

## ***Make a DASH to Better Health by Lowering Hypertension***

Hypertension, or high blood pressure, is a substantial public health problem around the world. It is often referred to as the "silent killer" because its symptoms are not always evident. In America, hypertension affects one out of every four people, or 25% of the population. In the United Kingdom, the rate of hypertension is 23%.

Dietary Approaches to Stop Hypertension (DASH) is an eating plan that emphasizes whole foods such as fruits, vegetables, peanuts and nuts, and grains. In a clinical study supported by the National Heart, Lung and Blood Institute, scientists, for the first time, found that elevated blood pressures can be reduced with an eating plan that is:

- Low in saturated fat, total fat and cholesterol;
- Rich in fruits, vegetables, grains, peanuts and nuts;
- Plentiful in magnesium, potassium, and calcium, as well as protein and fiber.

### **Importance of Prevention**

Blood pressure is the force of blood against artery walls. It is measured in millimeters of mercury (mm Hg) and recorded as two numbers - systolic pressure (as the heart beats) over diastolic pressure (between heartbeats). High blood pressure results when already small blood vessels become stiff and restricted, causing the heart to work harder than it should.

It's crucial to prevent hypertension, because once it develops, it is hard to control and often lasts a lifetime. Over time, artery walls become damaged. If uncontrolled, hypertension can lead to heart and kidney disease, and stroke.

The optimal blood pressure level for adults is <120 mm Hg Systolic and <80 mm Hg Diastolic according to the

National High Blood Pressure Education Program. Even slight elevations in blood pressure are undesirable. And, the higher the blood pressure above optimal, the greater the health risk.

You can prevent high blood pressure by losing excess weight, being physically active, limiting your intake of alcohol and making smart dietary choices.

<b>INSIDE...</b>		<b>PAGE:</b>
	 DASH: The Clinical Study	2
	 From Research to Practice	3
	 Peanuts and Healthy Diets	4

## DASH: The Clinical Study

The DASH diet looked at 459 adults with average to elevated blood pressure. Each was randomly assigned to one of three diets:

1. A plan similar to the average American diet (37% fat, 16% saturated fat).
2. A plan similar to the average American diet but higher in fruits and vegetables (37% fat, 13% saturated fat).
3. A "combination" plan—the DASH diet—lower in saturated fat, total fat and cholesterol, and rich in fruits, vegetables, peanuts and nuts, and low-fat dairy foods (27% fat, 7% saturated fat).

All three diets were moderate in sodium, about 3,000 milligrams per day.

### Results in Two Weeks

The results of the study showed that both the fruit/vegetable and the combination diets reduced blood pressure, but that the combination—or DASH—eating plan had the greatest effect (1). It reduced blood pressure by an average of about 6 mm Hg for systolic and 3 mm Hg for diastolic. The results were even more significant for those with high blood pressure. Their systolic blood pressure dropped by an average of 11 mm Hg and diastolic by about 6 mm Hg.

One of the most significant findings of the DASH trial is the short amount of time it took to see results. Subjects who followed the DASH diet for just two weeks saw their blood pressures drop. Furthermore, the reduction in blood pressure stayed for as long as they stayed with the DASH diet.

If widely implemented, the DASH diet could reduce coronary heart disease and stroke incidence by 15% and 27% respectively (2).



**Scientist agree**  
**"...foods that are good sources of magnesium, calcium or potassium are significant in the DASH diet...peanuts were frequently used in the DASH study menus..." (3)**

"Hypertension affects about 25% of US adults and is a leading contributor to morbidity and mortality from coronary heart disease, stroke, peripheral vascular disease, and renal insufficiency. Lifestyle modifications have an important role in preventing and treating hypertension...In its most recent guidelines, the National High Blood Pressure Education Program recommends the Dietary Approaches to Stop Hypertension (DASH) as one that can lower blood pressure. The DASH diet emphasizes fruits, vegetables, and low-fat dairy products. It includes whole grains, poultry, fish and nuts and is reduced in fats, red meat, sweets and sugar-containing beverages. Its nutrient content is increased in potassium, magnesium, calcium, and fiber, moderately increased in protein, and reduced in saturated fat, total fat and cholesterol."

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**When it comes to reducing hypertension, small changes in your diet can mean big rewards for your health. To get your weekly dose of heart-healthy peanuts, try:**

- Combining raisins, dried apricots, granola and peanuts for a tasty trail mix
- Coating chicken, fish, and lean meats with chopped peanuts before baking
  - Melting peanut butter on top of warm pancakes or toast
  - Sprinkling peanuts on fruit salad

## From Research to Practice

The DASH diet was planned to meet specific goals. In addition to blood pressure-lowering benefits, the diet is designed to contain commonly eaten foods that were not supplemented with nutrients beyond what would normally be added as part of common food manufacturing process. Instead of focusing on specific nutrients, the DASH diet focuses on whole foods that are inexpensive and widely available to many people – making peanuts and peanut butter a perfect fit!

We know that the DASH diet can help reduce hypertension, but changing dietary patterns is often challenging. Below is a sample menu plan used in the study (4). If your current diet resembles the control diet, try making small changes. Aim for a diet that more closely resembles the fruits and vegetables or the combination diet.

