

# Atkins diet

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The **Atkins diet**, also known as the **Atkins nutritional approach**, is a low-carbohydrate diet promoted by Robert Atkins and inspired by a research paper he read in *The Journal of the American Medical Association*. The paper entitled "Weight Reduction" was published by Alfred W. Pennington in 1958.<sup>[1]</sup>

The Atkins diet is classified as a fad diet.<sup>[2]</sup> There is only weak evidence supporting its effectiveness in helping achieve sustainable weight loss.<sup>[3][4]</sup>

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## Effectiveness

There is only weak evidence that the Atkins diet is effective in helping people achieve short-term weight loss, or that it is better than not dieting at all in the longer term.<sup>[3][4]</sup> One review found that the Atkins diet led to 0.1% to 2.9% more weight loss at one year compared to a control group which received behavioural counselling.<sup>[3]</sup>

Because of substantial controversy regarding the Atkins diet and even disagreements in interpreting the results of specific studies it is difficult to objectively summarize the research in a way that reflects scientific consensus.<sup>[5][6]</sup>

Although there has been some research done throughout the twentieth century,<sup>[7][8]</sup> most directly relevant scientific studies, both those that directly analyze the Atkins Diet and those that analyze similar diets, have occurred in the 1990s and early 2000s and, as such, are relatively new. Researchers and other experts have published articles and studies that run the gamut from promoting the safety and efficacy of the diet,<sup>[9][10]</sup> to questioning its long-term validity,<sup>[11][12]</sup> to outright condemning it as dangerous.<sup>[13][14]</sup> A significant early criticism of the Atkins Diet was that there were no studies that evaluated the effects of Atkins beyond a few months. However, studies began emerging in the mid-to-late-2000s which evaluate low-carbohydrate diets over much longer periods, controlled studies as long as two years and survey studies as long as two decades.<sup>[9][15][16][17]</sup>

There is some evidence that adults with epilepsy may benefit from therapeutic ketogenic diets, and that a less strict regimen, such as a modified Atkins diet, is similarly effective.<sup>[18]</sup>

## Description

The Atkins diet is a kind of low-carbohydrate fad diet.<sup>[2]</sup>

The diet involves limited consumption of carbohydrates to switch the body's metabolism from metabolizing glucose as energy over to converting stored body fat to energy. This process, called *ketosis*, begins when insulin levels are low; in normal humans, insulin is lowest when blood glucose levels are low (mostly before eating). Reduced insulin levels induce *lipolysis*, which consumes fat to produce ketone bodies. On the other hand, caloric carbohydrates (for example, glucose or starch, the latter made of chains of glucose) affect the body by increasing blood sugar after consumption.



A balanced meal according to the Atkins Diet

In his early books such as *Dr Atkins' New Diet Revolution*, Atkins made the controversial argument that the low-carbohydrate diet produces a metabolic advantage because "burning fat takes more calories so you expend more calories".<sup>[19]</sup> He cited one study in which he estimated this advantage to be 950 Calories (4.0 MJ) per day. A review study published in *Lancet*<sup>[20]</sup> concluded that there was no such metabolic advantage and dieters were simply eating fewer calories due to boredom. Astrup stated, "The monotony and simplicity of the diet could inhibit appetite and food intake."

In the most recent book by Westman, Phinney, and Volek, the authors suggest optimal levels of protein, fat, and calorie intake, and have moved away from the metabolic advantage theory.

The diet restricts "net carbs" (digestible carbohydrate grams that affect blood sugar less fiber grams). One effect is a tendency to decrease the onset of hunger, perhaps because of longer duration of digestion (fats and proteins take longer to digest than carbohydrates). The 2002 book *New Diet Revolution* states that hunger is the number one reason that low-fat diets fail, and that the diet is easier because one is satisfied with adequate protein, fat and fiber.<sup>[19]</sup>

