



DASH Diet - The Science behind it, Proven Health Benefits, Advantages and Disadvantages

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Abstract . The DASH diet (Dietary Approaches to Stop Hypertension) is a nutritional system designed to maintain normal blood pressure levels. The diet uses foods that contain a minimum amount of sodium, rich in calcium, magnesium and potassium. The menu is dominated by unlimited vegetables and fruits, low-fat dairy and whole grains, nuts, fish and poultry. Red meat, sweets and sugary drinks are allowed with restrictions.

Keywords: DASH diet, DASH , harm, beneficial properties, contraindications

History of occurrence

The DASH diet has repeatedly been included in studies conducted by the US National Institutes of Health. One of them showed that blood pressure can be reduced by dieting, even with a daily intake of 3300 mg of sodium. In addition, following a low-salt diet reduces the risk of many diseases, such as stroke, heart and kidney failure, kidney stones, diabetes, and some types of cancer. Also, the DASH diet has proven to be an effective way to lose weight and improve health. At the same time, the diet is rich in tasty, varied and full-fledged dishes without sharp restrictions. Because of these benefits, the DASH diet was ranked #1 in the US News & World Report's 2011-2018 diet rankings.

The original studies were not intended to control weight loss, the diet was rich in refined and starchy foods and based on nutritional ideas typical of the mid-90s. 20th century.

However, the issue of healthy weight loss has become increasingly relevant for many people. This led to the need for a simple weight loss plan based on DASH products. It took a few more studies to add protein foods, healthy “correct” fats to the cardiovascular system, and reduce the amount of “empty carbohydrates” in the DASH diet. So the diet against arterial hypertension began to promote sustainable and safe weight loss.

The main source of DASH diet plans are books by nutritionist Marla Heller, former president of the Illinois Dietetic Association. The recommendations are based on the principles of healthy weight maintenance. The diet is filled with fruits and vegetables, they are hearty and voluminous. Foods rich in protein and healthy fats can easily satisfy hunger. Since spikes in blood sugar cause hunger, the

DASH diet keeps blood sugar stable without a roller coaster. It also reduces the risk of developing diabetes or makes it easier to control an existing disease. A healthy diet lowers triglycerides, raises the "good" HDL cholesterol, and lowers the "bad" LDL cholesterol. A sufficient amount of protein in the diet allows you to avoid a slowdown in metabolism and maintain muscle mass while losing adipose tissue.

The DASH-style dietary recommendations were intended primarily for people suffering from hypertension. However, this plan can be used as a healthy eating model for the whole family. Of course, the diet was designed to lower blood pressure. But in addition, it lowers cholesterol and reduces inflammatory reactions, improves the cardiovascular system. Effective for all age categories - successfully used to lower blood pressure in both adults and children. Therefore, everyone can use DASH nutrition in their diet. ^[one]

Scientific basis of diet

The DASH diet is based on scientific research on dietary approaches in the fight against hypertension. It has been shown to keep blood pressure within acceptable limits, lower cholesterol and improve insulin sensitivity. However, blood pressure control is based not only on a traditional diet low in salt or sodium. The diet is based on a nutritional plan that has been shown to lower blood pressure by providing an abundance of potassium, magnesium, calcium, and fiber. The diet is rich in fruits, vegetables and low-fat dairy products, whole grains and contains less refined foods than the original DASH diet.

Therefore, the DASH diet is recommended by the National Heart, Lung, and Blood Institute of the US Department of Health and Human Services, ^[2] the American Heart Association. This diet is referenced in the Dietary Guidelines for Americans ^[3] and the United States Guidelines for the Treatment of High Blood Pressure. ^[four]

