



# Management of Overweight Patients

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Presented at the 50th Annual Refresher Course for Family Physicians, Ottawa, Ontario, April 2001.

## The Great Predicament

Obesity is prevalent and increasing at an alarming rate.<sup>1</sup> It results in a high risk of metabolic/cardiovascular, structural and self-esteem problems. It presents a high cost to the health-care system and treatments are few, difficult to follow and with poor long-term success rates.<sup>1</sup> Furthermore, there is a mismatch among those trying to lose weight — many people who are trying to lose weight are of normal weight or underweight, while many who should be losing weight for medical reasons are not.<sup>2,3</sup> The objective of this article is to plot a practical approach to assessment and management of the overweight.

## Approach Suggestion 1: General Philosophy and Attitude in Dealing With Overweight Patients.

Until recently, overweight people were blamed for their weight. They were accused of overeating and being underactive. In earlier times, they were considered guilty of two of the seven deadly sins: sloth and gluttony. On the contrary, overweight patients often reported that they were physically active and restricting their food intake. Studies were then conducted to show that overweight patients were under-reporting their food intake.<sup>4</sup>

Current evidence suggests that, while being overweight results from a mismatch between ener-

## Management of the Overweight

gy intake and energy expenditure, individuals vary widely in the amount of food intake they can handle and the amount of exercise they need to maintain a “normal” body weight.

There are various genetic and other biological factors that explain why some people get fat and others do not in this modern environment, which encourages obesity by making physical activity unnecessary and food readily available 24 hours a day. Obesity caused by single-gene mutations appears to be very rare — only 47 human cases have been reported in the literature to date.<sup>5</sup> It seems

more likely that discrete gene sets may prevent or facilitate obesity in humans by influencing food intake (*i.e.*, leptin), altering the ability of skeletal muscle to dispose of excess energy (*i.e.*, uncoupling proteins), or by influencing the capacity of the adipocyte to accumulate triglyceride (*i.e.*, CD-36, perilipin).

If we accept the evidence for the genetic causes of obesity, then two important points must follow. **First**, being overweight should be considered a medical condition and patients should not be blamed for their weight, as they were in the past. Often, this requires special empathy and compassion on the part of the physician to undo some of the psychological and self-esteem damage patients sustained in the past. **Secondly**, patients who have genetic factors leading to obesity will have these factors for the rest of their lives. Long-term interventions, therefore, must be considered for the treatment of overweight patients — in other words, not weight loss, but long-term weight management.

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### Summary

## Practical Management of the Overweight in 2002

- Current evidence suggests that, while being overweight results from a mismatch between energy intake and energy expenditure, individuals vary widely in the amount of food intake they can handle and the amount of exercise they need to maintain a “normal” body weight.
- The risk of obstructive sleep apnea increases with excess weight and deserves special mention because of the morbidity and mortality associated with it. Try to diagnose and treat the sleep apnea first, since it may not resolve with weight loss.
- Overweight patients often have poor self-esteem and an empathetic and compassionate approach usually will strengthen the therapeutic alliance between doctor and patient.
- A growing body of research shows even small reductions in weight are associated with significant improvements in obesity-related medical complications, such as hypertension, diabetes and lipid problems.
- Exercise can present special problems for overweight people, especially those with a body mass index (BMI) > 40, who are at risk of structural injuries with exercise. Participating in water-based sport exercises, however, may prevent such injuries.

Table 1

## World Health Organization (WHO) Classification of Excess Weight According to BMI

Classification	BMI	Risk of comorbidities
Underweight	< 18.5	Low (but risk of other clinical problems increased)
Normal Range	18.5 - 24.9	Average
Overweight	≥ 25	
• Pre-obese	25 - 29.9	Increased
• Obese class I	30.0 - 34.9	Moderate
• Obese class II	35.0 - 39.9	Severe
• Obese class III	> 40.0	Very Severe

BMI=Body mass index

Adapted from: World Health Organization: Obesity: Preventing and Managing the Global Epidemic. Report of a WHO Consultation on Obesity. Geneva, 1997.

