

The Effects of Rapid Weight Loss from the South Beach Diet

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Abstract:

The South Beach Diet designed by Dr. Arthur Agatston is marked as a weight loss program for maintaining a healthy lifestyle. It claims its three phase process causes weight loss quickly through low intake of carbohydrate, fat, and added sugar. There are many psychological changes and health implications such a diet has on individuals. This study evaluated the effects of a carbohydrate-restricted diet on the signaling pathways controlling food intake and energy balance in individuals who are considered obese. The first phase of this diet known as "Banishing Your Cravings" is evaluated. The South Beach Diet phase one recommendations are compared with the recommended servings of carbohydrates proposed by the World Health Organization, the USDA Food Guide and the Dietary Guidelines for Americans. The effects low carbohydrate intake has on a person's ability to lose weight and maintain a healthy weight are examined. The study recommends ways these diet phases can be altered and/or maintained for a healthy lifestyle.

Introduction:

This poster explains the effects of rapid weight loss on a person's body during the South Beach diet. According to the designer of the South Beach Diet, Dr. Arthur Agatston, weight loss and a healthy lifestyle develop in three phases: "Banishing Your Cravings, Reintroducing Carbohydrates, and A Diet For Life." The first phase focuses on rapid weight loss in about two weeks.

During phase one a person cannot eat fruit, bread, rice, potatoes, pasta, sugar, and baked goods. Foods such as lean meat, eggs, fish, vegetables, cheese, and nuts are to be eaten at each meal until full. The restriction of carbohydrates has been shown to "enhance satiation and other homeostatic-signaling pathways controlling food intake and energy balance, which may serve to reduce the incidence of obesity and metabolic syndrome" (Hayes). It is recommended that the average person should not lose more than two pounds per week. Hayes claims that The South Beach Diet exclusion of carbohydrates and then reintroduction of these after two weeks will guarantee that a person will change their body chemistry. He also claims the amounts of food their bodies crave will subside to a healthy amount.

This mechanism to lose weight is used to market this diet as "successful." I analyze whether the effects of omitting carbohydrates in the first phase are necessary to help a person lose weight in the three phase South Beach Diet.

Method:

Research started on the commercial website for The South Beach Diet (4). The South Beach Diet book and cookbooks were reviewed. Peer reviewed sources were found to evaluate the diet. Also, the diet phases were compared with the daily recommended amounts of each food group from the World Health Organization and the USDA Food and Dietary Guidelines

Figure 1: Recommendations Concerning Intakes of Carbohydrates²

World Health Organization	Dietary Guidelines for Americans 2005	USDA Food Guide
55 to 75% of total calories from Carbohydrate	Consume between 45% and 65% if calories from carbohydrate	Grains, fruit, starchy vegetables, and milk contribute to the day's total carbohydrate intake

Results:

Figure 1 shows the recommendation for carbohydrate intake for a healthy diet, around 60% of daily caloric intake, while South Beach Diet prohibits carbohydrates. Figure 2 shows peer-reviewed claims about the impact of carbohydrate restriction.

Figure 2: Claims

Claim	Evidence
1. Phase one causes rapid weight loss	Participants drop about 5 pounds per week ⁴ However, this is due to dehydration rather than actual caloric loss ⁶ .
2. There is a loss of energy and interruption of signaling pathways	The brain and nerve tissues prefer glucose from carbohydrates as fuel for body functions specifically for nerve cells and brain function ²
3. Body tries to maintain normal sugar levels	When lacking glucose, body turns to protein to make glucose by diverting protein from critical functions like maintaining immune defenses ²

Conclusion:

The first phase of the marketed program can be misleading and is not a healthy way of losing weight.

Discussion:

Blood sugar provides a person, especially the brain, with energy. However, this can be made from protein. But fiber is another nutrient found in carbohydrates that is also important in the function of the digestive tract. Lastly both fiber and sugars contribute to the feelings of fullness².

When there is a lack of carbohydrates in a person's diet they experience water loss in the first week. Each gram of glycogen carries off two grams of water. This will cause a person to be happy with the results, as most loose between 4-7 pounds in the first week during water loss⁶.

Despite marketing claims of The South Beach Diet, peer reviewed research indicates that people who wish to lose weight and maintain a healthy lifestyle should attend to their portion sizes, control total calories, design their diets around foods that supply the recommended amounts of daily carbohydrates in balance with other energy nutrients, and get 90 minutes of exercise daily⁵. The effects of low carbohydrate intake on the body is severe and does cause rapid weight loss. It is noted that this diet is designed in a way that does reintroduce carbohydrates back into a person's diet after two weeks.

References:

- (1) Hayes, Matthew R., Carla K. Miller, Jan S. Ulbrecht, Joanna L. Mauget, Lynn Parker-Klees, Melissa Davis Gutschall, Diane C. Mitchell, Helen Smiciklas-Wright, and Mihai Covasa. "A carbohydrate-restricted diet alters gut peptides and adiposity signals in men and women with metabolic syndrome. (Nutrition and Disease)(Report)." *The Journal of Nutrition* 137.8 (August 2007): 1944(7).
- (2)Sizer, Frances & Ellie Whitney. *Nutrition: Concepts & Controversies*. Belmont, CA: 2006.
- (3) Zivkovic, Angela M., J Bruce German and Arun J Sanyal. "Comparative review of diets for the metabolic syndrome: implications for nonalcoholic fatty liver disease." *American Journal of Clinical Nutrition*, Vol. 86, No. 2, 285-300, August 2007.
- (4) The South Beach Diet Trademark Limited Partnership. "About the Diet", 2007. www.southbeachdiet.com.
- (5) Ordman, Roc. "The Atkin's Diet- What Nutrition Annual Editions (McGraw Hill) Presents", updated May 12, 2004. <http://www.beloit.edu/~nutritio/atkins.htm>.
- (6) Denke, Margo. "Metabolic Effects of high-protein, low-carbohydrate diets." *American Journal of Cardiology*, Vol. 88, July 1st, 2001.