



# WEIGHT LOSS METHODS

Body Mass Index (BMI) is a way to define overweight and obesity. The index is a mathematical formula in which a person's body weight in kilograms is divided by the square of his or her height in meters [ $\text{kg}/\text{m}^2$ ]. The BMI is more highly correlated with body fat than any other mathematical ratio of height and weight; however, athletes and individuals with a high percentage of muscle may have a BMI in the overweight range because of the higher density of muscle compared to fat.

- A BMI of 18 to 25 is considered normal weight. Individuals with a BMI of 25 to 29.9 are considered overweight, and those with a BMI of 30 or more are considered obese.
- Overweight is defined as increased weight in relation to height.
- Obesity is defined as an excessively high amount of body fat or adipose tissue in relation to lean body mass.

The distribution of body fat is important from a chronic disease perspective. Those who have more body fat in the abdominal area have an increased risk for elevated triglycerides, high blood pressure and glucose intolerance. Waist circumference correlates well with chronic disease risk. A waist circumference of 40 inches (102 cm) or more in men or a waist circumference of 35 inches (88cm) or more in women puts one at greater risk of insulin resistance and the chronic diseases associated with it.

When someone is a few pounds overweight and is motivated to lose weight, there are safe and effective methods to lose a few pounds and to maintain a weight loss.

# 1. Behavior Change

Eating right and losing weight can be difficult. To lose weight and keep it off, changes in lifestyle and daily habits are necessary. Long-term lifestyle changes require more than simply watching what one eats and how much one exercises. It requires changing one's approach (thinking, feelings and actions) to eating and physical activity.

Behavior change is one of the most widely used strategies for helping people to lose weight and maintain a healthy lifestyle. Studies have demonstrated several tools that are effective in helping people make this change toward a healthy way of living. These behavior change tools focus on maladaptive eating and exercise patterns that can lead to weight gain, and these tools are designed to reduce the cues in our environment that predispose to weight gain. These tools help to increase awareness of eating and activity patterns, normalize eating patterns, reduce exposure to cues for unhealthy eating or activity patterns, and alter responses to difficult situations.

Some common behavior change tools include: (1) making lifestyle changes a priority, (2) establishing a plan for success, (3) setting goals for eating and exercise, (4) keeping a record of eating and physical activity every day, (5) avoiding a "food chain reaction" (learning the social and environmental cues around you that encourage unhealthy eating or sedentary behavior and avoiding/distracting yourself from these triggers) and (6) rewarding yourself with nonfood "prizes" for each met goal.

# 2. Exercise

Maintaining, gaining and losing weight are tied to energy balance. Positive energy balance leads to weight gain, negative energy balance leads to weight loss and maintaining weight means an energy balance has been reached. Physical activity and caloric intake balance each other. Exercise is excellent in helping to maintain a zero energy balance.

Exercise can build lean body mass, which burns more calories than fat. Walking, running and doing physical activity can burn two to three times or more calories than a similar amount of time sitting. Weight loss is easier to achieve by dieting, and exercise adds little to the weight loss of diet alone. The strength of exercise is in maintaining a weight loss attained through diet. An exercise program with a 150 to 200 minutes of moderate physical activity each week combined with a diet for weight loss can result in the maintenance of reduced body fat, particularly intra-abdominal fat. There is an improvement in overall physical fitness with an exercise program that may reduce blood pressure and improve insulin sensitivity.

# 3. Diet

## DiETING with the Exchange Diet

The American Diabetes Association breaks food down into six categories called exchanges: starch/bread, meat, vegetables, fruit, milk and fat. This Exchange diet is used to treat diabetes and other chronic diseases. The exchange system also works well for use in weight management. It is a balanced system, with foods from each group, and can be followed indefinitely. The diet is an easy way to monitor intake of carbohydrates, fat and protein as well as portion sizes.