### Approach Suggestion 2: Find High-Risk Overweight Patients

There is no simple way to treat obesity. It makes sense, therefore, to identify high-risk, obese patients and concentrate on increasing their motivation for treatment (Table 1). This becomes especially important in those patients with a body mass index (BMI) of 25 to 30. Individuals in this category may be perfectly healthy or have high-risk obesity. They are encouraged to lose weight in this BMI range if they have other risks or comorbidities (Table 2).

Overweight patients with the metabolic syndrome (metabolic triad of non-traditional risk factors) have a very high risk of cardiovascular disease.<sup>7</sup> Many of these patients have BMIs of < 30. Frequently, there is a family history of early cardiovascular disease. Weight maintenance at a

lower level results in marked improvement of the lipid profiles (Table 3).<sup>8</sup>

The risk of obstructive sleep apnea increases with excess weight and deserves special mention because of the morbidity and mortality associated with it. Try to diagnose and treat the sleep apnea first, since it may not resolve with weight loss. Also, patients with untreated obstructive sleep apnea may have so much daytime fatigue and irritability they are unable to get on with the difficult task of weight loss and management.

Overweight patients often have poor self-esteem and an empathetic and compassionate approach usually will strengthen the therapeutic alliance between doctor and patient. The physician's choice of words can have a positive effect. It has been shown that overweight women prefer the use of non-judgmental terms, such as "weight," "overweight" and "BMI," and they find the terms "fat," "fatness" and "obesity" offensive.<sup>9</sup> Since people

## Management of the Overweight

Table 2

### Overweight: The Risks or Comorbidities

Metabolic/Cardiovascular	Structural	Self-Esteem	Other
Centrally distributed weight Elevated triglycerides Often decreased HDL Hypertension	Arthritis/joint problems	<i>EXPLICIT:</i> Criticisms and jokes from a thin-oriented society	<i>Malignancies:</i> Uterine
Type 2 diabetes Hx of cardiovascular disease	Obstructive sleep apnea	<i>IMPLICIT:</i> Inability to fit in cinema, airplane seats, or buy clothes easily	Idiopathic intra-cranial hypertension
	Stress Incontinence (in women)		

Hx = history; HDL = high-density lipoprotein

Table 3

### Diagnosis of Metabolic Syndrome

Waist circumference > 102 cm in men\* and 88 cm in women\*  
Triglycerides > 2 mmol/L

\* Actual waist circumferences may turn out to be less, such as 90 cm for men.

Adapted from: Lemieux I: Hypertriglyceridemic waist: A marker of the atherogenic metabolic triad (hyperinsulinemia, hyperapo B, small, dense LDL) in Men? *Circulation* 2000; 102:179-84.

with normal weight, or a very low risk of becoming overweight, often have self-esteem issues, these patients may require help available through specific resources, such as The Body Image Workbook or individual counseling.<sup>10</sup>

There are many overweight people who have a perfectly normal lipid profile and no other risk factors. Until evidence to the contrary emerges, physicians should not focus on these patients for weight management. It is also important not to

treat the BMI only. BMI is calculated from weight and height only and does not take into account body composition. Many athletes exceed a BMI of 30 and yet have a low percentage of body fat. Body impedance analysis devices are available and may be useful clinically in determining body fat. Such devices may also be used to set goals for weight management.

### Approach Suggestion 3: Find and Deal with Barriers to Weight Loss or Weight Management

Is the patient ready to lose and manage his/her weight? How do we deal with the poorly motivated patient who is at high risk of being overweight? We rely heavily on motivational interviewing and the patient-centered approach (Table 4). Motivation to change is not an all-or-nothing phenomenon, but a matter of degree, and physicians should try to increase that degree (Table 5).

