

Doing the DASH: Taking the guesswork out of healthy eating

By MayoClinic.com

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The DASH diet is combines the right kinds and combinations of foods and nutrients to lower your blood pressure and keep it under control.

The National Heart, Lung, and Blood Institute, part of the U.S. government's National Institutes of Health, developed the DASH plan to reduce blood pressure, finding that blood pressure went down after only two weeks of being on the diet. Since the initial studies, researchers have found the DASH plan may offer other health benefits, too, such as protection against osteoporosis, cancer, heart disease and diabetes.

The DASH plan is especially effective in reducing blood pressure in blacks and older adults. In addition, if adopted early, the DASH plan can prevent hypertension.

The DASH plan: What to eat

The DASH eating plan is rich in grains, fruits, vegetables and low-fat dairy products. It also includes fish, poultry and legumes. Red meat, sweets and fats are included in smaller amounts. This variety means the DASH plan is low in saturated fat, cholesterol and total fat, while rich in protein, fiber and healthy nutrients, particularly magnesium, potassium and calcium.

The DASH plan now has two versions, the standard DASH plan and the lower sodium DASH plan. The low-sodium DASH plan encourages a further reduction in sodium consumption, which can help to reduce blood pressure even more than can the standard DASH plan.

The basic components of the DASH plan are not too different from the typical heart-healthy diet that most health organizations and doctors prescribe, such as the Therapeutic Lifestyle Changes (TLC) diet from the American Heart Association or the Mayo Clinic Healthy Weight Pyramid. The DASH plan is different in its mix of nutrients due to its emphasis on such foods as fruits, vegetables and low-fat dairy products. These foods provide potassium, calcium and magnesium, which together have a potent effect on blood pressure. Also, some research suggests that substituting some carbohydrates with protein, mostly from plant sources, further lowers blood pressure.

Nutrient mix

Reducing sodium and increasing potassium, calcium and magnesium has a particularly potent effect on blood pressure. This mix of nutrients acts as a diuretic, helping the body excrete salt.

Mineral

How it works

Where it's found

Potassium	Balances the amount of sodium in your cells	Many fruits and vegetables, whole grains, legumes products.
Calcium	Not proved to prevent high blood pressure, but eating too little is linked with high blood pressure	Dairy products, green leafy vegetables, fish with bones, calcium-fortified foods.
Magnesium	Deficiency linked with higher blood pressure	Legumes, green leafy vegetables, nuts and seeds, grains, lean meats.

DASH components

Here are the food groups in the DASH eating plan and tips on incorporating them into your meals:

Food group	Servings
Grains	7 to 8 a day
Fruits and vegetables	8 to 10 a day
Dairy	2 to 3 a day
Meats, poultry and fish	2 or fewer a day
Nuts, seeds and beans	4 to 5 a week
Fats and oils	2 to 3 a day
Sweets	5 a week
Sodium	1,500 to 2,400 milligrams a day (the lower the sodium intake, the greater the pressure lowering effect)

Grains (7 to 8 servings a day)

These include breads, cereals, rice and pasta. They're a good source of energy and fiber.

- To get more fiber and nutrients, such as magnesium, choose whole grains rather than refined grains. For instance, use brown rice instead of white rice, whole-wheat pasta instead of regular pasta and whole-grain bread instead of white bread. Look for products made with 100 percent whole grain or 100 percent whole wheat.
- Grains are naturally low in fat, so don't sabotage them by adding lots of butter or cream and cheese sauces.

Vegetables and fruits (8 to 10 servings a day)

Vegetables. Tomatoes, carrots, broccoli, sweet potatoes and other vegetables are chock-full of fiber, vitamins and such minerals as potassium and magnesium. And remember, don't think of them as mere side dishes — a hearty blend of vegetables can serve as the main dish for a meal.

- Fresh or frozen vegetables are both good choices. For maximum benefit from canned vegetables, make sure they don't have added salt.
- To increase the number of servings you fit in daily, be creative. In a stir-fry, for instance, cut the amount of chicken in half and double up on the vegetables.

