

Original link: <http://www.uptodate.com/contents/weight-loss-treatments-beyond-the-basics>

## Patient information: Weight loss treatments (Beyond the Basics)

### INTRODUCTION

Obesity is a major international public health problem and Americans are among the heaviest people in the world. The percentage of obese people in the United States has risen steadily [[1,2](#)].

Many people find that although they initially lose weight by dieting, they quickly regain the weight after the diet ends. Because it so hard to keep weight off over time, it is important to have as much information and support as possible before starting a diet. You are most likely to be successful in losing weight and keeping it off when you believe that your body weight can be controlled.

This article discusses how to get started with a weight loss plan, including changes in your behavior, what you eat, and weight loss medications. Weight loss surgery is discussed in a separate article. (See "[Patient information: Weight loss surgery \(Beyond the Basics\)](#)".)

More detailed information about weight loss is available by subscription. (See "[Overview of therapy for obesity in adults](#)".)

### STARTING A WEIGHT LOSS PROGRAM

Some people like to talk to their health care professional to get help choosing the best plan, monitoring progress, and getting advice and support along the way.

To know what treatment (or combination of treatments) will work best, determine your body mass index (BMI) and waist circumference (measurement). The BMI is calculated from your height and weight ([calculator 1](#) and [calculator 2](#)).

- A person with a BMI between 25 and 29.9 is considered overweight
- A person with a BMI of 30 or greater is considered to be obese

A waist circumference greater than 35 inches (88 cm) in women and 40 inches (102 cm) in men increases the risk of obesity-related complications, such as heart disease and diabetes. People who are obese and who have a larger waist size may need more aggressive weight loss treatment than others. Talk to your health care professional for advice.

Types of treatment — Based on your measurements and your medical history, your doctor or nurse can determine what combination of weight loss treatments would work best for you. Treatments may include changes in lifestyle, exercise, dieting and, in some cases, weight loss

medicines or weight loss surgery. Weight loss surgery, also called bariatric surgery, is reserved for people with severe obesity who have not responded to other weight loss treatments. (See ["Patient information: Weight loss surgery \(Beyond the Basics\)".](#))

## SETTING A WEIGHT LOSS GOAL

It is important to set a realistic weight loss goal. Your first goal should be to avoid gaining more weight and staying at your current weight (or within 5 percent or five pounds). Many people have a "dream" weight that is difficult or impossible to achieve.

People at high risk of developing diabetes who are able to lose 5 percent of their body weight and maintain this weight will reduce their risk of developing diabetes by about 50 percent and reduce their blood pressure. This is a success.

Losing more than 15 percent of your body weight and staying at this weight is an extremely good result, even if you never reach your "dream" or "ideal" weight.

## LIFESTYLE CHANGES

Programs that help you to change your lifestyle are usually run by psychologists, nutritionists, or other professionals. The goals of lifestyle changes are to help you change your eating habits, become more active, and be more aware of how much you eat and exercise, helping you to make healthier choices.

This type of treatment can be broken down into three steps:

- The triggers that make you want to eat
- Eating
- What happens after you eat

Triggers to eat — Determining what triggers you to eat involves figuring out what foods you eat and where and when you eat. To figure out what triggers you to eat, keep a record for a few days of everything you eat, the places where you eat, how often you eat, and the emotions you were feeling when you ate.

For some people, the trigger is related to a certain time of day or night. For others, the trigger is related to a certain place, like sitting at a desk working.

Eating — You can change your eating habits by breaking the chain of events between the trigger for eating and eating itself. There are many ways to do this. For instance, you can:

- Limit where you eat to a few places (eg, dining room)
- Restrict the number of utensils (eg, only a fork) used for eating
- Drink a sip of water between each bite
- Chew your food a certain number of times
- Get up and stop eating every few minutes

The types of foods we eat on a regular basis are related to whether we gain or lose weight over time. Whole grains, fruits, vegetables, nuts, and yogurt are associated with lower weight over

four years, as contrasted with weight gain seen when eating french fried potatoes or chips, sugar-sweetened beverages, and red or processed meats [\[3\]](#).

What happens after you eat — Rewarding yourself for good eating behaviors can help you to develop better habits. This is not a reward for weight loss; instead, it is a reward for changing unhealthy behaviors toward healthy ones.

Do not use food as a reward. Some people find money, clothing, or personal care (eg, a haircut, manicure, or massage) to be effective rewards. Treat yourself immediately after making better eating choices to reinforce the value of the good behavior.

You need to have clear behavior goals and you must have a time frame for reaching your goals. Reward small changes along the way to your final goal.

Other factors that contribute to successful weight loss — Changing your behavior involves more than just changing unhealthy eating habits; it also involves finding people around you to support your weight loss, reducing stress, and learning to be strong when tempted by food.