## Management of the Overweight

Table 4

### Barriers to Weight Loss and Management

- a) Is the patient ready to lose and manage weight?
- b) Does the patient have hypothyroidism?
- c) Is the patient on drugs that cause weight gain or prevent weight loss?
  - Tricyclic antidepressants
  - Some SSRIs (not usually fluoxetine, sertraline, citalopram)
  - Lithium
  - Phenothiazines
  - "Newer," or "atypical" antipsychotics (risperidone, quetiapine, *etc.*)
  - Glucocorticoids
  - Anti-migraine agents (pizotifen, amitriptyline)
  - Sometimes oral contraceptives
  - Insulin and sulfonylureas
- d) Does the patient have an endocrine cause for being overweight? For example:
  - Hypothalamic damage
  - Prader-Willi syndrome
  - Insulinoma
  - Cushing's disease
  - Polycystic ovary syndrome with insulin resistance
- e) Does the patient have major affective disorder or atypical depression?
- f) Does the patient have obstructive sleep apnea?
- g) Does the patient have binge-eating disorder or bulimia nervosa?
- h) Does the patient have a high alcohol intake?

SSRI = selective serotonin reuptake inhibitor

Screening for hypothyroidism is cost-effective, and treatment of clinical hypothyroidism, or those with a thyroid stimulating hormone (TSH) of >10 mIU/L is clear. What should be done about those with "subclinical hypothyroidism," or those with a TSH of 5 mIU/L to 10 mIU/L? On theoretical grounds, the author has treated such overweight patients with levothyroxine to return the TSH to

the normal range.

There is great individual variation, as certain drugs may cause weight gain in some patients and have no such effect in others (Table 4).<sup>11</sup> If a patient reports weight gain after a certain medication was started, it is important to stop or change that drug. Conversely, some drugs not normally associated with weight gain may have such an effect in

Table 5

### An Approach to Improve Motivation

#### Establishing the Therapeutic Alliance

1. The physician patient encounter is seen as a meeting of experts.
2. Unconditional respect for the patient, including considerate choice of terms (*i.e.*, weight or overweight instead of fat or obesity).
3. The adult-to-adult style is used in the physician-patient relationship to help patients make informed decisions about management of their disorder. The physician refrains from a parent-child style of interaction as would be the case if that physician were to dictate lifestyle decisions.

#### Identifying the Primary Target

Physicians encourage patients to reach their own evaluations of progress, lab tests, *etc.* Patients are more likely to decide to change their behavior and sustain their new behavior if they have made decisions for themselves instead of in response to external pressure.

#### Negotiating the First Step

Patients are encouraged to choose the first step. Some patients already know their first step, others may need a list of choices.

#### Positive Focus

1. Reinforce effort. A patient may have committed to use an exercise bicycle for 10 minutes every day and may have done this since the last visit. Their weight may not have changed but there should be strong reinforcement for the fact that they have initiated this process.
2. Highlight positive consequences.
3. Reframe failure. For example, your patient has been losing weight nicely for the last three visits and on this visit you find that the weight is up and he/she has stopped keeping a diary. Instead of a punitive approach, we encourage the patient to study the time interval to see if he/she can learn how to improve or correct the situation.

Adapted from: Butler C, Rallnick S, Scott N: The practitioner, the patient and resistance to change: Recent ideas on compliance. *Can Med Assoc J* 1996; 9:1357-61; and Levenkron J, Greenland P: University of Rochester interview scale, *Am J of Prev Med* 1987; 3:152-6.

some individuals (the author has occasionally seen this with fluoxetine).

It can be difficult to determine when and how to screen for the presence of Cushing's disease. The author screens for the disease with a 4 p.m. cortisol or a 24-hour urine for cortisol, if the patient has had a recent onset of a centrally distributed over-

weight state, or if three or more of the physical signs of Cushing's disease are present.

The overweight state associated with polycystic ovary syndrome, insulin resistance and acanthosis nigricans, can be very resistant to treatment. Metformin may be considered part of the treatment.

## Management of the Overweight

Table 6

### Eating Disorders Associated With Being Overweight

#### Recognizing a Binge:

- Eating in a discrete period of time (*i.e.*, within a two-hour period) an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances.
- This eating is not hunger-driven, but may be associated with boredom, anger, anxiety, *etc.*
- A sense of lack of control over eating during the episode (*i.e.*, feeling one cannot stop eating or control what or how much one is eating). The eating is likely to continue until one of the following occurs:
  1. The person is so full that they cannot eat anything more;
  2. The food runs out; or
  3. Someone discovers the person bingeing (binge-eating is often done in secret).