Tips for Switching to a DASH Diet

- Add a serving of vegetables for lunch and dinner.
- Replace one meal with a serving of fruit, or add them as a snack. You can also eat canned and dried fruits, but choose without added sugar.
- Cut in half your usual serving of butter, margarine or salad dressing, use dressings without fat or with a low fat content.
- Replace full-fat dairy products with low-fat ones.
- Reduce the daily portion of meat products to 170 gr., If possible, prepare vegetarian dishes.
- Enrich your diet with dried legumes.
- Replace snacks with chips or sweets with nuts, raisins, unsalted popcorn without oil, raw vegetables, low-fat drinking or frozen yogurt, unsalted crackers.
- When buying, pay attention to labels when choosing low-sodium foods.
- You can also limit yourself in salt gradually. Reduce to 2300-2400 mg of sodium per day (about 1 teaspoon) first. Once you get used to the new taste experience, cut down to 1500 mg of sodium per day (about 2/3 teaspoon). This is the amount of all sodium eaten in foods, not just added salt.

On the DASH diet, expect to get: Servings per day:

Cereals

7-8

Vegetables	4-5
Fruit	4-5
Low fat dairy products	2-3
Meat, poultry and fish	1-2
Nuts, seeds and dry legumes	4-5
Fats and oils	2-3
Sweets	up to 5 servings per week

One serving is:

- ½ cup cooked pasta or rice
- 1 slice of bread
- 1 cup raw fruits or vegetables
- ½ cup cooked fruits or vegetables
- 225 ml skimmed milk
- 1 teaspoon vegetable oil
- 85 gr. cooked meat
- 85 gr. soy tofu ^[5]

How does the DASH diet work?

The DASH diet helps lower blood pressure by increasing key nutrients in the diet. Potassium, calcium, magnesium help lower blood pressure. These substances enter the body due to the inclusion in the diet of a large number of fruits, vegetables, low-fat dairy products. Additionally, you should reduce the intake of sodium and salt, responsible for fluid retention in the body and increased pressure. Along the way, smoking cessation, moderate alcohol consumption, exercise, and weight loss are recommended, which is facilitated by the DASH diet itself. ^[6]

How to make it even healthier?

For weight loss and overall health, it is recommended to reduce the consumption of sugars added to foods, as well as refined and processed foods. This dietary modification will be especially beneficial for people with metabolic syndrome, prediabetes, or those with established diabetes. For women after menopause, such a diet will help to reduce excess weight, which is usually a difficult task in middle age. Such nutrition will reduce the body's need for insulin and reduce the tendency to store fat in the middle part of the body. Waist reduction is an important plus in reducing health risks. ^[7]

Vegetarian version of the DASH diet

The DASH diet exists quite organically as a vegetarian option. Refusing meat only increases its effectiveness.

Where to start?

- Choose foods that are whole, organic, unrefined, and locally grown if possible.
- Eat at least one serving of vegetables at every meal.
- Eat a serving of vegetables or fruits with every snack.
- Avoid wheat. it contains gluten. Swap refined grains like white bread, white pasta and white rice for whole grains like wild and brown rice and oats.
- Instead of seasonings containing salt, sugar, and flavor enhancers, use low-sodium natural seasonings such as herbs and spices. ^[eight]

Benefits of the DASH Diet

Adhering to this diet is quite pleasant and easy, since it does not restrict entire food groups, urging you to give up only fatty, sweet and salty foods.

The DASH diet can be followed indefinitely, becoming a literal eating style and lifestyle.

The DASH diet is suitable for all family members, regardless of age and the presence of pressure problems, keeping everyone healthy.

Following a DASH diet is quite convenient. The National Heart, Lung, and Blood Institute offers many tips for reducing sodium intake while eating out and preparing home-cooked meals. It is also allowed to replace part of the protein dishes and dishes with unsaturated fats with carbohydrates, about 10% of the daily diet. At the same time, according to research, the benefits for the heart will continue.

It's easy to find ready-made recipes for the DASH diet. The National Heart, Lung, and Blood Institute offers an online prescription database. ^[9] Lists of such prescriptions are published by other authoritative organizations, for example, the Mayo Clinic. ^[ten]

Eating in restaurants and cafes while following the DASH diet is quite possible. Restaurant meals are often fatty and salty. Therefore, avoid ordering pickled, canned or smoked foods in a restaurant. Ask the chef to cook with a limited selection of seasonings, using only natural spices and herbs. Opt for fruits or vegetables instead of soup. You can drink alcohol in moderation.

