

How Dairy Can Boost Fat Loss

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Recent research suggests dairy products can aid fat loss and improve body composition, challenging previous beliefs about dairy and weight gain

High-calcium dairy diets led to greater fat loss, particularly belly fat, compared to standard low-calcium diets during weight loss interventions. Large-scale epidemiological studies have also found an inverse relationship between dairy intake and obesity risk

Dairy's weight loss benefits may come from its unique nutrient profile, including calcium, protein, and other minerals, rather than calcium alone. Calcium from dairy inhibits fat formation, increases fat oxidation, and preserves thermogenesis during calorie-restricted diets

Incorporating both low-fat and whole-fat dairy products can be part of a balanced, calorie-controlled diet for weight management

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In the ever-evolving world of nutrition and weight loss, few food groups have been as controversial as dairy. Once hailed as a cornerstone of a healthy diet, then vilified as a contributor to weight gain, dairy products have experienced a rollercoaster of public opinion. However, recent scientific research is shedding new light on the potential benefits of dairy in weight management, revealing some surprising findings that may change how we view these nutrient-dense foods.

[Dairy products](#) have been a part of human diets for over 7,000 years, valued not just for their taste but also for their nutritional density. Throughout history, milk, cheese, and yogurt have been staples in many cultures, providing essential nutrients like calcium, protein, and various vitamins. However, as obesity rates began to rise in the late 20th century, dairy products — particularly those high in saturated fat — came under scrutiny when the anti-saturated fat campaign began.

Recent studies have begun to challenge the notion that dairy products are a causal factor for weight gain.¹ In fact, emerging evidence suggests that dairy might play a beneficial role in fat loss and body composition. Let's dive into some of the intriguing findings.

Overall dairy consumption has been linked to increased lean body mass and reduced body fat.² This finding is particularly interesting because it suggests that dairy doesn't just help with weight loss — it may actually improve body composition, helping individuals build and maintain muscle while losing fat.

A meta-analysis of multiple studies found that dairy consumption led to a reduction in fat mass (-0.23 kg) and an increase in lean body mass (0.37 kg).³ While these numbers might seem small, they represent a significant shift in body composition that can have long-term health benefits.

The benefits of dairy consumption aren't limited to adults. One study of children found that high dairy intake was associated with a staggering 59% reduction in obesity risk.⁴ This finding has important implications for childhood nutrition and the prevention of obesity from an early age.

The Science Behind Dairy's Weight Loss Benefits

So, how exactly does dairy contribute to weight loss and improved body composition? The mechanisms are complex and multifaceted, but researchers have identified several key factors:

1. The calcium connection — Calcium, abundant in dairy products, plays a crucial role in weight management. When calories are controlled, increasing the percentage of calcium in the diet improves fat loss during a calorie deficit. This effect is thought to be due to calcium's impact on energy metabolism.

The late Ray Peat, Ph.D., a renowned biologist and metabolism expert, explains: "Calcium inhibits the fat-forming enzymes, fatty acid synthase, reducing the formation of fats and at the same time it activates the uncoupling proteins in the mitochondria which are associated with increased longevity. Milk and calcium increases the metabolic rate, the uncoupling proteins burn calories faster while they protect against free-radical oxidations."

2. Enhanced fat burning — Dairy consumption, particularly high-calcium dairy diets, has been shown to increase 24-hour fat oxidation. This means that your body becomes more efficient at burning fat for energy throughout the day. One study found that under conditions of acute energy deficit (i.e., when you're eating fewer calories than you're burning), a high-dairy diet increased fat oxidation.⁵

3. Reduced fat cell formation — Calcium from dairy sources appears to inhibit the formation of new fat cells. This process, known as adipogenesis, is crucial in the development of obesity. By reducing the creation of new fat cells, dairy may help prevent long-term weight gain.

4. Preserved thermogenesis during dieting — When we diet, our body often responds by slowing down our metabolism — a frustrating adaptation that can make weight loss more difficult since that requires eating fewer calories. However, the calcium in dairy products seems to help preserve thermogenesis (heat production) during calorie restriction, making it easier to maintain a calorie deficit and continue losing weight.

