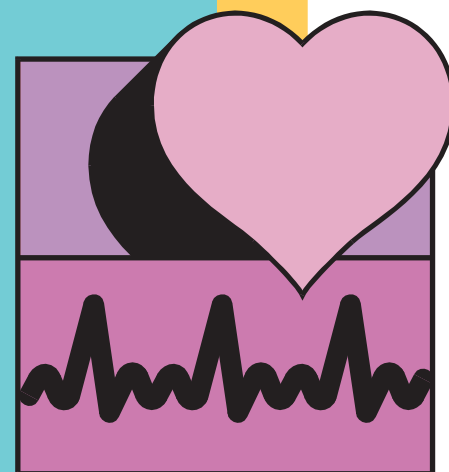




The DASH diet eating plan

Research has found that diet affects the development of high blood pressure, or hypertension. The average level of sodium consumed by Americans is 3,300 milligrams a day. The upper limit currently recommended by the National High Blood Pressure Education Program is 2,400 milligrams a day. Blood pressure can be lowered by following a particular eating plan—called the Dietary Approaches to Stop Hypertension (DASH) eating plan—and reducing the amount of sodium consumed between 1,500 and 2,400 milligrams a day. The DASH study was sponsored by the National Heart, Lung, and Blood Institute (NHLBI) and conducted at four medical centers: Brigham and Women’s Hospital, Boston, MA; Duke University Medical Center, Durham, NC; Johns Hopkins University, Baltimore, MD; Pennington Biomedical Research Center, Louisiana State University, Baton Rouge, LA.



What is high blood pressure?

Blood pressure is the force of blood against artery walls. It is measured in millimeters of mercury (mmHg) and recorded as two numbers—systolic pressure (as the heart beats) over diastolic pressure (as the heart relaxes between beats). Both numbers are important.

Blood Pressure Levels for Adults

Category	Systolic (mmHg)		Diastolic (mmHg)	Result
Normal	Less than 120	<i>and</i>	Less than 80	Great!
Prehypertension	120–139	<i>or</i>	80–89	It is time to make changes in diet and exercise habits. If you are overweight, losing weight will help reduce blood pressure.
Hypertension	140 or higher	<i>or</i>	90 or higher	If your blood pressure is this level or higher during three visits to a doctor, you will be diagnosed with hypertension. Ask your doctor or nurse how to control it.

The DASH eating plan

The DASH eating plan is rich in lower-calorie foods such as fruits and vegetables. You can reduce calories by substituting fruits and vegetables for higher-calorie foods.

fruits

To increase fruits –

- Eat fruits in place of cookies and candy for snacks. *You'll save 80 calories.*
- Eat dried fruits instead of pork rinds or chips. *You'll save 230 calories.*

vegetables

To increase vegetables –

- Choose a small hamburger with 3 ounces of meat instead of 6 ounces. Choose carrot sticks on the side. *You'll save more than 200 calories.*
- Bring cut-up vegetables to have with a sandwich at lunch instead of chips. *You'll save about 120 calories.*
- Choose another side vegetable rather than a starchy dish. *You can save up to 200 calories.*

dairy

To increase lowfat or fat-free dairy products –

- Have a ½ cup of lowfat frozen yogurt instead of chocolate, pie or frosted cake. *You can save 100 calories.*
- Choose nonfat fruit yogurt at snack time instead of donuts or candy bars. *You can save about 100 calories.*
- Include milk and lowfat cheese in casseroles.

calories

To save calories –

- Use lowfat or fat-free condiments, especially mayonnaise.
- Reduce oil and margarine in recipes by half, and order salad dressings on the side.
- Eat smaller portions and eat slowly. Limit meat to 6 ounces a day. That is all you need.
- Choose lowfat and fat-free dairy products.
- Check food labels to compare fat content of packaged foods.
- Limit intake of foods with added sugar, such as pies, candy bars, ice cream, regular soft drinks and fruit drinks.
- Drink water or club soda.
- Choose fruits and vegetables instead of salty snack foods.
- Use lower-fat methods of preparing foods such as broiling, baking and grilling.
- Limit your meals at quick service restaurants. They tend to be high in fat and sodium and low in fruits and vegetables.



The DASH Eating Plan



The DASH eating plan shown below is based on **1,800 calories a day**. The number of daily servings in a food group may vary from those listed, depending on your caloric needs. Use this chart to help you plan your menus or take it with you when you go to the store.

