{59,60} functions. The report of the National Institutes of Health Consensus Development Conference on Gastrointestinal Surgery for Severe Obesity⁶¹ provides information on current indications, risks, and benefits of surgical treatment in this population. Many severely obese patients have serious difficulties with binge eating, and these patients may be particularly prone to early relapse and weight cycling. 62,63 Such patients may benefit from referral to programs or therapists specializing in the treatment of binge-eating disorder.64

Establish Clear-cut Treatment Goals and Consider Redefining Outcome Measures

A patient with severely obese parents who has been obese since child-hood is unlikely to achieve what charts might consider "ideal" body weight. Many patients have unrealistic goals

for weight loss and need to be educated about the chronic nature of obesity and the benefits of modest weight loss. Even relatively small amounts of weight loss, such as 10% of initial body weight, can have significant effects on underlying risk factors such as hypertension, hyperlipidemia, and glycemic control.65 Improvement in mood also commonly occurs with behavioral weight loss treatment, even after losses as small as 5 kg.66,67 Physician and patient may agree to redefine acceptable results, using outcome measures such as decreased serum cholesterol, normalized blood pressure, decrease in joint pain, or enhanced sense of well-being as criteria for success rather than the loss of a specified amount of weight.

Take Advantage of Available Expertise in the Office or Hospital

Many large groups or hospital-based practices have access to dietitians, nurseeducators, or psychologists. These professionals can be helpful in both the evaluation and treatment of obese patients. Dietitians can work with patients in assessing dietary history and can provide both nutrition education and ongoing support. They can also be helpful in working with patients who have special dietary needs or preferences. Nurse-educators or psychologists can help in patient evaluation and in designing and monitoring a treatment program. In large-group practices with interested patients and a willing group leader, time-limited behavioral treatment can even be offered in the office setting (eg, the LEARN Program for Weight Control).68

Develop Familiarity With Available Resources in the Community

Most physicians do not have the time or resources in their offices to provide comprehensive, long-term obesity treatment for their patients. In many cases, referral outside the physician's practice may be indicated. Community resources include registered dietitians in private practice, self-help groups, commercial weightloss programs, work-site programs. and hospital-based very-low-calorie diet programs. 69 Office staff can help to compile a resource list, perhaps in consultation with the nutrition department at area hospitals. By becoming familiar with a few of these local resources, physicians will be more likely to match patients with an appropriate program. Additionally, physicians who treat severely obese patients may wish to become familiar with currently available surgical approaches to the treatment of obesity70 and with the names of surgeons in their region who have expertise in these procedures.

Provide Continuity of Care During Weight-Loss Treatment

The physician should continue to provide primary medical care, even if the patient is receiving additional treatment outside the office. Regular visits should be scheduled to discuss the patient's progress, and the physician should be prepared to help with alternative plans should the initial treatment recommendation prove unsatisfactory. During the weight-loss program, the physician can help the patient endure the frustration of weight plateaus or small regains. Improvements in blood pressure or cholesterol, which will likely occur with even modest degrees of weight loss, can be emphasized. The patient who has underlying medical problems, such as diabetes or hypertension, requires careful medical monitoring during weight loss.

Provide Long-term Support

The initial weight-loss phase is only the beginning of the patient's weight management treatment. Recognize the chronic and relapsing nature of obesity. As diabetic patients need to become expert in the management of their illness, so do patients with longestablished obesity. The physician should continue to schedule regular

visits or telephone calls to discuss weight management after formal weight-loss treatment has ended. Ask about the patient's adherence to his or her diet and exercise program. Both physician and patient should have a plan for reinstituting active treatment if weight gains occur beyond a predefined range or if target risk factors worsen. Relapse prevention training,71 continued social support and posttreatment therapist contact,72 and continued exercise⁷³ have been shown to improve weight maintenance significantly. Regardless of the treatment plan chosen, it is helpful for patients to view their physician as a nonjudgmental ally in the management of a chronic disorder with which they will likely have to struggle all of their lives.

Acquiring the skills to intervene sensitively with obese patients, developing familiarity with available treatment resources, and understanding the natural history of obesity and the importance of continued support will provide the primary care physician with a more consistent and effective approach to the management of obesity. This approach should provide a more satisfying outcome for both physician and patient.

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