



## GREEN TEA WORKS BETTER THAN DIET PILLS

Proper diet and exercise and even counting calories are still the long-standing approaches to weight loss problems. But the issue seems to have reached a point where pharmaceutical products had to be developed to directly treat abnormal weight gain.

Some of the more popular diet pills available today are designed to either make you less able to digest fat content in food or suppress your appetite. Fortunately there's a natural alternative to taking a pill or two. You can build the habit of drinking a cup of green tea two to three times a day.

[Green tea](#) works better than diet pills because it simultaneously provides the anti-obesity mechanisms that such pills singularly offer. So with every cup you're already enabling your body to deal with fats and curb your appetite. That's just for weight control, one set of benefits among a host of others that green tea delivers.

### **Lessen fat digestion**

There's nothing wrong with fats per se. This macronutrient along with carbohydrates is after all one of the fuel sources that your body breaks down and processes to produce energy. It's when too much is consumed, stored and left unused that abnormal weight gain and the problems that come with it happen.

Lipases are the type of enzymes that, among other functions, play a role in metabolizing fats. Gastric and pancreatic lipases are the ones that directly perform this operation. These are also the lipases that the catechins in green tea inhibit. One in vitro study was able to show how a green tree extract containing 25% of the catechins was able to reduce the gastric lipase breakdown of fats by around 96% and partially do the same for pancreatic lipase at 66% [1].

Why is this important for someone trying to control his or her weight? When fats in food aren't properly broken down in the digestive system, they can't get absorbed and just pass through. That means less additional burden to what may already be abundant stores of fat tissue.

Follow up research on the study mentioned was done, this time with human participants [2]. The subjects were described as moderately obese. After three months of taking the same green tea extract, they experienced a 4.6 % reduction in body weight and their waists were smaller by 4.48 %.

In the in vitro study mentioned earlier, it only took 60 mg of the green tea extract formulated with 25% catechins to produce the significant gastric fat breakdown reduction. Imagine what weight loss effects can be achieved by ingesting more concentrated forms. Eating as well as drinking [green tea](#) can actually provide more of these beneficial substances.



## **Curb appetite**

The feeling of satiety is brought about by a complex process that involves the interaction of hormones, peptides, and other chemicals that send and receive nerve signals [3]. As it turns out, the substances in green tea seem to be able to affect this process.

Researchers on a study that was investigating the impact of green tea on glucose, insulin and satiety levels were somewhat surprised that the participants who took in green tea along with a meal felt fuller and had no desire to eat more [4].

After eliminating other possible causes, they theorized that the green tea catechins enabled the neurotransmitter called norepinephrine to act longer on the brain and establish the feeling of satiety. The reason is that the catechins blocked the enzyme (catechol-o-methyl-transferase) that breaks down the neurotransmitter.

Lessening the digestion of fat and suppressing appetite is actually just two of the weight loss benefits that [green tea](#) can offer.

## References:

1. [Green tea extract \(AR25\) inhibits lipolysis of triglycerides in gastric and duodenal medium in vitro.](#)
2. [Recent findings of green tea extract AR25 \(Exolise\) and its activity for the treatment of obesity.](#)
3. [Appetite signaling: from gut peptides and enteric nerves to brain.](#)
4. [Does green tea affect postprandial glucose, insulin and satiety in healthy subjects: a randomized controlled trial?](#)



## USE GREEN TEA TO INCREASE EXERCISE ENDURANCE

Exercise is a way of life for many people, but so is tiring quickly. In order to keep fit and healthy it's essential that regular exercise is undertaken, but to prevent the dreaded burn out there's a surprising little helper – green tea.

Among the many other benefits of green tea, it can be used to: increase exercise endurance, improve performance, and prolong workout sessions. Studies are confirming this fact as well, with one having been conducted by Murase et al. The researchers wanted to look at the effects of [green tea](#) catechins in relation to endurance, fat oxidization and energy metabolism, using mice as subjects.

Over a 10-week period the mice were given different levels of green tea extract and then had to swim to exhaustion, with results showing that the mice that were fed higher doses of green tea could swim for 8-24% longer. This shows the increased endurance effects of green tea, with researchers also finding that higher doses led to reduced respiratory quotients and increased levels of fat oxidization. So, as well as being a great way to increase exercise endurance, the results also indicate that green tea can be good for overall fitness and fat loss.

But why is that? A lot of people think it's the caffeine content that keeps us going, and while that could quite possibly play a part it seems that there's a bit more to it than that.

