

Do Weight Loss Pills Work? What You Need to Know

Rena Goldman | September 13, 2023



Woman's hands holding supplement pills and glass of water. Self health care with preventive medicine. Morning routine concept. **GETTY IMAGES**

This article is based on reporting that features expert sources.

Weight loss medications are an option when losing weight through lifestyle changes like diet and exercise alone are challenging. There are a variety of options on the market, from prescription drugs to over-the-counter medications and supplements.

Prescription medications must be prescribed by a health care provider. The medications are designed for long-term use (more than 12 weeks) and should be combined with permanent lifestyle changes. They work by making you feel less hungry or reducing the fat your body absorbs from food.

Over-the-counter options for weight loss, such as Hydroxycut and orlistat (Alli), can be purchased online or at a drugstore without a prescription. These, like prescription medications, also work by suppressing the appetite or lessening the amount of fat absorbed in the intestines. In some cases, the only difference between the prescription and OTC option is dosage.

We reviewed weight loss pills that are available, how they work, side effects, safety, effectiveness and when you should talk to your doctor.

How Do Weight Loss Pills or Medications Work?

These medications and supplements tend to work – or claim to work – in one or more of the following ways:

- Reducing appetite, so you eat fewer calories.
- Reducing the absorption of nutrients, such as fat, so you take in fewer calories.
- Increasing fat burning, so you burn more calories,

Over-the-Counter Weight Loss Pills

Over-the-counter products don't require a prescription from a healthcare provider to purchase them.

Someone who doesn't meet the criteria for a prescription medication might consider trying an OTC option. An OTC medication might work for someone who doesn't have a significant amount of weight to lose and needs a little extra help on top of a diet and exercise program, explains Dr. Thaïs Aliabadi, a Los Angeles-based OBGYN, weight loss specialist and founder of **Trimly**, a personalized weight loss program she developed.

Orlistat (Alli)

Orlistat is sold under the brand name Alli and is FDA-approved for over-the-counter use as a weight loss medication. Orlistat is also sold as a prescription medication under the name of Xenical. The difference between the two is that the prescription contains 120 milligrams and the OTC version contains 60 milligrams.

Orlistat works by reducing the amount of fat your body absorbs from the foods you eat. Research has shown orlistat can stop dietary fat absorption by about 30%. If less fat is being absorbed, it could lead to weight loss.

The side effects of orlistat include gastrointestinal side effects, such as fatty or oily stool, increased urgency to have a bowel movement and gas. Because orlistat prevents the body from absorbing fat-soluble vitamins (A, D, E and K), they will pass through the body undigested.

People with liver or kidney issues that stop the body from absorbing nutrients should not take orlistat. It's also not recommended for anyone pregnant or nursing. GI side effects and nutrient loss will be less severe if a low-fat diet is chosen. Some experts recommend that anyone on orlistat take a daily multivitamin.

Weight Loss Supplements

Weight loss supplements are different from prescription and OTC medications because they are not considered drugs by the FDA. This classification means supplements are not required to undergo the same review process for approval by the FDA before hitting the market. The FDA

may take action to remove unsafe supplements from the market, but it does not regulate them beforehand.

It can be challenging to know what's in dietary supplements due to a lack of regulatory oversight, notes Dr. Katherine H. Saunders, co-founder of Intellihealth and clinical assistant professor of medicine at Weill Cornell Medicine. In general, there is very little evidence of the effectiveness of weight-loss supplements, although a few studies have been done.

"I caution my patients about dietary supplements for weight management because we do not have high-quality data demonstrating efficacy," adds Saunders.

Weight loss supplements may be helpful when used with a healthy diet and exercise regimen. If you're considering these, it's still a good idea to discuss with a health care provider first.

Some commonly used weight loss supplements include:

- Caffeine.
- Glucomannan.
- Green tea extract.
- Green coffee bean extract.
- Raspberry ketones.
- Bitter orange/synephrine.
- Meratrim.
- Garcinia cambogia extract.
- Berberine.

Caffeine

Caffeine works by stimulating the central nervous system and might help with weight loss, but there isn't enough research to say for certain. Caffeine is regularly ingested in the form of soda, tea, coffee and energy drinks. Foods including chocolate and even some coffee-flavored snacks and energy bars might also contain the stimulant. A variety of dietary supplements and weight-loss pills contain caffeine – sometimes in unexpectedly high doses.