#### To Diagnose Bulimia Nervosa There Must Be:

- a) Recurrent, inappropriate, compensatory behavior to prevent weight gain, such as self-induced vomiting or misuse of laxatives, diuretics, enemas, fasting or excessive exercise (hence, purging and non-purging types of bulimia nervosa).
- b) Binge-eating and inappropriate compensatory behaviors, both of which occur two or more times per week for three or more months.
- c) Self-evaluation is unduly influenced by body shape and weight.

#### To Diagnose Binge-Eating Disorder There Must Be:

- a) Binge-eating, as described above, two or more times per week for three or more months.
- b) No compensatory behavior.

Adapted from: American Psychiatric Association: Diagnostic and Statistical Manual-IV 1994, pp. 549-50,729.

Depressive illness may affect weight management. A depressed patient may be unable to develop the required motivation to lose weight and hyperphagia may be associated with some of the atypical depressions, such as seasonal affective disorder. Furthermore, many antidepressant drugs may cause weight gain. The following antidepressants are less likely to cause weight gain:

- Fluoxetine;
- Sertraline;
- Venlafaxine;
- Nefazodone; and
- Bupropion.

Obstructive sleep apnea is both a risk associated with being overweight, and a barrier to treatment. Untreated obstructive sleep apnea may result in such lassitude and sleepiness that patients are unable to proceed with diet and exercise.

Diagnosis of binge-eating disorder and bulimia nervosa is described in Table 6. Such patients may be unable to use control of food intake to manage their weight. Recognition and specialized treatment of this disorder in an eating disorders clinic is usually necessary before these patients are able to restrict effectively their food intake.

There is likely an association between high

## Management of the Overweight

alcohol intake and being overweight. In any case, high alcohol intake likely interferes with the lifestyle modification necessary for good weight management.

### Approach Suggestion 4: Encourage Reasonable Goals

A growing body of research shows even small reductions in weight are associated with significant improvements in obesity-related medical complications, such as hypertension, diabetes and lipid problems. There is, however, controversy as to what the goals for a healthy body weight should be. Two separate guidelines suggest patients should achieve a 10% weight loss.<sup>6,12</sup> One of these guidelines suggests patients should maintain that weight for a six-month period and then try losing more weight.<sup>12</sup> Others suggest using a waist circumference goal, and still others suggest basing the goal on bioelectric impedance determinations of body fat.<sup>13</sup>

Given the controversy surrounding weight loss, the following position seems appropriate:

- Five per cent to 15% weight loss and maintenance. In general, patients wish to lose more than this amount of weight. They often they base their goals on the life insurance tables of ideal body weights.<sup>14</sup> For many patients with BMIs of > 30, attaining these goals would likely result in losing so much muscle mass that there would be significant loss of metabolic rate and an even greater tendency to regain weight.
- Counseling about appropriate goals for weight loss may be necessary. At least one study shows that patients may reach a successful goal according to the above recommendations, but if they don't reach a goal satisfactory to themselves, they are less likely to maintain their weight loss.<sup>15</sup>
- Some research suggests patients target a waist

circumference goal rather than a weight loss goal. Presumably, these goals would be a waist circumference of < 102 cm for men and 88 cm for women.<sup>13</sup> These goals might be unreasonable for those who are classed as World Health Organization (WHO) class II or III obesity.

### Approach Suggestion 5: Management

There are three long-term interventions available for the treatment of obesity:

- Lifestyle modification to help with control of food intake and increase physical activity;<sup>16</sup>
- Pharmacotherapy; and
- Surgery to limit food intake and, sometimes, also limit the absorption of nutrients.

### Diet and Exercise

**Diet: The great pitfall.** Many patients think if they can just get their weight down, they will have the same ease at keeping it off as persons of normal weight. Many overweight individuals fail several times at losing weight before they accept that weight management requires long-term intervention on a daily basis.