## How to use the exchange plan:

The number of exchanges per day is determined by the number of calories needed each day. It is different for each person and depends on height, weight and the amount of energy expended. The most accurate way to determine the number of exchanges you need is with the help of a registered dietitian, health professional or a trained fitness professional. For more information about the exchange diet, contact: <http://www.diabetes.org/home.jsp>



## Dieting using calorie control portions

Meal Replacement Plan. Using a product with a fixed number of calories in each portion to replace a meal is the rationale behind this plan, whether the product is a liquid formula or a packaged item. This takes the guesswork out of meal planning, and the person can be assured of not consuming too many calories. By controlling portion sizes, fat and carbohydrate, a person can control calories. The replacement items are balanced and contain a mix of protein, carbohydrate and fat as well as other nutrients. Four different types of meal replacements are available: powder mixes, shakes, bars and prepackaged meals such as TV dinners. The usual plan is to use a meal replacement for one or two meals a day while having sensible meals that combine lean meat, starch, vegetables and fruit for the other meals during the day. An intake of five fruits and vegetables is recommended. A meal replacement program is more effective for losing weight than a conventionally structured weight loss diet. Meal replacements offer a convenient and nutritionally beneficial weight loss alternative to conventionally structured weight loss diets.

## 4. Medication

Medication is indicated when BMI is higher than 30 kg/m<sup>2</sup> or when the it is higher than 27 kg/m<sup>2</sup> and cardiovascular risk factors are present and safer methods have proven unsuccessful. The use of medication is always combined with a diet and lifestyle instruction under continued medical supervision. The medication and dosage are tailored individually to the patient. A person can expect 7 percent to 10 percent weight loss with the use of medication.

### Phentermine

Phentermine first received approval from the Food and Drug Administration (FDA) in 1959 as an appetite suppressant for the short-term treatment of obesity.

Phentermine affects certain neurotransmitters in the brain that decrease appetite, causing the person to eat less. When phentermine was approved, obesity was thought to be caused by bad eating habits. Psychologists tell us that habits can be learned or retrained over a few (up to 12) weeks. Thus, phentermine was tested over this period. We now understand obesity to be a chronic medical problem in which weight is controlled at a higher than healthy level, much as blood pressure control is dysregulated in a person with high blood pressure. Phentermine is effective for weight loss when used continuously for three months or chronically every other month.

### Sibutramine

Sibutramine induces weight loss primarily through its effect on food intake, but it also increases metabolic rate to a lesser degree. Normally when individuals lose weight, their metabolic rate goes down and energy expenditure decreases. Sibutramine helps to prevent this decline. Sibutramine enhances satiety. Most individuals lose from 5 percent to 10 percent of their body weight. Weight regain occurs after sibutramine is discontinued. Sibutramine use may increase heart rate and blood pressure. Regular blood pressure checkups are encouraged. Sibutramine is not recommended for someone with uncontrolled hypertension or tachycardia.

### Orlistat

Orlistat prevents the absorption of dietary fat. It inactivates an enzyme that is involved with fat digestion called lipase, and, in this way, about 30 percent less fat is absorbed. The unabsorbed dietary fat is then eliminated in the stool. This may change bowel habits, resulting in oily stools, fatty stools, increased frequency of bowel movements and an inability to control bowel movements. Orlistat intake, together with a 30 percent fat diet, can result in modest weight loss of about 6 to 7 pounds a year while minimizing the gastrointestinal side effects.

## 5. Surgery

Surgical therapy can be considered for a limited number of individuals who have BMI equal to or greater than 40kg/m<sup>2</sup> OR have a BMI equal to or greater than 35 kg/m<sup>2</sup> and significant co-morbidities such as hypertension AND can show that dietary attempts at weight control have been ineffective. Weight loss surgery should be reserved for those in whom other options, such as dietary treatment and medication, have failed.

### Malabsorptive

This operation creates a very small stomach pouch and/or bypasses a section of intestines. After surgery, food absorption is delayed. The operation restricts food intake and reduces the feeling of hunger by activation hormones in the lower small intestine. The result is an early sense of fullness followed by a sense of satisfaction. The portion size is reduced to a small 2- to 6-ounce serving. Patients continue to enjoy eating all types of food in smaller portions after surgery.

### Restrictive

A restrictive silicone band is placed around the upper part of the stomach, creating a smaller gastric pouch, limiting the amount of food that the stomach will hold at any time. The inflatable ring controls the flow of food from this smaller pouch to the rest of the digestive tract. A small amount of food creates a sense of fullness, and because of slow emptying, the feeling of fullness lasts for several hours.



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