There is no feeling of hunger on the DASH diet. The emphasis is not on dietary restrictions on the size of portions, but on the consumption of lean proteins, fruits and vegetables rich in fiber. If your daily calorie intake is lower than usual, you will still not feel hungry, despite weight loss.

Disadvantages of the DASH Diet

Following the DASH diet takes some time to plan the diet, organize the purchases, check the information on the sodium content on product packages, choose the right foods, prepare meals outside the usual diet.

The habit of taste buds for salty foods can give a feeling of dissatisfaction with salt-restricted foods. Avoid tastelessness by seasoning your food with herbs and spices. As you get used to it, the taste will become stronger.

The need to replace the usual diet with a healthier one makes food more expensive.

The basic DASH diet does not aim to lose weight. Weight loss is possible, but not quickly, unlike specialized diets. To lose weight, you need to additionally monitor the daily caloric content of the diet. [eleven]

Benefits of the DASH Diet

Although the DASH diet was created specifically to combat high blood pressure, it also benefits other body systems. Pay attention to it, even if your blood pressure is within the normal range - the systolic value is from 90 to 120 mm Hg. Art., and diastolic from 60 to 80 mm Hg. Art.

1. Lowers blood pressure

According to studies, DASH diet products significantly reduce systolic blood pressure, and reduced calorie intake further enhances this effect. [12] Even lowering blood pressure is low sodium intake along with the DASH diet. [13]

2. Reduces excess weight

Being overweight is a risk factor for hypertension. Losing even 3-5 kg improves the numbers on the tonometer. [14] The DASH diet is more effective at reducing excess weight and waist circumference than the traditional calorie-restricted diet. [fifteen]

3. Reduces the risk of diabetes

Some studies claim that the DASH diet improves insulin sensitivity, which improves the management of type 2 diabetes. She also struggles with the symptoms of metabolic syndrome - hypertension, high blood sugar, overweight.

4. Reduces the risk of certain types of cancer

Whole grains, vegetables, and nuts, as well as limiting salt, meat, and dairy products, reduce the risk of certain types of cancer [16], in particular colorectal cancer [17] and breast cancer [18].

5. Reduces the risk of cardiovascular disease

High blood pressure makes it harder for the heart to work. The World Health Organization (WHO) has recognized salt reduction as one of the top priorities in the fight against the global heart crisis [19]. Reducing the level of "bad" cholesterol and increasing the "good" cholesterol protects against plaque formation in the arteries. So the DASH diet reduces the risk of stroke and heart attacks.

Diet Tips

- **Fruit**

The DASH diet does not restrict fruit choices. It can be bananas, oranges, grapefruits, tangerines, pineapples, mangoes, grapes, apples, peaches, watermelons, apricots, various berries, etc. Dried fruits are welcome - dates, raisins, prunes, figs, etc. Unless you should choose dried fruits without soaking in sugar syrup or dipped in powdered sugar. Eat 4-5 servings of fruit per day. One serving is a medium fruit, a glass of fresh/frozen fruit, half a glass of cooked fruit or natural juice without sugar, a quarter of a glass of dried fruit.

- **Vegetables**

Any vegetables are also acceptable: broccoli and any kind of cabbage, tomatoes and sweet potatoes, sweet peppers, spinach, green beans and green peas. Like fruits, eat 4-5 servings of vegetables per day.

A serving is one cup of raw chopped leafy or other vegetables, half a cup of cooked vegetables, or 100% vegetable juice.

- **Cereal crops**

The healthiest grains are brown and wild rice, oats, buckwheat, amaranth, quinoa and teff. They contain essential fiber and are free of gluten. Aim for 6 servings of grains daily, counting one serving as half a cup of cooked cereal.