Simply handing your patient a 1,200 calorie/day diet is unlikely to work. Nutrition counseling and follow-up with a dietitian is much more likely to be effective. Keeping a journal of food intake is the key to long-term weight maintenance.

Patients can get help from non-commercial weight management/support organizations, such as Take Off Pounds Sensibly (TOPS) or Overeaters Anonymous. The latter is best suited for individuals who define themselves as compulsive overeaters.

Commercial weight management programs also may be useful. The author has had experience using the following programs: Weight Watchers<sup>®</sup>,



# Management of the Overweight

Table 7

## Drugs for Weight Management

	Orlistat	Sibutramine
<b>Action</b>	Intestinal lipase inhibitor decreasing fat absorption by 30%.	Works centrally to inhibit reuptake of norepinephrine and serotonin, resulting in early satiety.
<b>Adverse effects</b>	Intestinal, including diarrhea and fecal incontinence. Slight malabsorption of fat-soluble vitamins.	Increase of heart rate and blood pressure in some. Anxiety and insomnia in some.
<b>Precautions</b>	May affect warfarin dosing. Multivitamin suggested.	Not yet approved for use with antidepressants. Not to be used in patients with coronary artery disease or those over 70 years of age.
<b>Benefits</b>	Although weight loss is only modest, it may have added benefits in the treatment of diabetics and those with high triglycerides.	Good weight loss in responders, but some patients may not respond to the drug.

Adapted from: National Institutes of Health: The Practical Guide: Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. 2000, NIH Publication Number 00-4084: [www.nhlbi.nih.gov](http://www.nhlbi.nih.gov).

Optifast<sup>®</sup>, Mincavi<sup>®</sup>, and the LEARN<sup>®</sup> Program for Weight Management. The latter is a self-help manual available at [www.learneducation.com](http://www.learneducation.com). Each of these programs promote good nutrition and encourage patients to develop long-term skills for weight management.

**Exercise: The great pitfall.** Patients may reward themselves with food that has more calories than those burned off during exercise.

The good things about exercise are:

- Exercise increases lean body mass;
- Exercise may prevent or delay Type 2 diabetes or modify its source; and<sup>17</sup>
- Exercise helps achieve long-term weight management.<sup>18</sup>

Exercise can present special problems for

overweight people, especially those with BMIs greater than 40, who are at risk for structural injuries with exercise. Participating in water-sport exercises, however, may prevent such injuries. Often, weight loss must occur through dietary means before the patient begins to exercise. Physical exercise is most important in long-term weight maintenance. Two helpful references: *The Practical Guide Identification, Evaluation, and Treatment of Overweight and Obesity in Adults* and *Handbook for Canada's Physical Activity Guide* discuss the importance of exercise.<sup>12,19</sup>

In some cases, personal trainers are very helpful in planning exercise programs for overweight patients.

# Management of the Overweight

## Pharmacotherapy

Only two drugs are approved for long-term management of the overweight — orlistat and sibutramine. Others, such as mazindol, diethylpropion and phentermine, however, are only approved for use over a few weeks, and would be of little use for long-term weight management.

Both orlistat and sibutramine are to be used as part of a program that includes diet and physical activity (Table 7).

## Surgery

Surgery for weight management is an option in patients with a BMI of > 40, or in patients with comorbidities who have a BMI > 35.<sup>12</sup> Surgery should be reserved for patients in whom other methods of treatment have failed. There are two surgical procedures currently in use (most other surgical procedures are variants of these):

- Banding of the stomach to reduce its volume. Vertical banded gastroplasty is the standard, but endoscopically-placed banding is available. The latter is not usually covered by provincial health-care plans.
- Roux-en-Y gastric bypass both limits gastric volume and bypasses the lower stomach and a variable portion of the small intestine. Due to a bypass of part of the small intestine, there is a reduction in absorptive surface.

Most patients fare remarkably well, with reversal of diabetes, control of hypertension, improvement of mobility and significant improvement in quality of life. Complications include incisional hernias, gallstones, dumping syndrome and vitamin deficiencies (if patients do not follow instructions to maintain adequate intake of vitamins and iron). [CME](#)

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