Fruits. Fresh or dried, many fruits need little preparation to become a healthy part of a meal or an on-the-go snack. Like vegetables, they're packed with fiber, potassium and magnesium and are almost always low in fat — coconut is one exception.

- Add a glass of orange juice to breakfast to start the day off with fruit. Have a piece of fruit at lunch and one as a snack, then round out your day with a dessert of fresh fruits topped with a splash of low-fat yogurt. Remember that grapefruit juice can interact with certain medications, so check with your doctor before drinking it.
- Leave on edible peels whenever possible. The peels of apples, pears and most fruits with pits add interesting texture to recipes and contain added nutrients and fiber.

Dairy (2 to 3 servings a day)

Milk, yogurt, cheese and other dairy products are major sources of calcium, vitamin D and protein. But the key is to make sure they're low-fat or fat-free, since dairy products can also be a major source of fat.

- Trouble digesting dairy products? Don't think that means the end of the DASH diet for you. You may benefit from over-the-counter products that contain the enzyme lactase, which can reduce or prevent the symptoms of lactose intolerance. Or choose lactose-free products. Even people who have trouble tolerating milk can generally tolerate yogurt. Some people tolerate milk in small portions, 4 ounces at a time or less.
- Low-fat or fat-free frozen yogurt can help you boost your intake of dairy products while offering a sweet treat. Add fruit for a healthy twist.

Meats, poultry and fish (2 or fewer servings a day)

These foods are rich sources of protein, B vitamins, iron and zinc. But because even lean varieties contain fat and cholesterol, try to limit intake of animal-based foods.

- The DASH plan suggests that meals not be centered around meats. Cut back typical meat portions by one-third or one-half and pile on the vegetables instead.
 - Trim away skin and fat before cooking, then broil, grill, roast or poach instead of frying.

Nuts, seeds and beans (4 to 5 servings a week)

Almonds, sunflower seeds, kidney beans, lentils and other foods in this family are good sources of magnesium, potassium and protein. They're also full of fiber and phytochemicals, plant compounds that may protect against some cancers and cardiovascular disease.

- Nuts may have gotten a bad rap over their fat content, but they contain a good type of fat — monounsaturated fat. They are high in calories, however, so they should be consumed in moderation. Try adding them to stir-fries or salads.

- Soybean-based products, such as tofu and tempeh, can be a good alternative to meat because they contain all of the amino acids your body needs to make a complete protein, just like meat. They also contain isoflavones, a type of natural plant compound (phytochemical) that has been shown to have some health benefits.

Fats and oils (2 to 3 a day)

Fat has the important task of aiding in the absorption of essential vitamins and assisting your body's immune system. But too much fat increases your risk of heart disease, diabetes and obesity. The DASH plan strives for a healthy balance by providing about 27 percent of daily calories from fat, with a focus on the healthier unsaturated fats.

- Become a savvy consumer and read food labels on margarines and salad dressings so that you can choose those that are lowest in saturated fat and trans fat.
- Saturated fat and trans fat are the main dietary culprits in raising your blood cholesterol and increasing your risk of coronary artery disease. Keep your daily intake of saturated fat to no more than 10 percent of your total calories by limiting use of meat, butter, cheese, whole milk, cream and eggs in your diet, along with foods made from lard, solid shortenings, and palm and coconut oils. Intake of trans fats — a type of fat found mainly in processed foods such as crackers, baked goods and fried items — should be kept as low as possible.

Sweets (5 a week)

Even on the DASH eating plan, you can have sweets in small amounts.

- The sweets in the DASH plan should be fat-free, for example, sorbets or fruit ices, jelly beans or hard candy, or low in fat, such as graham crackers and low-fat cookies.
- Artificial sweeteners such as aspartame (NutraSweet, Equal) and sucralose (Splenda) may help satisfy your sweet tooth while sparing the sugar. But remember that you still must use them sensibly. It's OK to swap a diet cola for a regular cola, but not at the expense of a more nutritious beverage such as milk or low-sodium vegetable juice.