Net carbohydrates can be calculated from a food source by subtracting fiber and sugar alcohols from total carbohydrates. Sugar alcohols contain about two calories per gram, although the American Diabetes Association recommends that diabetics not count alcohol as carbohydrates.<sup>[21]</sup> Fructose (for example, as found in many industrial sweeteners) has four calories per gram but has a very low glycemic index<sup>[22]</sup> and does not cause insulin production, probably because  $\beta$  cells have low levels of GLUT5.<sup>[23][24]</sup> Leptin, an appetite-regulating hormone, is not triggered following consumption of fructose. This may for some create an unsatisfying feeling after consumption which might promote binge behavior that culminates in an increased blood triglyceride level arising from fructose conversion by the liver.<sup>[25]</sup>

Preferred foods in all categories are whole, unprocessed foods with a low glycemic index, although restrictions for low glycemic carbohydrates (black rice, vegetables, etc.) are the same as those for high glycemic carbohydrates (sugar, white bread). Atkins Nutritionals, the company formed to market foods that work with the diet, recommends that no more than 20% of calories eaten while on the diet come from saturated fat.<sup>[26]</sup>

## Popularity

The Atkins Nutritional Approach gained widespread popularity in 2003 and 2004. At the height of its popularity one in eleven North American adults claimed to be on a low-carb diet such as Atkins.<sup>[27]</sup> This large following was blamed for large declines in the sales of carbohydrate-heavy foods like pasta and rice: sales were down 8.2 and 4.6 percent, respectively, in 2003. The diet's success was even blamed for a decline in Krispy Kreme sales.<sup>[28]</sup> Trying to capitalize on the "low-carb craze," many companies released special product lines that were low in carbohydrates.

In 2003, Atkins died from a fatal head injury due to a fall on ice,<sup>[29]</sup> and while he had a history of heart disease, Mrs. Atkins was quoted as stating that the circumstances of his death from an epidural hematoma had nothing to do with his diet or history of viral cardiomyopathy.<sup>[29][30]</sup>

On July 31, 2005, the Atkins Nutritional company filed for Chapter 11 bankruptcy protection after the percentage of adults on the diet declined to two percent and sales of Atkins brand products fell steeply in the second half of 2004.<sup>[31]</sup> The company continues to operate and the diet plan remains popular, although it has not regained its former popularity.

## Controversies

An analysis conducted by *Forbes* magazine found that the sample menu from the Atkins Nutritional Approach is one of the top five in the expense category of ten plans *Forbes* analyzed. This was due to the inclusion of recipes with some high cost ingredients such as lobster tails which were put in the book to demonstrate the variety of foods which could be consumed on the diet. The analysis showed the median average of the ten diets was approximately 50% higher, and Atkins 80% higher, than the American national average. The Atkins Diet was less expensive than the Jenny Craig diet and more expensive than Weight Watchers.<sup>[32]</sup>

Low-carbohydrate diets have been the subject of heated debate in medical circles for three decades. They are still controversial and only recently has any serious research supported some aspects of Atkins' claims, especially for short-term weight-loss (6 months or less). In a comparison study by Dansinger and colleagues (2005), the goal was to compare popular diets like Atkins, Ornish, Weight Watchers, and Zone for the amount of weight lost and a heart disease risk reduction. In the study there were 160 participants and it lasted for 1 year. All the subjects were overweight at baseline, and had an increased risk for cardiac diseases. One of the diets was assigned to each person.<sup>[33]</sup>

The Atkins Diet group were to eat 20g of CHO (carbohydrate) a day, with a gradual increase toward 50 g daily, but according to the study increased to well over 130g after the second month and up to 190g by the sixth month. At this point, the Atkins Diet group were eating carbohydrates equivalent to the other three groups. The Zone group ate a 40–30–30 % diet of carbohydrates, fats and proteins respectively. The Weight Watchers group was to keep the "points" of their food in a determined range, based on their weight. The group that was supposed to represent the Ornish diet ate a diet very unlike the Ornish diet that had been shown to reverse heart disease, taking in 30% of calories from fat rather than the suggested 10%, up to 20 grams of saturated fat a day, and only 15 grams of dietary fiber, indicating that the diet was not based on whole plant foods like the typical Ornish diet. The weight, waist size, blood pressure, and a blood sample were taken, at the beginning, after 2 months, 6 months and 12 months. All four diets resulted in modest weight loss and improvement in several cardiac risk factors, with no significant differences between the diets.<sup>[33]</sup>

