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Literature review current through: Jun 2017. | **This topic last updated:** Oct 23, 2015.

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 rose steadily until 2003, after which time the percentage has remained unacceptably high [\[1\]](#).

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 education: Weight loss surgery and procedures \(Beyond the Basics\)](#)".)

More detailed information about weight loss is available by subscription. (See "[Obesity in adults: Overview of management](#)".)

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 [2]. 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 education: Weight loss surgery and procedures \(Beyond the Basics\)](#)".)

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 5 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 them. 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 eat.

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 or driving past a favorite fast-food outlet.

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 calorie-free 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 ["Obesity in adults: Dietary therapy"](#).)

How quickly you lose weight on a given calorie intake 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 have more muscle mass, which uses 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 education: Diet and health \(Beyond the Basics\)](#)".)

Try not to drink alcohol or sugar-sweetened beverages (sodas and fruit drinks) and avoid sweets (candy, cakes, cookies), since they rarely contain important nutrients [\[5\]](#).

Portion-controlled diets — One simple way to diet is to buy pre-packaged foods, like frozen low-calorie meals or meal-replacement canned drinks or bars. 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, grains (including breads, rice, pasta, and cereal), alcoholic beverages, and dairy products. Meat and fish contain very few 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 [\[2,6,7\]](#). 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 your 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 [\[8\]](#). 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 "[Obesity in adults: Drug therapy](#)".)

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

- Body mass index (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 (brand name: Xenical) is a medicine that reduces the amount of fat your body absorbs from the foods you eat. A lower-dose version (brand name: Alli) is available without a prescription in many countries, including the United States. The recommended dose of the prescription version is 1 capsule 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 combined with lifestyle changes, 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 a placebo pill with lifestyle changes). Cholesterol levels often improve and blood pressure sometimes falls. In people with diabetes, orlistat may help control blood sugar levels.

Side effects occur in 10 to 15 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 [\[9\]](#).

Lorcaserin — [Lorcaserin](#) (brand name: Belviq) 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, or approximately 5 to 6 percent of initial weight), compared with 6.4 pounds (2.9 kg, or approximately 2 to 3 percent of initial weight) in the placebo group. Adverse effects of lorcaserin included headache, upper respiratory infections, nasopharyngitis (inflammation in the nose and throat), dizziness, and nausea, occurring in 18, 14.8, 13.4, 8, and 7.5 percent of patients, respectively.

[Lorcaserin](#) is usually taken twice daily, with or without food. If you take lorcaserin, your doctor should monitor you closely to evaluate your weight loss. If you do not lose at least 5 percent of your initial body weight within 12 weeks, the medicine should be stopped.

[Lorcaserin](#) should not be used in individuals with reduced kidney function or during pregnancy. In addition, lorcaserin should not be used with certain drugs (including many medications used to treat depression). (See "[Patient education: Serotonin syndrome \(The Basics\)](#)".)

Phentermine-topiramate — Phentermine is a medicine that reduces food intake by causing early satiety (a feeling of fullness). Topiramate is used for the prevention of migraine headaches and epilepsy. Patients taking topiramate for these indications lose weight, but the way this works is uncertain. Phentermine and extended-release topiramate are available in combination as a single capsule (brand name: Qsymia). In one-year trials studying phentermine-topiramate, patients taking the medication lose approximately 8 to 10 percent of their initial body weight (mean weight loss 22.4 pounds [10.2 kg]) compared with 1.2 percent in the placebo group (mean weight loss 3.1 pounds [1.4 kg]).

The dose of phentermine-topiramate is usually increased gradually, while weight loss is monitored. If you do not lose 5 percent of your initial body weight after 12 weeks on the highest dose, phentermine-topiramate should be discontinued gradually, as abrupt withdrawal of topiramate can cause seizures.

The most common adverse events are dry mouth (13 to 21 percent), constipation (15 to 17 percent), and a “pins and needles” sensation of the skin. There is also a risk of psychiatric (eg, depression, anxiety) and cognitive (eg, disturbance in attention) adverse events; this risk increases with larger doses of the medication. Although phentermine-topiramate improves blood pressure slightly, it is also associated with an increase in heart rate.

Phentermine-topiramate should not be used during pregnancy because of the risk of birth defects; women of childbearing age should take a pregnancy test before starting this medication (and monthly thereafter) to ensure that they are not pregnant. It should also not be used in people with cardiovascular disease (high blood pressure or coronary heart disease).

Bupropion-naltrexone — Bupropion is a medicine that is used to treat depression and to prevent weight gain in people who are trying to quit smoking. Naltrexone is a drug used to treat alcohol and drug dependence. In a one-year trial studying combination bupropion-naltrexone (in one pill), patients taking the medication lost approximately 5 to 6 percent of their initial body weight (11 to 13 pounds [5 to 6 kg]), compared with 1.3 percent (approximately 3 pounds [1.3 kg]) with placebo. Common adverse effects include nausea (30 percent), headache (17

percent), constipation (19 percent), insomnia, vomiting, dizziness, and dry mouth. Combination bupropion-naltrexone appears to have similar efficacy as but more adverse effects than [lorcaserin](#). (See '[Lorcaserin](#)' above.)

The dose of bupropion-naltrexone is increased gradually over four weeks. If you do not lose at least 5 percent of your initial body weight after 12 weeks, the medication should be discontinued because benefit is unlikely.

Bupropion-naltrexone should not be used in people with uncontrolled high blood pressure, a seizure disorder, or an eating disorder. It should also not be used by people who take (or have recently taken) certain other medications, including those containing bupropion, chronic opioids (narcotics), or monamine oxidase inhibitors.

Liraglutide — Liraglutide at 3.0 mg/day is approved by the US Food and Drug Administration (FDA) for weight loss. It can be used at a lower dose to treat diabetes. Patients without diabetes taking the highest doses of liraglutide for approximately six months lost 7.4 percent of their initial body weight (16 pounds [7.2 kg]), compared with 4.3 percent (9 pounds [4.1 kg]) in patients taking orlistat. Adverse effects of liraglutide include nausea (37 to 47 percent), vomiting (12 to 14 percent), diarrhea, low blood sugar, and loss of appetite. Serious but less common side effects include pancreatitis, gallbladder disease, renal impairment, and suicidal thoughts.

Liraglutide is injected under the skin in the abdomen, thigh, or upper arm once daily. The initial dose is 0.6 mg daily for one week. The dose can be increased at weekly intervals (1.2, 1.8, 2.4 mg) to the recommended dose of 3 mg. If after 16 weeks you have not lost at least 4 percent of your initial body weight, liraglutide should be discontinued, as it is unlikely to have significant effects after that point. Long-term data (greater than one to two years) on the effectiveness of liraglutide are not available.

Liraglutide should not be used in people with a personal or family history of medullary thyroid cancer or multiple endocrine neoplasia 2A or 2B.

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 safety and efficacy to recommend 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 (hCG) is a hormonal preparation, usually given by injection, that has been advertised as a weight loss aid when combined with a very-low-calorie diet. There have been several studies showing that hCG is no more effective than placebo; thus, it is not recommended [10].

WEIGHT LOSS PROCEDURES — Bariatric (stomach) procedures for weight loss are discussed

The following organizations also provide reliable health information:

- National Library of Medicine
(www.nlm.nih.gov/medlineplus/weightcontrol.html)
- National Institute of Diabetes and Digestive and Kidney Diseases
(<http://win.niddk.nih.gov/publications/choosing.htm>)
- Hormone Health Network
(www.hormone.org, available in English and Spanish)