

Health Benefits of Following the DASH Diet

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ABSTRACT

The DASH (Dietary Approaches to Stop Hypertension) Diet claims that following the diet created by Marla Heller will lower blood pressure. Previous research has provided evidence of this and other health benefits. I hypothesized that both low and high caloric intake versions of the diet would meet daily nutritional requirements and improve dieters' overall health. The research for this project was accomplished by investigating the diet and scientific articles regarding its health benefits. Two versions of the diet (1600 versus 3100 calories per day) are provided in a table. The nutritional values of each version are discussed. The DASH diet lowers blood pressure while also improving bone health and lowering LDL cholesterol. The dieter can meet all daily nutritional requirements.

INTRODUCTION

Many diets are highly marketable gimmicks that generate fads but often provide mixed or even unhealthy results (Whyte & Marting, 2005). The DASH diet (Dietary Approaches to Stop Hypertension) does not fall in this group. Though it is based on published research, the DASH diet is not well known to the public. The diet was conceived by Marla Heller, MS, RN, and is specifically designed to lower blood pressure in 14 days. Unlike many fad diets, the specifics of the DASH diet are presented on its main website, www.dashdiet.org, and a table is presented to inform the dieter of daily servings for each food group (see Table 1). There is no requirement of payment in order to follow the diet. One can choose to purchase the book Heller wrote to provide research data and detailed meal plans for the dieter.

According to numerous studies, the DASH diet is an effective means of lowering blood pressure while obtaining other health benefits as well. Specifically, following the DASH diet in conjunction with reducing sodium intake has been found to lower blood pressure (Vollmer et al., 2001). Mitka (2007) conducted a study that reaffirms the cardiovascular benefits of the DASH diet and examines the implications for the many at-risk patients who do not adhere to it. There is substantial evidence that following the diet lowers LDL cholesterol and improves bone health (Champagne, 2006; Doyle & Cashman, 2004). The phytochemical content of the DASH diet is also higher than the average diet, which may play a role in its many health benefits (Most, 2004).

Mitka's assertion that more blood pressure patients should follow the diet but do not is an indication that the diet may be difficult to follow. *Nutrition Action Healthletter's* "A DASHing Pyramid" representation of the diet suggests otherwise (see Fig. 1). Mitka argues that adherence to the diet is low due to the health system's inability to incorporate the diet into clinical practice. My objective for this project was to create two daily meal plan options for a DASH dieter, one following a strict intake of 1,600 calories and the other a 3,100 calorie intake. My hypothesis is that both meal plan options will meet all the nutritional daily requirements, and that with exercise, the DASH diet can provide the dieter with a healthier lifestyle.

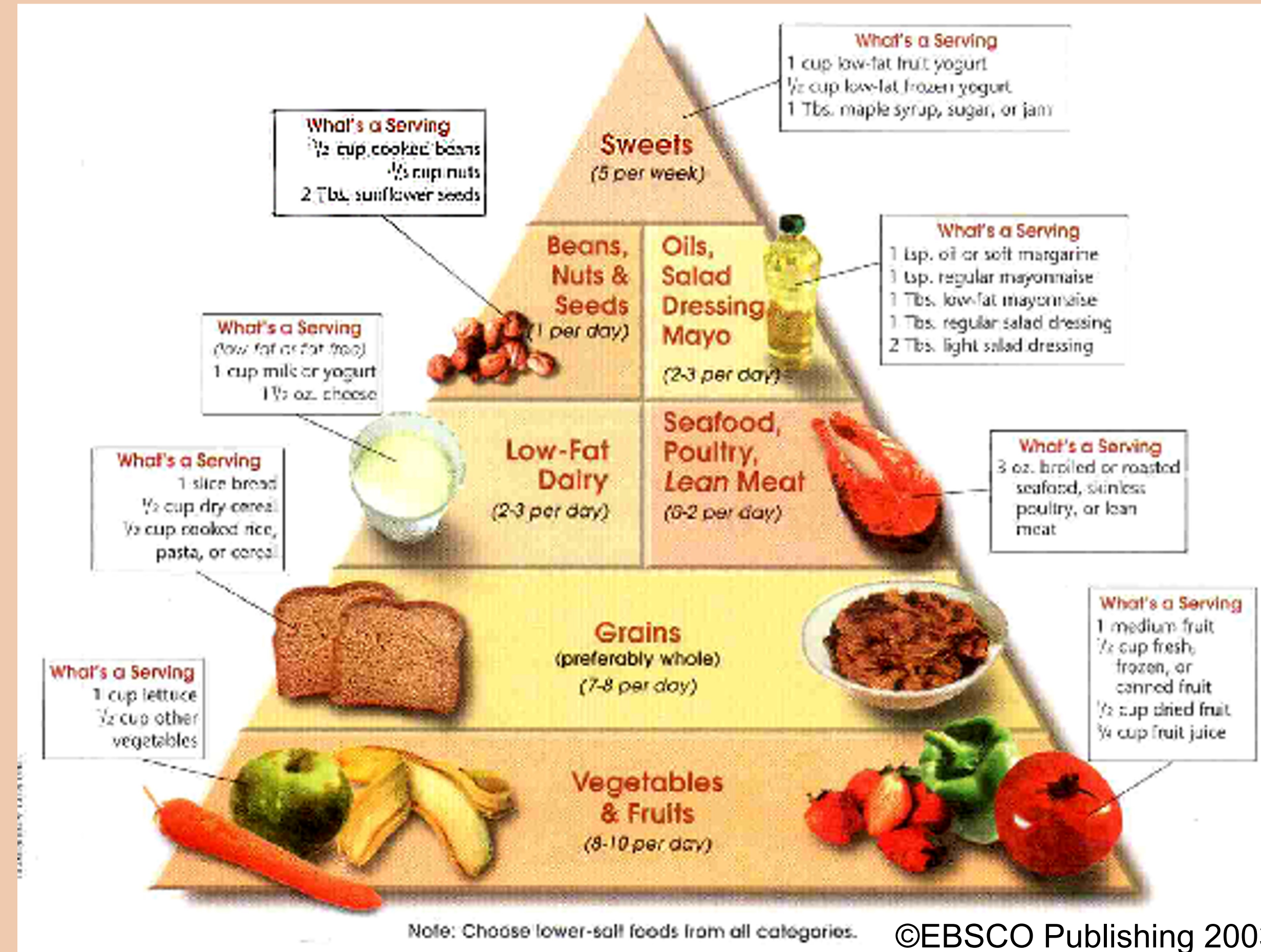
TABLE 1: Daily serving suggestions for each food group, presented at www.dashdiet.org.