A Deeper Dive Into the Mechanism: The Calcitriol Connection

To understand how dairy and calcium affect weight loss, we need to look at a hormone called calcitriol (also known as 1,25-dihydroxyvitamin D). When we eat low-calcium diets, our body produces more calcitriol. This hormone causes calcium to flow into fat cells, leading to:

1. An increase in lipogenic gene expression and lipogenesis (fat creation)
2. A suppression of lipolysis (fat breakdown)

The result? More fat stored in cells — exactly what we don't want when trying to lose weight. But why does calcitriol increase on low-calcium diets? It's all part of a complex hormonal cascade:

1. Low calcium intake increases parathyroid hormone (PTH).
2. PTH triggers a stress response in the body, essentially saying, "We don't have enough calcium coming in!"
3. This leads to increased calcium absorption from food and removal of calcium from bones.
4. PTH signals tissues to convert the storage form of Vitamin D into calcitriol.
5. Calcitriol provides the signal to pull calcium out from bones and into the bloodstream.

Having elevated levels of calcitriol (arising from a low dietary calcium level) can negatively impact fat oxidation. However, high calcium diets (which keep PTH and calcitriol lower) can inhibit lipogenesis and instead promote lipolysis, lipid oxidation, and thermogenesis more so than a lower calcium diet.

The Dairy Advantage: More Than Just Calcium

While calcium plays a significant role in dairy's weight loss benefits, it's not the whole story. Studies have consistently shown that dairy sources of calcium are more effective than supplemental calcium in promoting weight loss.⁶ This suggests that there's something special about dairy beyond its calcium content.

One possibility is the unique combination of nutrients found in dairy products. Dairy is not just a source of calcium; it also provides high-quality protein, other minerals like magnesium and potassium, and various vitamins. This nutrient package "Whole Food Matrix" may work synergistically to promote weight loss and improved body composition.

Moreover, the saturated fatty acids found in dairy may improve energy balance even further through reduced fat synthesis and increased fat oxidation.⁷ This challenges the long-held belief that all saturated fats are detrimental to health and weight management.

Real-World Evidence: Studies Showing Dairy's Impact on Weight Loss

Let's look at some neat studies documenting how dairy can enhance weight loss efforts. A study published in the journal *Obesity Research*⁸ compared the effects of three different 24-week diets:

1. A standard diet with a 500 calorie per day deficit
2. A 500 calorie-deficit diet with supplemental calcium
3. A 500 calorie-deficit diet that included high-calcium dairy foods

The results were striking:

- Those on the standard diet (400 to 500 milligrams of dietary calcium per day)

lost 6.4% of their body weight.

- Those on the calcium-supplemented diet (400 mg to 500 mg of calcium from food and 800 mg of supplemental calcium per day) lost 8.6% of their body weight — 38% more fat loss than the standard diet.
- Those on the high-calcium-foods diet (1,200 to 1,300 milligrams of calcium from dairy products and other calcium-rich foods) lost 10.9% of their body weight — a whopping 64% more fat loss than the standard diet!

But it wasn't just about overall weight loss. The study also found differences in where the fat was lost. The percentage of belly fat loss was higher for those with the higher intake of calcium:

- Belly fat loss represented 19% of total fat loss on the low-calcium diet
- 50.1% on the calcium-supplemented diet
- 66.2% on the high-calcium-foods diet

This is particularly significant because belly fat (visceral fat) is associated with numerous health risks, including cardiovascular disease and Type 2 diabetes.

Another study⁹ looked at the effects of high dairy diets on 24-hour fat oxidation in subjects who were in a calorie deficit. The researchers found that consumption of a dairy-based high-calcium diet increased 24-hour fat oxidation under conditions of acute energy deficit. They hypothesized that these effects were due to increased fat oxidation during exercise.

This study provides a potential mechanism for how dairy can enhance weight loss efforts — by literally helping our bodies burn more fat throughout the day, especially during physical activity.

The Bigger Picture: Dairy in the Context of Overall Health

While the weight loss benefits of dairy are exciting, it's important to view these findings in the context of overall health. Numerous epidemiological studies have found an inverse relationship between dairy intake and various health markers:¹⁰ the NHANES I and III studies, The Quebec Family Study, The CARDIA (Coronary Artery Risk Development in Young Adults) Study, and The HERITAGE Family Study.

All of these large-scale studies support an inverse relation between dietary calcium and dairy intakes and body fat, BMI, and the incidence of obesity. Moreover, dairy consumption has been associated with other health benefits, including improved bone health, reduced risk of Type 2 diabetes, and potentially lower risk of certain cancers.