As with a lot of the benefits of green tea, it largely comes down to the antioxidants contained within it. The above study even focused part of its research on the effects of epigallocatechin gallate, a primary antioxidant of green, finding that the endurance-enhancing effects of green tea were largely down to this one catechin.

Don't be put off by the fact that the study was conducted on mice. Murase estimates that for an athlete to see the same effects as was apparent in the study, they'd have to drink just four cups of green tea a day. And, it's also worth noting that a single high dose of green tea catechins won't do the trick. The study showed that this didn't affect performance at all. Rather, it's the long-term consumption of green tea that will have the most effect. As it only requires four cups a day, it's hardly a major lifestyle inconvenience.

So, [green tea](#) really can be used to increase exercise endurance. It would be a great dietary addition for athletes who want to improve their performance, or even for novices who want to get started with a bit of a helping hand. Either way, green tea is incredibly beneficial. As it has plenty of other health benefits, it's a great addition to anyone's diet with numerous studies confirming it.



Reference:

1] Murase T, Haramizu S, Shimotoyodome A, Nagasawa A, Tokimitsu I. Green tea extract improves endurance capacity and increases muscle lipid oxidation in mice. *Am J Physiol Regul Integr Comp Physiol*. 2005 Mar; 288(3):R708-15. Epub 2004 Nov 24.



## THE EFFECTS OF GREEN TEA ON WEIGHT LOSS

[Green tea](#) has long been thought to have a number of health benefits, and the fact that it can even be used as a way to help weight loss has many dieters clamoring to get their hands on it. But can green tea live up to its claims of being a useful weight loss aide? That's what scientists are trying to find out.

So far, studies into the effects that green tea can have on weight loss seem to be promising. There are a lot of studies indicating that just adding green tea into our diet can have a significant impact on our ability to lose weight, with one being published in the American Journal of Clinical Nutrition in 2005.

In the study, conducted in Tokyo by Nagao et al, participants were given 690 mg catechins (a type of antioxidant found in green tea) per day. After 12 weeks participants displayed significantly reduced levels of body fat, with researchers concluding that daily consumption of green tea could therefore be beneficial in the fight to lose weight and in the prevention of obesity.

Other studies offer similar findings. One study, which was conducted in Japan by Shimotoyodome et al in 2005, used mice as test subjects and divided them into five groups. Each were fed a high-fat diet with one group receiving daily green tea extract, another one green tea extract plus exercise, and the rest being given varying levels of exercise but no green tea. The results were quite astounding – despite the high-fat diet, the mice that had the green tea extract exhibited a 47% reduction in weight gain and those who had the extract plus exercise showed a massive 89% reduction.

Although this study was conducted with mice, it wouldn't be so hard to envisage the same type of effects being possible with humans, as shown in other studies. This indicates that just drinking [green tea](#) can help to prevent us from gaining weight even if we don't alter our diet in any other way. Of course eating a healthy diet as well would be even more beneficial!

So, what could be causing these weight loss effects? A number of theories are being offered, with just one of them being the ability of green tea to raise our metabolism. [Green tea](#) contains caffeine, and drinking moderate amounts of caffeine can increase our metabolism and thus our ability to burn more fat. The caffeine content also means that we'll be more energetic, which, subsequently, can lead to increased levels of activity and as such increased levels of calorie burning.

But is it just the level of caffeine in green tea that means we burn more energy? Actually, there's more to it than that. In a study conducted by the Department of Physiology at the University of Geneva in 1999, participants were randomly given green tea extract plus caffeine, just caffeine or a placebo on different days. The results showed that the participants expended more energy and burned far more calories on the days that they were given green tea plus caffeine than they did on any other days, indicating that there are other factors in green tea besides its caffeine content that give rise to its ability to help us lose weight and expend energy.



It could be down to antioxidants instead. The antioxidants contained in green tea, particularly catechins, raise our metabolism by encouraging a process known as thermogenesis – the raising of our body temperature leading to an increase in the number of calories being burned – meaning that this could also have an impact in the ability of green tea to reduce weight.

So, green tea really can be beneficial in our attempts to lose weight. Researchers suggest that drinking around 5-6 cups of green tea per day can have the most benefit, and if you substitute your regular tea or coffee for green tea then you're sure to notice the effects. Make sure to give green tea a go and see if it can help you in your weight loss quest.



## **CAN GREEN TEA LEAVES HELP YOU KEEP THE WEIGHT OFF?**

Numerous studies indicate that EGCg, a major compound in whole green tea leaves, may have weight-gain-prevention and weight-loss effects.