Others in the scientific community also raised questions regarding the efficacy and safety of the diet:

- Robert Eckel of the American Heart Association said that high-protein, low-carbohydrate diets put people at risk of heart disease.<sup>[34]</sup> A long term study published in the *New England Journal of Medicine* in 2006 found that while women on low-carb diets were generally healthier than those on high-carbohydrate diets, women eating more protein and fat from vegetable sources, rather than from animal sources, had a lower risk of heart disease.<sup>[35]</sup>
- A 2001 review by Freedman et al. published in the journal *Obesity Research* concluded that low-carb dieters' initial advantage in weight loss was a result of increased water loss, and that after the initial period, low-carbohydrate diets produce similar fat loss to other diets with similar caloric intake.<sup>[36]</sup>
- The May 2004 *Annals of Internal Medicine* study showed that "minor adverse effects" of diarrhea, general weakness, rashes and muscle cramps "were more frequent in the low-carbohydrate diet group".

## Misconceptions about the diet

Many people believe that the Atkins Diet promotes eating unlimited amounts of fatty meats and cheeses.<sup>[37][38]</sup> This was allowed and promoted in early editions of the book. In the newest revision, not written by the now-deceased Atkins, this is not promoted. The Atkins Diet does not impose caloric restriction, or definite limits on proteins, with

Atkins saying in his book that this plan is "not a license to gorge," but rather promotes eating protein until satiated. The director of research and education for Atkins Nutritionals, Collette Heimowitz, has stated that the newer revisions are intended to clarify rather than replace the correct advice in the older books.<sup>[26]</sup>

"The Atkins Diet was labeled as a high-fat diet," Westman said in an interview with *The New York Times*. "We've been told over the past 40 years that fat in the diet is bad. Now we know that fat is not bad. What's happened is that there is a paradigm shift in thinking about carbohydrates, fat and protein and health."<sup>[39]</sup>

## Atkins Nutritionals

Atkins Nutritionals, Inc. (ANI) was founded in 1989 by Atkins to promote the sale of Atkins-branded products. Following his death, waning popularity of the diet and a reduction in demand for Atkins products, Atkins Nutritionals, Inc. filed for Chapter 11 bankruptcy protection on July 31, 2005 citing losses of \$340 million.<sup>[40]</sup> The company emerged from bankruptcy on January 10, 2006, introducing "*a new business strategy that focuses on providing great-tasting portable foods with a unique nutrition advantage to healthy, active men and women.*"<sup>[41]</sup> Although the marketing focus has changed, the products are still low-carb. It is also stated on the packages the stage of the Atkins Nutritional Approach where they may be used.

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- Robert C. Atkins (2004) *Atkins for Life: The Complete Controlled Carb Program for Permanent Weight Loss and Good Health*, 370pp, St. Martin's Press, ISBN 0-641-67892-4
- Robert C. Atkins (2001) *Dr. Atkins' New Diet Revolution Book*, 560 pp, Avon Books; Revised ed., ISBN 0-06-001203-X, ISBN 0-09-188948-0
- Robert C. Atkins (2000) *Dr. Atkins' Age-Defying Diet Revolution: A Powerful New Dietary Defense Against Aging*, Saint Martin's Press, LLC, ISBN 978-0-312-25189-5
- Robert C. Atkins (1999) *Dr. Atkins' Vita-Nutrient Solution: Nature's Answer to Drugs*, 416 pp, Fireside Books (Simon & Schuster), ISBN 0-684-84488-5.

## See also

- Online weight loss plans
- Dukan Diet
- KE Diet
- List of diets

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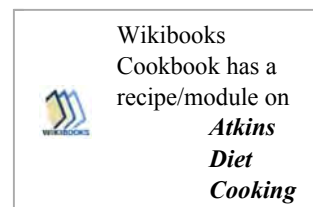
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## External links

- Official Atkins Corporate Site (http://www.atkins.com)

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Categories: Brand name diet products | Obesity | Diets | Fad diets | Low-carbohydrate diets | American inventions



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