Practical Implications: Incorporating Dairy Into a Weight Loss Diet

So, what does all this mean for someone trying to lose weight? Here are some practical takeaways:

1. Don't fear dairy — Contrary to popular belief, whole-fat dairy products can be part of a healthy weight loss diet. Incorporating both lower-fat dairy products (which contain B vitamins, calcium and protein) and whole-fat dairy products (containing fat soluble vitamins and saturated fats) can be incorporated into a calorie controlled, well-balanced diet. Dairy is

not causing your weight gain!

2. Aim for adequate calcium intake — Ensuring sufficient calcium intake (around 1,000 mg to 1,200 mg per day during your fat loss phase) may enhance weight loss efforts. Here is one example of how to eat at least 1,000 mg dietary calcium per day:

- 325 grams skyr yogurt
- 2 oz raw cheddar cheese
- 1 cup raw milk (whole fat or reduced fat)

Spreading these out into your meals throughout the day, and ensuring your total daily calorie intake is accounted for can help set you up for success in your fat loss efforts.

3. Finding a dairy source that works for you — Sourcing A2 raw dairy products are often the best tolerated amongst individuals.

Conclusion: A New Perspective on Dairy and Weight Loss

The relationship between dairy consumption and weight loss is complex and multifaceted. While dairy isn't a magic bullet for weight loss, the growing body of evidence suggests that it can be a valuable tool in weight management efforts. From enhancing fat oxidation to improving body composition, dairy's benefits extend far beyond its calcium content.

It's important to remember that weight loss ultimately comes down to creating a calorie deficit. However, including dairy in your diet can help enhance the efficacy of an energy-restricted diet in achieving weight and fat losses by improving your metabolism and fat oxidation.

As with any dietary change, it's essential to consider individual factors. But for many people, embracing dairy as part of a balanced, calorie-controlled diet could be a delicious and nutritious way to support their weight loss journey.

The Best Cheese Source

Looking for the highest quality cheese you can find to boost your dietary calcium? You can now buy the cheese that Dr. Mercola eats every single day with the [Mercola Artisanal Cheese Boxes!](#) Check out what Carol had to say about her recent exclusive Mercola Cheese Box order:

“Hello, I just wanted to let you know that I received my first shipment of your cheese. I have had a severe lactose intolerance for over 20 years. I always got serious cramps and twice fainted before figuring out what was causing it. I listened to your interview with Dr. Mercola and thought maybe cheese wasn't the real problem, but rather the composition of most commercially sold cheese.

I have been cautious in sampling your cheese. I started with just one small bite. I've graduated to cheese sticks. I love the taste! I'm so happy to be able to finally enjoy cheese again. Thanks so much!!!”

How awesome! The SOURCE of dairy can really impact its digestibility! The highest quality

cheese you can find is restocked every Sunday evening, delivering dietary calcium, fat soluble vitamins and deliciousness directly to your door! What makes this cheese special?

Raw cheese with all nutrients and enzymes intact	100% grass fed	GMO free, animal rennet only (NO use of Pfizer's microbial rennet)
Tested A2A2	Amish produced	Artisan, small-batch cheese

[Join the waitlist here](#) to be notified when cheese boxes open up (EVERY SUNDAY EVENING!)

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Ashley Armstrong is the co-founder of Angel Acres Egg Co., which specializes in low-PUFA (polyunsaturated fat) eggs that are shipped to all 50 states ([join waitlist here](#)), and [Nourish Cooperative](#), which ships low-PUFA pork, beef, cheese, A2 dairy and traditional sourdough to all 50 states. Waitlists will reopen shortly.

Notes

^{1, 2, 3} [Adv Nutr. 2019 Sep; 10\(5\): 917S-923S](#)

⁴ [Curr Nutr Food Sci. 2011 Feb; 7\(1\): 40-49](#)

^{5, 9} [Obes Res. 2005 Dec;13\(12\):2102-12](#)

^{6, 10} [The American Journal of Clinical Nutrition, Volume 79, Issue 5, 2004, Pages 907S-912S](#)

⁷ [Nutrients. 2016 Jul; 8\(7\): 394](#)

⁸ [Obes Res. 2004 Apr;12\(4\):582-90](#)

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