- Establish a "buddy" system — Having a friend or family member available to provide support and reinforce good behavior is very helpful. The support person needs to understand your goals.
- Learn to be strong — Learning to be strong when tempted by food is an important part of losing weight. As an example, you will need to learn how to say "no" and continue to say no when urged to eat at parties and social gatherings. Develop strategies for events before you go, such as eating before you go or taking low-calorie snacks and drinks with you.
- Develop a support system — Having a support system is helpful when losing weight. This is why many commercial groups are successful. Family support is also essential; if your family does not support your efforts to lose weight, this can slow your progress or even keep you from losing weight.
- Positive thinking — People often have conversations with themselves in their head; these conversations can be positive or negative. If you eat a piece of cake that was not planned, you may respond by thinking, "Oh, you stupid idiot, you've blown your diet!" and as a result, you may eat more cake.

A positive thought for the same event could be, "Well, I ate cake when it was not on my plan. Now I should do something to get back on track." A positive approach is much more likely to be successful than a negative one.

- Reduce stress — Although stress is a part of everyday life, it can trigger uncontrolled eating in some people. It is important to find a way to get through these difficult times without eating or by eating low-calorie food, like raw vegetables. It may be helpful to imagine a relaxing place that allows you to temporarily escape from stress. With deep breaths and closed eyes, you can imagine this relaxing place for a few minutes.
- Self-help programs — Self-help programs like Weight Watchers®, Overeaters Anonymous®, and Take Off Pounds Sensibly (TOPS)© work for some people. As with all weight loss programs, you are most likely to be successful with these plans if you make long-term changes in how you eat.

## CHOOSING A DIET OR NEW EATING PLAN

A calorie is a unit of energy found in food. Your body needs calories to function. The goal of any diet is to burn up more calories than you eat. (See ["Dietary therapy for obesity"](#).)

How quickly you lose weight depends upon several factors, such as your age, gender, and starting weight.

- Older people have a slower metabolism than young people, so they lose weight more slowly.
- Men lose more weight than women of similar height and weight when dieting because they use more energy.
- People who are extremely overweight lose weight more quickly than those who are only mildly overweight.

How many calories do I need? — You can estimate the number of calories you need per day based upon your current (or target) weight, gender, and activity level for women and for men [\[4\]](#).

In general, it is best to choose foods that contain enough protein, carbohydrates, essential fatty acids, and vitamins. (See ["Patient information: Diet and health \(Beyond the Basics\)"](#).)

Try not to drink alcohol or drinks with added sugar, and most sweets (candy, cakes, cookies), since they rarely contain important nutrients.

Portion-controlled diets — One simple way to diet is to buy packaged foods, like frozen low-calorie meals or meal-replacement canned drinks. A typical meal plan for one day may include:

- A meal-replacement drink or breakfast bar for breakfast
- A meal-replacement drink or a frozen low-calorie (250 to 350 calories) meal for lunch
- A frozen low-calorie meal or other prepackaged, calorie-controlled meal, along with extra vegetables for dinner

This would give you 1000 to 1500 calories per day.

Low-fat diet — To reduce the amount of fat in your diet, you can:

- Eat low-fat foods. Low-fat foods are those that contain less than 30 percent of calories from fat. Fat is listed on the food facts label ([figure 1](#)).
- Count fat grams. For a 1500 calorie diet, this would mean about 45 g or fewer of fat per day.

Low-carbohydrate diet — Low- and very-low-carbohydrate diets (eg, Atkins diet, South Beach diet) have become popular ways to lose weight quickly.

- With a very-low-carbohydrate diet, you eat between 0 and 60 grams of carbohydrates per day (a standard diet contains 200 to 300 grams of carbohydrates).
- With a low-carbohydrate diet, you eat between 60 and 130 grams of carbohydrates per day.

Carbohydrates are found in fruits, vegetables, and grains (including breads, rice, pasta, and cereal), alcoholic beverages, and in dairy products. Meat and fish do not contain carbohydrates.

Side effects of very-low-carbohydrate diets can include constipation, headache, bad breath, muscle cramps, diarrhea, and weakness.

Mediterranean diet — The term "Mediterranean diet" refers to a way of eating that is common in olive-growing regions around the Mediterranean Sea. Although there is some variation in Mediterranean diets, there are some similarities. Most Mediterranean diets include:

- A high level of monounsaturated fats (from olive or canola oil, walnuts, pecans, almonds) and a low level of saturated fats (from butter).
- A high amount of vegetables, fruits, legumes, and grains (7 to 10 servings of fruits and vegetables per day).
- A moderate amount of milk and dairy products, mostly in the form of cheese. Use low-fat dairy products (skim milk, fat-free yogurt, low-fat cheese).
- A relatively low amount of red meat and meat products. Substitute fish or poultry for red meat.
- For those who drink alcohol, a modest amount (mainly as red wine) may help to protect against cardiovascular disease. A modest amount is up to one (4 ounce) glass per day for women and up to two glasses per day for men.