Meal	Control diet	Fruits & vegetables diet	Combination diet
<b>Break fast</b>	Apple juice Sugar-frosted flakes White toast Butter Jelly Whole milk	Orange juice Oat bran muffin Raisins Dried apricots Butter	Orange juice Granola bar Fat-free yogurt 1% low-fat milk Bananas
<b>Lunch</b>	Ham and chicken sandwich on white bread with lettuce, pickles, mustard, and mayonnaise Fruit cocktail	Ham and swiss cheese sandwich on whole wheat bread Banana	Smoked turkey breast sandwich on whole wheat bread with lettuce and mayonnaise Fresh orange
<b>Dinner</b>	Spiced cod Scallion rice Carrots Butter French rolls	Spiced cod Scallion rice Lima beans Butter Dinner rolls Melon balls	Spiced cod Scallion rice Spinach Margarine Dinner rolls Melon balls 1% low-fat milk
<b>Snack</b>	Graham crackers Vanilla frosting Tropical fruit punch	Peanuts	Peanuts Dried apricots Tropical fruit punch

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*"For the DASH trial, trail mixes composed of a combination of raisins, dried apricots, almonds or peanuts were served." (3)*



*"27 g/day (one ounce or a small handful) of nuts and seeds were found in the fruits and vegetables diet. The combination diet used both nuts and seeds (25g/day) and legumes (11g/day)." (4)*



## More on Peanuts and Healthy Diets

Researchers are finding that peanuts and peanut butter are useful not only in diets that reduce cholesterol, promote weight loss, and satisfy hunger, but also in the DASH diet.

In one study, subjects on a "Mediterranean-style" diet that included unsaturated fats such as peanuts, nuts, peanut butter and olive oil were able to stick to the diet and lose more weight than those on a low fat diet. Furthermore, they spontaneously increased their vegetable consumption and achieved higher fiber intakes (5).

In a study at Purdue University, researchers found that peanuts were able to satisfy hunger for up to three hours – a significantly longer period of time than other high-carbohydrate snacks such as rice cakes (6-7).

A brand new study at Penn State tested the effects of two calorically-controlled diets that were low in saturated fat and cholesterol on weight loss and cardiovascular disease. One of the diets was low-fat (less than 20% calories from fat) and one was higher in total fat (35% of calories from fat, which was mainly monounsaturated). Both groups lost an average of 1-2 pounds per week over the 6 week study period. Preliminary results show that both diets lowered total and LDL cholesterol levels, known risk factors for cardiovascular disease (8).

In addition, data from the large scale Nurses Health Study at Harvard University found that women who consumed nuts and peanuts  $\geq 5$  times per week had about a 35% lower risk of coronary heart disease than those who rarely ate them (9).

### References

1. Appel, L.J., Moore, T.J., Obarzanek, E., et al. The Effect of Dietary Patterns on Blood Pressure: Results from the Dietary Approaches to Stop Hypertension Trial. *New England Journal of Medicine*. 1997;356(1):117-24.
2. Harsha, D.W. et al. Dietary Approaches to Stop Hypertension: A Summary of Study Results. *Journal of the American Dietetic Association*. 1999;99(8):686-689.
3. Winhauser, M.M. et al. Translating the Dietary Approaches to Stop Hypertension: from research to practice: Dietary and behavior change techniques. *Journal of the American Dietetic Association*. 1999;99(8):690-696.
4. Karanja, N.M. et al. Descriptive Characteristics of the Dietary Patterns Used in the Dietary Approaches to Stop Hypertension Trial. *Journal of the American Dietetic Association*. 1999;99(8):819-827.
5. McManus, K.; Anthony, L.; Sacks, F.M. Weight Reduction: A Comparison of a High Unsaturated Fat Diet with Nuts Versus a Low-Fat Diet. *Presentation, Experimental Biology 99*. April 19, 1999.
6. Lemmer, C.M. and Mares, R.M. Effects of Chronic Peanut Consumption on Body Weight and Serum Lipid Levels in Humans. *Presentation, Experimental Biology 99*. April 19, 1999.
7. Mares, R.D. and Volans, S.K. Effects of Peanuts on Hunger and Food Intakes in Humans. *Presentation, Experimental Biology 98*. April 20, 1998.
8. Pearson, T.A.; Kirwan, J.P.; Wazow, D.; Rishell, V.; Jurutu, V.; Kirs-Ehrman, PM. Weight loss and Weight Maintenance: Effects of High MUFA VS. Low Fat Diets on Plasma Lipids and Apoproteins. *Presentation, Experimental Biology 99*. April 19, 1999.
9. Hu, F.B. et al. Frequent Nut Consumption and Risk of Coronary Heart Disease in Women: Prospective Cohort Study. *British Medical Journal*. 1998;317(7184):6.

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*The Peanut Institute pursues its mission through research programs, educational initiatives, and the promotion of healthful lifestyles to consumers of all ages. As an independent forum, The Peanut Institute is uniquely positioned to work with all segments of the food industry, the research community, academia, consumer organizations and government.*



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