Type of food	Number of servings for 1600 – 3100 Calorie diets	Servings on a 2000 Calorie diet
Grains and grain products (include at least 3 whole grain foods each day)	6 - 12	7 - 8
Fruits	4 - 6	4 - 5
Vegetables	4 - 6	4 - 5
Low fat or non fat dairy foods	2 - 4	2 - 3
Lean meats, fish, poultry	1.5 - 2.5	2 or less
Nuts, seeds, and legumes	3 - 6 per week	4 - 5 per week
Fats and sweets	2 - 4	limited

METHOD

The information on this poster was compiled from peer-reviewed literature sources and online diet planners (www.dashdiet.org and www.mypyramidtracker.gov).

FIGURE 1: "A Dashing Pyramid," a food pyramid representation of the DASH diet.



RESULTS

Daily nutritional values for the 1,600 and 3,100 calorie versions of the diet are represented in Table 2. Both versions of the diet are comprised of the same foods in varied quantities. Both versions fall within the recommended number of servings range provided by the DASH diet website. Foods included in each version are raw carrots and broccoli with low fat dip, whole grain cereal with raisins, salmon, pears, blueberries, bananas, unsalted almonds, and pumpkin pie. The 3,100 calorie version also includes a serving of roasted, skinless turkey breast and a single serving of frozen yogurt. Table 3 includes the health benefits and drawbacks of each version.

TABLE 2:

Nutritional facts for the 1,600 calorie/day and 3,100 calorie/day versions of the DASH diet.

Nutrient	1600 kcal/day	3100 kcal/day
Total Fat	16.5 g	128.6 g
Saturated Fat	4.8 g	14.1 g
Carbohydrate	334 g	428 g
Sodium	1,348 mg	1,511 mg
Total Fiber	43 g	69 g
Linoleic (Omega-6)	2.8 g	29.2 g
Alpha Linoleic (Omega-3)	0.4 g	0.4 g
Cholesterol	35 g	78 g
Vitamin A	1,854 mcg	1,114 mcg
Vitamin C	188 mg	125 mg
Vitamin E	10.1 mg	63.2 mg
Thiamin	1.4 mg	1.6 mg
Riboflavin	2 mg	4 mg
Niacin	15 mg	27 mg
Protein	300 mcg	334 mcg
Vitamin B6	1.9 mg	2.3 mg
Vitamin B12	3.7 mcg	5.3 mcg
Phosphorus	944 mg	1643 mg
Iron	10.5 mg	20.5 mg
Potassium	3913 mg	5559 mg

TABLE 3: A table of health benefits for each version of the diet, with suggestions and drawbacks for dieters.

Health Benefits	1,600 kcal/day DASH diet	3,100 kcal/day DASH diet
Lower Blood Pressure	yes	yes
Improved Bone Health	yes	yes
Improved Cholesterol	yes	yes
Healthy Omega-3 and Omega-6 Intake	Lacks optimum omega-3 and omega-6 levels	Lacks optimum omega-3 levels
Vitamins A, Bs, C, and E adequately represented	Yes, but supplements may be beneficial	Yes, but supplements may be beneficial
Metal Intake	Dieter may need to monitor iron intake	Dieter may need to monitor iron intake
Effective means of weight loss	yes	no

DISCUSSION

Both versions of the diet contain low levels of sodium, fat, and cholesterol, and they contain high levels of carbohydrates and fiber. The 1,600 calorie/day version of the diet is not recommended for especially large or active people on the diet, such as male athletes. The caloric restriction and reduced saturated fat intake provide an effective means of weight loss, especially in women. Dieters' blood pressure should significantly improve within 14 days with the reduced sodium levels (less than the RDI of 2,400 mg), and cholesterol levels and bone health are likely to improve with adherence to the diet. The nutritional values for each version of the diet are also largely consistent, so the DASH diet can appeal to a wider variety of dieters.

Drawbacks to the diet include a lack of omega-3. The dieter must choose a variety of fruits, vegetables, and whole grains in order to sustain the nutritional substance of the diet. Limiting choices in fruits and vegetables can cause great variation in the nutritional value of the diet. Supplements may be necessary in order to obtain more desirable levels of nutrients such as omega-3. The diet may also be difficult to maintain; the dieter must be very selective when choosing foods that are both nutritional and low in sodium.

CONCLUSION

The DASH diet is an effective means of lowering blood pressure and improving cholesterol and bone health. Nutritional benefits are also strongly evident. When appropriate, low-sodium foods are chosen by the dieter. The dieter should follow the daily nutritional values of his or her food intake, practice regular exercise, and consider taking dietary supplements where nutrients are lacking.

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