It's generally safe if the dose stays below 400 to 500 mg per day. Side effects can include feeling nervous or jittery, vomiting or rapid heartbeat.

Glucomannan

Glucomannan is a type of dietary fiber that absorbs water. It's said to increase feelings of fullness, although researchers are not sure if it promotes weight loss. According to Dr. Raoul Manalac, Senior Director of Clinical Experience at Ro, some small studies have shown benefits over a placebo, while others have not.

There are some concerning potential side effects, including:

- Esophageal obstructions.
- Loose stools.
- Gas.
- Constipation.
- Diarrhea.
- Abdominal pain.

Green tea extract

Green tea extract contains caffeine and antioxidants, which might help burn fat. It is typically considered safe when drunk in moderate amounts. Green tea extract may cause abdominal pain, nausea, elevated blood pressure, constipation and liver damage.

Green coffee bean extract

Green coffee bean extract might have an effect on body weight and is generally safe to use up to 200 mg per day for up to 12 weeks.

“While it’s not the most effective option out there, it may help people with obesity lose weight,” says Manalac.

Possible side effects include headaches and urinary tract infections.

Raspberry ketones

Raspberry ketone is a compound found in red raspberries and used as an additive in some foods. There isn’t enough evidence to demonstrate that it alone impacts weight loss. In addition, not a lot is known about its long-term safety.

Bitter orange/synephrine

Bitter orange is the name for the plant *Citrus aurantium*, whose fruit contains p-synephrine, also called synephrine. It was used as a replacement in dietary supplements after the FDA banned ephedra.

Although the supplement is widely available online, says Manalac, it is not effective for weight loss and is potentially dangerous.

Meratrim

Meratrim is a weight-loss supplement made with an herbal blend of *Sphaeranthus indicus* and *Garcinia mangostana*. One study found the supplement more effective than a placebo in promoting weight loss when used over eight weeks, but the research was funded by the company, which Manalac says could indicate bias.

Garcinia cambogia extract

Garcinia cambogia, also known as hydroxycitric acid, comes from the pulp and rind of a fruit that grows in Asia, Africa and the Polynesian islands. Despite claims of possible weight loss benefits, there is little research to back it up.

Berberine

Sometimes referred to as "nature's Ozempic," berberine is a naturally occurring plant substance sold in supplements touted as curative for high cholesterol, hypertension and elevated blood sugar. Although previous studies showed a potential weight loss-enhancing benefit for berberine among individuals with preexisting health problems, including polycystic ovarian syndrome and heart disease, other research shows no effect of the supplement on otherwise healthy individuals.

Prescription Weight Loss Medications

Sometimes, the body needs additional help outside diet and exercise to lose weight. Weight loss medications are designed to help those diagnosed with obesity or those with overweight and weight-related health conditions. A healthcare professional might recommend medication for those with a body mass index (BMI) of 30 or higher or with a BMI of 27 or higher and a related health condition, such as high blood pressure or insulin resistance.

Anti-obesity medications work on the hypothalamus or regulatory center of the brain, according to Saunders.

They “help people burn more calories, feel less hungry or feel more full and eat less,” she explains. “This is important because as people lose weight, anti-starvation responses cause people to feel more hungry, think about food more and burn fewer calories.”

The FDA has approved six drugs for long-term weight loss:

- Xenical (orlistat).
- Qsymia (phentermine-topiramate).
- Contrave (naltrexone-bupropion).
- Saxenda (liraglutide).
- Wegovy (semaglutide).
- IMCIVREE (setmelanotide).

In addition, the following medications are used off-label for weight loss:

- Ozempic (semaglutide).
- Trulicity (dulaglutide).
- BYDUREON BCise (exenatide extended-release).
- Victoza (liraglutide).

- Mounjaro (tirzepatide).
- Rybelsus (semaglutide).

A few GLP-1 agonists are only FDA-approved for treating Type 2 diabetes, but health care professionals may also prescribe them for weight loss. When a healthcare provider prescribes a medication for use in a way other than its FDA approval, this is called “off-label” use.

Xenical (orlistat)

Orlistat is available in pill form under the prescription name Xenical. It works by preventing the digestion and absorption of fats by enzymes in the stomach and small intestine. This fat is excreted from the body, preventing the absorption of calories.

People can “lose 5% to 10% of their weight over the course of a year” on orlistat, according to Aliabadi.

The side effects of orlistat include gastrointestinal side effects, such as fatty or oily stool, increased urgency to have a bowel movement and gas. Because orlistat prevents the body from absorbing fat-soluble vitamins (A, D, E and K), they will pass through the body undigested.