Food Group	Daily Serving	Servings Sizes	Examples and Notes	Role
Grains and Grain Products	7-8	1 slice bread 1 oz dry cereal ½ cup cooked rice, pasta or cereal	Whole-wheat bread, English muffin, pita bread, bagel, cereals, grits, oatmeal, crackers, unsalted pretzels and popcorn	Major sources of energy and fiber
Vegetables	4	1 cup raw leafy vegetable ½ cup cooked vegetable 6 oz vegetable juice	Tomatoes, potatoes, carrots, green peas, squash, broccoli, turnip greens, collards, kale, spinach, artichokes, green beans, lima beans, sweet potatoes	Rich sources of potassium, magnesium and fiber
Fruits	4	6 oz fruit juice 1 medium fruit ¼ cup dried fruit ½ cup fresh, frozen or canned fruit	Apricots, bananas, dates, grapes, oranges, orange juice, grapefruit, grapefruit juice, mangoes, melons, peaches, pineapples, prunes, raisins, strawberries, tangerines	Important sources of potassium, magnesium and fiber
Lowfat or fat-free dairy foods	2-3	8 oz milk 1 cup yogurt 1 ½ oz cheese	Fat-free (skim) or lowfat (1%) milk, fat-free or lowfat buttermilk, fat-free or lowfat regular or frozen yogurt, lowfat and fat-free cheese	Major sources of calcium and protein
Meats, poultry and fish	2 or less	3 oz cooked meats, poultry or fish	Select only lean; trim away visible fats; broil, roast or boil instead of frying; remove skin from poultry	Rich sources of protein and magnesium
Nuts, seeds and dry beans	2-3 per week	½ cup or 1 ½ oz nuts 2 Tbsp or ½ oz seeds ½ cup cooked dry beans and peas	Almonds, filberts, mixed nuts, peanuts, walnuts, sunflower seeds, kidney beans, lentils	Rich sources of energy, magnesium, potassium, protein and fiber
Fats and Oils	2-3	1 tsp soft margarine 1 Tbsp lowfat mayonnaise 2 Tbsp light salad dressing 1 tsp vegetable oil	Soft margarine, lowfat mayonnaise, light salad dressing, vegetable oil such as olive, corn, canola or safflower	DASH has 27% of calories as fat, including fat in added foods
Sweets	5 per week	1 Tbsp sugar 1 Tbsp jelly or jam ½ oz jelly beans 8 oz lemonade	Maple syrup, sugar, jelly, jam, fruit-flavored gelatin, jelly beans, hard candy, fruit punch, sorbet, ices	Sweets should be low in fat

References:

The DASH diet for hypertension: Lower your blood pressure in 14 days – Without Drugs by Thomas Moore, Laura Svetkey, Pao-Hwa Lin, Njeri Karanja, and Mark Jenkins. The Free Press: New York, 2001.

Appel LJ, Champagne CM, Harsha DW, Cooper LS, Obarzanek E, Elmer PJ, Stevens VJ, Vollmer WM, Lin PH, Svetkey LP, Stedman SW, Young DR; Writing Group of the PREMIER Collaborative Research Group. Effects of comprehensive lifestyle modification on blood pressure control: main results of the PREMIER clinical trial. JAMA. 2003 Apr 23-30;289(16):2083-93.

Windhauser MM; Ernst DB; Karanja NM; Crawford SW; Redican SE; Swain JF; Karimbakas JM; Champagne CM; Hoben KP; Evans MA. Translating the Dietary Approaches to Stop Hypertension diet from research to practice: dietary and behavior change techniques. DASH Collaborative Research Group. J Am Diet Assoc 1999 Aug; 99 (8 Suppl), pp. S90-5.

U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung and Blood Institute. Your guide to Lowering Your Blood Pressure. NIH Publication No. 03-5232, May 2003.

U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung and Blood Institute. Facts About the DASH Eating Plan. NIH Publication No. 03-4082, Revised May 2003.



Louisiana State University Agricultural Center

William B. Richardson, Chancellor

Louisiana Agricultural Experiment Station

David J. Boethel, Vice Chancellor and Director

Louisiana Cooperative Extension Service

Paul D. Coreil, Vice Chancellor and Director

Pub. 2899 (10M) 6/04

Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. The Louisiana Cooperative Extension Service provides equal opportunities in programs and employment.

Visit our Web site:

www.lsuagcenter.com

The Pennington Biomedical Research Center is a world-renowned nutrition research center.

Mission:

To promote healthier lives through research and education in nutrition and preventive medicine.



The Pennington Center has five priorities in research:

1. Clinical Obesity Research
2. Experimental Obesity
3. Functional Foods
4. Health and Performance Enhancement
5. Nutrition and Chronic Diseases

The research fostered by these divisions can have a profound impact on healthy living and on prevention of common chronic diseases, such as heart disease, cancer, diabetes, hypertension and osteoporosis.

The Division of Education provides education and information to the scientific community and the public about research findings, training programs and research areas, as well as providing educational events for the public on various health issues.

We invite people of all ages and backgrounds to participate in the exciting research studies being conducted at the Pennington Center in Baton Rouge, Louisiana. If you would like to take part, visit the clinical trials web page at www.pbrc.edu or call (225) 763-2597.

Visit our Web site: www.pbrc.edu