Which diet is best? — Studies have compared different diets, including:

- Very-low-carbohydrate (Atkins™)
- Macronutrient balance controlling glycemic load (Zone®)
- Reduced-calorie (Weight Watchers®)
- Very-low-fat (Ornish)

No one diet is "best" for weight loss [5]. Any diet will help you to lose weight if you stick with the diet. Therefore, it is important to choose a diet that includes foods you like.

Fad diets — Fad diets often promise quick weight loss (more than 1 to 2 pounds per week) and may claim that you do not need to exercise or give up favorite foods. Some fad diets cost a lot of money because you have to pay for seminars, pills, or packaged food. Fad diets generally lack any scientific evidence that they are safe and effective, but instead rely on "before" and "after" photos or testimonials.

Diets that sound too good to be true usually are. These plans are a waste of time and money and are not recommended. A doctor, nurse, or nutritionist can help you find a safe and effective way to lose weight and keep it off.

## WEIGHT LOSS MEDICINES

Taking a weight loss medicine may be helpful when used in combination with diet, exercise, and lifestyle changes. However, it is important to understand the risks and benefits of these medicines. It is also important to be realistic about your goal weight using a weight loss medicine; you may not reach your "dream" weight, but you may be able to reduce your risk of diabetes or heart disease. (See ["Drug therapy of obesity"](#).)

Weight loss medicines may be recommended for people who have not been able to lose weight with diet and exercise who have a:

- BMI of 30 or more ([calculator 1](#) and [calculator 2](#))
- BMI between 27 and 29.9 and have other medical problems, such as diabetes, high cholesterol, or high blood pressure, and who have failed to achieve weight loss goals through diet and exercise alone.

Orlistat — Orlistat (Xenical® 120 mg capsules) is a medicine that reduces the amount of fat your body absorbs from the foods you eat. A lower-dose version is now available without a prescription (Alli® 60 mg capsules) in many countries, including the United States. The

medicine is recommended three times per day, taken with a meal; you can skip a dose if you skip a meal or if the meal contains no fat.

After one year of treatment with orlistat, the average weight loss is approximately 11.7 pounds (5.3 kg) or 8 to 10 percent of initial body weight (4 percent more than in those who used lifestyle with a placebo). Cholesterol levels often improve and blood pressure sometimes falls. In people with diabetes, orlistat may help control blood sugar levels.

Side effects occur in 15 to 10 percent of people and may include stomach cramps, gas, diarrhea, leakage of stool, or oily stools. These problems are more likely when you take orlistat with a high-fat meal (if more than 30 percent of calories in the meal are from fat). Side effects usually improve as you learn to avoid high-fat foods. Severe liver injury has been reported rarely in patients taking orlistat, but it is not known if orlistat caused the liver problems [6].

**Lorcaserin** — Lorcaserin is a medicine that reduces appetite and thereby reduces body weight in men and women. Lorcaserin appears to have similar efficacy as orlistat. After one year, the mean weight loss is approximately 12.8 pounds (5.8 kg) compared with 6.4 pounds (2.9 kg) in the placebo group. Adverse effects of lorcaserin included headache, upper respiratory infections, nasopharyngitis, dizziness, and nausea, occurring in 18, 14.8, 13.4, 8, and 7.5 percent of patients, respectively.

The recommended dose of lorcaserin is 10 mg twice daily, taken with or without food. The response to therapy should be evaluated by week 12. Lorcaserin should be discontinued if patients do not lose 5 percent of body weight in 12 weeks.

Lorcaserin should not be used in individuals with reduced kidney function (creatinine clearance <30 mL/min). It is contraindicated during pregnancy. In addition, lorcaserin should not be used with other serotonergic drugs (eg, selective serotonin reuptake inhibitors, selective serotonin-norepinephrine reuptake inhibitors, bupropion, tricyclic antidepressants, and monoamine oxidase inhibitors) because of the theoretical potential for serotonin syndrome. (See ["Patient information: Serotonin syndrome \(The Basics\)"](#).)

**Phentermine-extended release topiramate** — Phentermine is a drug that reduces food intake by causing early satiety. Topiramate is used for the prevention of migraine headaches and epilepsy. Patients taking topiramate for these indications lose weight, but the mechanism is uncertain. In one year trials comparing the combination of phentermine and extended release topiramate (in one capsule) to placebo, patients lose approximately 8 to 10 percent of their bodyweight (mean weight loss 22.4 pounds [10.2 kg] compared with 3.1 pounds [1.4 kg] in the placebo group).