People with liver or kidney issues that stop the body from absorbing nutrients should not take orlistat. It’s also not recommended for anyone pregnant or nursing. GI side effects and nutrient loss will be less severe if a low-fat diet is chosen. Some experts recommend that anyone on orlistat take a daily multivitamin.

Qsymia (phentermine-topiramate)

Qsymia is the brand name of a medication that contains a combination of phentermine and topiramate. It comes in pill form and reduces appetite while increasing satiety. Phentermine acts as a stimulant (similar to amphetamines) and an appetite suppressant. Topiramate is an anticonvulsant that acts as an appetite suppressant and enhances feelings of fullness.

A review comparing the effectiveness of several weight loss medications with a placebo found that people with overweight or obesity who took phentermine-topiramate had the greatest likelihood of achieving weight loss of at least 5%. The other drugs included in this study were:

- Orlistat.
- Lorcaserin.
- Naltrexone.
- Bupropion.
- Liraglutide.

Possible side effects of Qsymia include:

- Increased resting heart rate.

- Dry mouth.
- Constipation.
- Paresthesia (a burning or tingling sensation usually felt in the hands, arms or feet).
- Mental health side effects, including depression, anxiety and feelings of suicide.

The medication is not recommended for people with glaucoma, who are pregnant or breastfeeding, who have hyperthyroidism or those taking monoamine oxidase inhibitors.

Contrave (naltrexone-bupropion)

Contrave is the brand name for a medication that combines naltrexone and bupropion. Both naltrexone and bupropion are FDA-approved. Naltrexone is typically used to treat alcohol and opioid use disorder, and bupropion was developed to treat depression and as an aid to quit cigarette smoking.

Researchers are still determining how the combination medication works on weight loss. One review of four studies found that Contrave was more effective in promoting weight loss when compared with a placebo. Participants on Contrave lost around 11 to 22 pounds over one year.

Possible side effects of Contrave include:

- Dry mouth.
- Headache.
- Nausea.
- Constipation.
- Dizziness.
- Diarrhea.
- Vomiting.
- Insomnia.

It may also increase resting heart rate and blood pressure.

The medication is not recommended for people with a history of seizures, bulimia or anorexia nervosa, or those who use opioids.

Saxenda (liraglutide)

Saxenda is the only form of liraglutide that has been approved for weight loss, although another option, Victoza, is sometimes used off-label.

Common side effects for these GLP-1 agonists include:

- Headache.
- Nausea and vomiting.
- Diarrhea.

- Abdominal pain.
- Constipation.
- Fatigue.
- Increased heart rate.

GLP-1 agonists may also increase the risk of developing pancreatitis.

Wegovy (semaglutide)

Semaglutide, sold under the brand name Wegovy, is taken as a weekly injection. By directly impacting the brain hormones that regulate how full and satisfied you feel after eating, it and similar medications decrease hunger and encourage weight loss.

GLP-1 agonists typically cause a weight loss of 5% to 15%, with Wegovy typically performing better than older anti-obesity medications such as Qysmia or Contrave, says Saunders.

Side effects are similar to those of Saxenda and other GLP-1 agonists.

IMCIVREE (setmelanotide)

Setmelanotide, sold under the brand name IMCIVREE, is an injectable medication that has only been FDA-approved for people 6 and older with obesity caused by three specific, rare genetic conditions.

It's in a class of drugs called melanocortin 4 (MC4) receptor agonists. IMCIVREE works by boosting brain receptors to help reduce feelings of hunger, decrease calorie intake and increase metabolism.

One small study concluded that people treated with setmelanotide for five weeks experienced an improvement in quality of life, possibly due to reduced hunger and body weight.

Ozempic (semaglutide)

Ozempic, although not yet FDA-approved for weight loss, is the GLP-1 inhibitor that you likely hear the most about these days. Like other GLP-1 inhibitors, it's taken as a weekly injection.

This prescription medication, and other similar GLP-1 inhibitors, make you feel full and encourage the pancreas to make more insulin. Insulin, in turn, allows the body's cells to pick up more of the sugar in the blood, thereby decreasing blood glucose levels.

Trulicity (dulaglutide)

Trulicity is a once-weekly injectable prescription medicine to improve blood sugar in adults and children 10 years of age and older with Type 2 diabetes. It's used off label for weight loss. It's

been shown to help people lose weight, especially at a dose of 4.5 mg per week. People lost, on average, two to six pounds.