Cutting back on sodium

The fruits, vegetables and low-fat dairy products that have center stage in the DASH plan are naturally low in sodium. That means it'll take less effort to reduce the sodium and salt in your diet.

The recommended upper limit of daily sodium consumption for most healthy adults is 2,400 milligrams (mg). If you have prehypertension (120/80 to 139/89) or high blood pressure (140/90 to 159/99), it's recommended to reduce your intake to 1,500 mg to help control the condition.

Of course, sodium is added to food for more than just preservation — it's there for taste, too. And some people may find it unpalatable to abruptly cut back to 1,500 mg a day. If you have trouble cutting back on sodium and table salt, do it gradually. That'll give your palate time to adjust.

"It takes six weeks or more for your taste buds to get used to less salty foods," says Sheldon Sheps, M.D., emeritus professor of medicine and former chairman of the hypertension division in the Department of Medicine at

Mayo Clinic, Rochester, Minn. "But if you can get through those first couple of months and get used to the foods, you have some sources for good meals."

When you read food labels, you may be surprised at just how much sodium some processed foods contain. Even low-fat soups, canned vegetables, ready-to-eat cereals and sliced turkey from the local deli — all foods you may have considered healthy — can have loads of sodium. Choose low-sodium varieties, and you may find you don't even notice the difference.

Here are some ways to reduce the sodium and salt in your diet without sending your taste buds into panic:

- Add spices or flavorings to your food instead of salt. Season broccoli with lemon juice or oregano and popcorn with curry or garlic powder, for instance. Try salt-free seasoning blends.
 - Don't add salt when cooking rice, pasta or hot cereal.
 - Rinse canned foods, such as tuna, to remove some sodium.
- Buy foods labeled "sodium-free," "low sodium" or "very low sodium."

Excessive alcohol intake can increase blood pressure. The DASH plan recommends limiting alcohol to two or fewer drinks a day in men, and one drink a day for women.

Putting it all together

The DASH plan is based on a diet of 2,000 calories a day. If you're trying to lose weight, though, you may want to consume fewer calories, say 1,600 a day. The DASH plan is not designed to promote weight loss, but it can be used as part of an overall weight-loss strategy. Weight loss has been shown to reduce blood pressure. You may need to adjust your serving goals based on your health or individual circumstances — something your health care team can help you decide.

Use the DASH food group guidelines and the guide to recommended daily servings to get started with your own menu planning. And build on these sample menus to create your own healthy meals and snacks. Talk to your doctor or a registered dietitian if you need more help creating menus.

If you haven't given fruits and vegetables much more than a passing nod, consider these strategies for adopting the DASH eating plan:

- **Change gradually.** People seeking healthier lifestyles often try to change too much at once. Instead, change one or two things at a time. If you now eat only one or two servings of fruits or vegetables a day, for instance, add a serving at lunch and one at dinner. Rather than switching to all whole grains, start by making one or two of your grain servings whole grains. Increasing fruit and vegetable intake gradually will also help prevent bloating or diarrhea that may occur in some people who aren't used to eating a diet with lots of high-fiber grains, fruits and vegetables. You can also try over-the-counter products to help reduce the gas from beans and gas-forming vegetables.
- **Forgive yourself if you backslide.** Everyone slips, especially when learning something new. Remember that changing your lifestyle is a long-term process. Find out what triggered your setback and then just pick up where you left off with the DASH plan.
 - **Reward successes.** Reward yourself with a nonfood treat for your accomplishments.

- **Add physical activity.** To boost your blood pressure lowering efforts even more, consider increasing your physical activity in addition to following the DASH plan. These two interventions together are more successful at lowering blood pressure than either alone. And, a recent study shows motivated individuals can successfully reduce their risk of cardiovascular disease by sustained adherence to lifestyle changes, including following the DASH diet and increasing physical activity.

Remember, healthy eating isn't an all-or-nothing proposition. What's most important is that, on average, you eat healthier foods with plenty of variety — both to keep your diet nutritious and to avoid boredom or extremes. Packed with low-sodium, nutrient-dense foods, the DASH eating plan can help control your blood pressure and become a mainstay of an overall healthier lifestyle.