One report published in 2005 notes that green tea has the ability to help people maintain their body weight after a significant weight loss. This means that after losing weight through dieting or exercise, drinking green tea may be able to help you keep from gaining the weight back. In this study, 76 overweight people were put on dramatic weight loss diets for four weeks, after which time they were allowed to go back to a regular diet, but with half of the subjects also taking a special green tea supplement. The result was that those treated with green tea were less likely to gain back the weight that they had lost. While the report concludes that much of this effect can be attributed to the caffeine content of green tea, the researchers maintain that at least part of the weight maintenance was due the compound known as epigallocatechin gallate (or EGCg) which is the primary compound found in green tea.

These results confirm the conclusions reached by a similar study published six years earlier in 1999. In this experiment, ten men were subjected to three separate trials in order to see if they would experience increased fat oxidation when taking a combination of caffeine and EGCg. In the first of the three trials, the men were given a pill containing caffeine only; in the second trial they were given a pill containing both caffeine and EGCg; in the third trial they were given a placebo. The researchers found that the men were most able to burn fat when given the pill containing both caffeine and EGCg, indicating once again that green tea's fat fighting abilities cannot be attributed solely to its caffeine content.

A third study, published in 2000, did not involve caffeine consumption at all. It consisted of tests on laboratory rats to see if their body weight would be reduced after an injection of isolated EGCg. Not only did their body weight decrease, but their overall food intake was reduced, indicating that EGCg can work to reduce appetite. These effects were seen not only in normal-sized rats but in obese rats as well. Furthermore, the researchers noted that the rats lost weight in proportion to the dose of EGCg they were given, losing the most weight with the highest doses. It should be noted that in this case study, the researchers found only EGCg to be effective and not the other similar catechins found in green tea.

Since each of these three studies has singled out EGCg as the active ingredient in green tea's ability to prevent unwanted weight gain, it should be noted that this compound is available in the greatest amounts in whole green tea leaves as opposed to brewed green tea. This was made evident by a data table compiled by the USDA in which whole green tea leaves were shown to have 100 times as much EGCg as brewed green tea.



References:

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[2]

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[3]

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[4] <http://www.nal.usda.gov/fnic/foodcomp/Data/Flav/flav.pdf>





## GREEN TEA AS A FAT BURNER

### Green Tea: The World's Real Fat Burning Food

Supermarket checkout lines are full of magazines with eye-catching headlines like “7 negative calorie superfoods” or “Delicious foods that fight fat”. While the headlines may be compelling, when these claims undergo the scrutiny of science, the concept of a fat burning food is usually revealed as too good to be true.

Or is it? Green tea leaves are a fat-burning food out there with the support of a slew of clinical research. In fact, studies show that green tea can help people lose weight, burn fat, and keep it off.

Here's how green tea works at burning fat:

**1. Metabolism Boost:** Green tea interacts directly with your sympathetic nervous system –telling it to ramp up your calorie-burning machine. A 2001 study published in *The Journal of Nutrition* found that green tea significantly increased the amount of calories burned at rest, known as resting metabolic rate.

**2. Torches Fat Cells:** While an increase in metabolism can result in significant fat loss, this isn't always the case. However, in the case of green tea, it does directly act on fat cells. Research in *The International Journal of Obesity* concluded that green tea has the unique property of increasing the rate that your body uses up stored fat.

**3. Blocks Fat Absorption:** Green tea interferes with your body's ability to digest and absorb the fat from your diet. It appears that the catechins in green tea blocks many of the enzymes required for proper fat absorption. French researchers found that green tea resulted in a 37% reduction in fat digestion.

**4. Stops Appetite:** Scientists think that green tea's appetite suppressing properties are much of the reason behind the correlation between regular green tea drinking and weight loss. In fact, University of Chicago researchers found that green tea hinders a pathway that makes you hungry.

While you may get some of these benefits by taking in green tea every chance you get, here are some tips for maximizing green tea's fat burning:

**1. Take Enough:** Research shows that to reap the benefits from green tea, you need to drink serious amounts of the stuff (at least 5 to 10 cups /day). This may seem like a LOT of green tea to drink. Again – see the point above about eating the whole leaves.

**2. Spread Out Doses:** It seems that green tea works best if you take small amounts throughout the day, rather than all at once. This way, you're giving your body small metabolism “jolts” at regular intervals.



**3. Take with Meals:** Because green tea can block absorption of some of the fat that you eat, it's ideal to have green tea with meals. The easiest way to do this is to incorporate green tea leaves into your recipes.

References:

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