The most common side effects are:

- Nausea
- Diarrhea
- Vomiting
- Abdominal pain
- Decreased appetite
- Indigestion
- Fatigue

BYDUREON BCise (exenatide extended-release)

Bydureon BCise is a drug approved for people with Type 2 diabetes to help them manage blood sugar. Like many of the other medications for Type 2 diabetes with a side effect of weight loss, it is an injectable GLP-1 agonist. The active ingredient is extended-release exenatide, which means it is released in your body slowly.

Bydureon BCise decreases appetite. As a result, many people with diabetes who use the drug lose weight. In clinical trials, people taking Bydureon BCise lost between 2.2 pounds and 6 pounds on average.

Victoza (liraglutide)

Victoza is the same drug as Saxenda except that it is FDA-approved only for the management of blood sugar in people with Type 2 diabetes – and not for weight loss. It is another GLP-1 inhibitor taken as a daily injection.

Mounjaro (tirzepatide)

Mounjaro was the first GLP-1 inhibitor to be FDA-approved for the treatment of Type 2 diabetes in May of 2022. However, it wasn't long before researchers determined that otherwise healthy individuals could lose substantial amounts of weight on various doses of the medication. In fact, 85% of the participants in this study lost at least 5% of their body weight.

GLP-1 agonists typically cause a weight loss of 5% to 15%, with Wegovy typically performing better than older anti-obesity medications such as Qysmia or Contrave, says Saunders.

Rybelsus

A version of semaglutide is also sold under the brand name Rybelsus as a prescription pill to manage blood sugar for those with Type 2 diabetes. It may help with weight loss but is currently only FDA-approved to treat Type 2 diabetes.

What Is the Strongest Weight Loss Prescription Pill?

GLP-1 agonists are considered the most effective and safe for treating obesity. Some research has found these drugs can lead to weight loss of anywhere from 10 to 33 pounds when compared with standard weight loss treatment. The most effective anti-obesity medication is the injectable Wegovy, and the most effective medication in pill form is Qsymia, according to Saunders.

How effective a medication is for an individual depends on a variety of factors, such as their lifestyle, other existing health conditions and diet.

“There’s no one-size-fits-all approach to anything in medicine, and weight management is the same,” says Manalac.

Do Weight Loss Pills Work?

FDA-approved prescription weight loss pills and the OTC version of orlistat have been studied and found to be effective in various degrees. Older prescription medications have the potential for about 5% to 10% weight loss. Semaglutide has the potential for 15% weight loss, and tirzepatide (Mounjaro) has been shown to reduce weight as much as 20% in some individuals.

How well the medication works for each person also depends on whether they follow diet and exercise guidelines from a healthcare provider along with the medication.

Weight loss supplements have not been studied as thoroughly, and many have little evidence to demonstrate effectiveness.

Are Weight Loss Pills Safe?

Weight loss medications studied in large trials and approved by the FDA are generally safe if used as directed by a health care provider. Anti-obesity medications may not be safe in populations that have not been studied, such as people who do not have obesity or those with other medical conditions, according to Saunders.

Weight loss products marketed as supplements do not require a prescription or FDA approval, so experts recommend using caution with these.

Any time you’re considering supplements or medications, it’s a good idea to talk with your doctor about your best options.

When to Talk to a Doctor About Weight Loss Pills

If you have been diagnosed with overweight or obesity and have tried to lose weight using lifestyle changes, you might consider talking to a doctor to see if weight loss medications could

help. A doctor can help you choose a medication based on its effectiveness, possible side effects, your health history and cost.

The majority of individuals with obesity require medical intervention, which may include anti-obesity medications, for successful weight management, according to Saunders.

Weight loss medications might not be recommended for individuals with a history of eating disorders, even if the person is at a higher body weight. If you have experienced eating disorder symptoms in the past, such as being preoccupied with food, weight, and body image, exercising to excess, or feeling out of control or overly restrictive with food, bring this up to your doctor. They may suggest a different treatment plan.

The Bottom Line

Weight loss pills and supplements have been around for many years, and with newer drugs on the market and rising obesity rates, there's been renewed interest from the public. There are several prescription options and one OTC option that are FDA-approved. These can be effective tools for those with overweight or obesity when used along with diet and exercise under the supervision of a healthcare provider.

Sources

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<https://health.usnews.com/wellness/articles/do-weight-loss-pills-work>