The initial dose of phentermine-topiramate is 3.75 to 23 mg for 14 days, followed by 7.5 to 46 mg thereafter. If after 12 weeks a 3 percent loss in baseline bodyweight is not achieved, the dose can be increased to 11.25 to 69 mg for 14 days, and then to 15 to 92 mg daily. If an individual does not lose 5 percent of body weight after 12 weeks on the highest dose, phentermine-topiramate should be discontinued gradually, as abrupt withdrawal of topiramate can cause seizures. Women of child-bearing age should have a pregnancy test before starting this drug and monthly thereafter.

The most common adverse events are dry mouth (13 to 21 percent), constipation (15 to 17 percent), and paraesthesia (14 to 21 percent). There is a dose-related increase in the incidence of psychiatric (eg, depression, anxiety) and cognitive (eg, disturbance in attention) adverse events.

Although blood pressure improves slightly with combination phentermine-extended release topiramate, there is an increase in heart rate (0.6 to 1.6 beats/min) compared with placebo.

This combination medicine is contraindicated during pregnancy because of an increased risk of orofacial clefts in infants exposed during the first trimester of pregnancy. We do not use phentermine-topiramate for patients with cardiovascular disease (hypertension or coronary heart disease) or in pregnant women. Phentermine-topiramate may be used in obese postmenopausal women and men without cardiovascular disease, particularly those who do not tolerate orlistat or lorcaserin.

**Dietary supplements** — Dietary supplements are widely used by people who are trying to lose weight, although the safety and efficacy of these supplements are often unproven. A few of the more common diet supplements are discussed below; none of these are recommended because they have not been studied carefully and there is no proof that they are safe or effective.

- Chitosan and wheat dextrin are ineffective for weight loss and their use is not recommended.
- Ephedra, a compound related to ephedrine, is no longer available in the United States due to safety concerns. Many nonprescription diet pills previously contained ephedra. Although some studies have shown that ephedra helps with weight loss, there can be serious side effects (psychiatric symptoms, palpitations, and stomach upset), including death.
- There are not enough data about the safety and efficacy of chromium, ginseng, glucomannan, green tea, hydroxycitric acid, L-carnitine, psyllium, pyruvate supplements, St. John's wort, and conjugated linoleic acid.
- Two supplements from Brazil, Emagrece Sim (also known as the Brazilian diet pill) and Herbathin dietary supplement, have been shown to contain prescription drugs.
- Hoodia gordonii is a dietary supplement derived from a plant in South Africa. It is not recommended because there is no proof that it is safe or effective.
- Bitter orange (Citrus aurantium) can increase your heart rate and blood pressure and is not recommended.
- Human chorionic gonadotropin is a hormonal preparation similar to luteinizing hormone that is given by injection. There have been several studies showing that these injections are not any better than placebo injections and it is thus not recommended [7].

## WEIGHT LOSS SURGERY

Weight loss surgery is discussed separately. (See ["Patient information: Weight loss surgery \(Beyond the Basics\)"](#).)

## WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site ([www.uptodate.com/patients](http://www.uptodate.com/patients)). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

**Patient level information** — UpToDate offers two types of patient education materials.



The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient information: Weight loss treatments \(The Basics\)](#)

[Patient information: Polycystic ovary syndrome \(The Basics\)](#)

[Patient information: Nonalcoholic steatohepatitis \(NASH\) \(The Basics\)](#)

[Patient information: Diet and health \(The Basics\)](#)

[Patient information: Exercise \(The Basics\)](#)

[Patient information: Weight loss surgery \(The Basics\)](#)

[Patient information: My child is overweight \(The Basics\)](#)

[Patient information: Idiopathic intracranial hypertension \(pseudotumor cerebri\) \(The Basics\)](#)

[Patient information: Health risks of obesity \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient information: Weight loss surgery \(Beyond the Basics\)](#)

[Patient information: Diet and health \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Approach to the patient with weight loss](#)

[Behavioral strategies in the treatment of obesity](#)

[Dietary therapy for obesity](#)

[Drug therapy of obesity](#)

[Overview of therapy for obesity in adults](#)

[Role of physical activity and exercise in obese adults](#)

[Surgical management of severe obesity](#)

The following organizations also provide reliable health information:

- National Library of Medicine

([www.nlm.nih.gov/medlineplus/weightcontrol.html](http://www.nlm.nih.gov/medlineplus/weightcontrol.html))

- National Institute of Diabetes and Digestive and Kidney Diseases

(<http://win.niddk.nih.gov/publications/choosing.htm>)

- The Hormone Foundation

([www.hormone.org/Resources/Cardio/upload/bilingual\\_obesity.pdf](http://www.hormone.org/Resources/Cardio/upload/bilingual_obesity.pdf), available in English and Spanish)



Literature review current through: Oct 2013. | This topic last updated: Aug 2, 2013.

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