- **Legumes, seeds and nuts**

Any nuts, seeds and legumes, like lentils, chickpeas, mung beans, various types of beans, peas, sea beans are a good option for a side dish or snack. The goal is to consume up to 4 servings per week. A serving in these foods is half a cup of cooked legumes, 1/3 cup of nuts, 2 tbsp. tablespoons of seeds or oil from nuts or seeds.

- **healthy fats**

Avocado, coconut, olive, peanut or almond oil without added sugar will benefit blood vessels and the heart. Serving - 1 teaspoon of oil, and you need 2-3 such servings daily.

- **Low fat dairy products**

The DASH diet recommends limiting the consumption of low-fat dairy products by choosing pasture-raised organic producers. If you're on a vegan version of the DASH diet, include plant-based milks like almond or coconut milk, non-dairy yogurts, and cheeses. The serving in this case is a glass of milk or vegan milk, or 1/3 cup cottage cheese/tofu, per day allows 2-3 servings from this category.

Foods to cut or eliminate

The DASH diet is quite varied and does not involve too many restrictions.

- **Meat**

The DASH Standard Diet recommends avoiding fatty meats due to saturated fat and high sodium content. Fatty beef, ham and pork should be excluded. Give preference to lean parts of chicken or fish. On a vegetarian DASH diet, meat will be eliminated altogether, making the diet even more effective.

- **Fatty dairy products**

Cheeses, full-fat milk and curdled milk are also excluded from the diet due to the excess of saturated fats in them.

- **Sugar and sweets**

The DASH diet does not completely exclude sweets with refined sugar, but limits them to 5 servings of low-fat sweets per week. A serving will be considered 1 tbsp. a spoonful of sugar, jam or jelly, 1 glass of lemonade or a drink containing sugar. Of course, it is better to completely abandon this serving of sugar and replace it with fresh fruit.

- **Sodium**

There are two limits for sodium intake in the DASH diet: 2300 mg and 1500 mg per day. Start at level one by limiting salt to 1 teaspoon per day. Once your taste buds have adapted, reduce the amount of sodium further to 2/3 teaspoon of salt. All sodium in foods should be accounted for, not just added salt.

- **Alcohol**

The DASH diet does not categorically exclude alcohol, but only advises moderation in use. This means no more than one serving per day for women and no more than two servings for men. One serving in this section looks like 400 ml. beer, 170 ml. wine or 50 ml. hard liquor. Remember that alcohol does not bring health benefits, while completely eliminating it significantly increases the healing effect of any diet. ^[twenty]

How to Control Sodium in Your DASH Diet

To achieve the results that the DASH diet promises, daily sodium intake should be no more than 2300 mg or, if necessary, 1500 mg.

The main way to achieve this is to choose healthier foods when you shop for groceries, cook in your kitchen, or visit food outlets.

Let's write out tips for reducing the amount of sodium in the diet in more detail for each situation.

Buying groceries in the store:

- Check food labels, especially processed foods and condiments, for alternative forms of low-salt, low-sodium foods.
- Choose fresh meats—poultry, fish, lean meats—instead of canned bacon, ham, and the like.
- Choose fresh, frozen fruits and vegetables over canned ones.
- Avoid foods with a clear excess salt - pickled cucumbers, pickled vegetables, olives, sauerkraut.
- Avoid fast foods - vermicelli, fragrant rice, mashed potatoes, etc.

Self-catering:

- Do not add salt when preparing cereals and side dishes of rice, pasta and cereals.
- Season cooked meals with fresh or dried herbs, spices, lemon or lime juice, seasonings without salt.
- Rinse brine-soaked and canned foods under running water to remove excess salt.
- Cut down on the amount of salt you add to all your meals.

Dining Out:

- Ask to prepare meals without added salt and monosodium glutamate.
- It is better to refuse to order Asian dishes; the flavor enhancers indicated in the previous paragraph are especially popular in them.
- Avoid foods containing bacon, pickles, olives, cheese, and other salty ingredients.
- Refuse dishes containing smoked, pickled, canned or cooked with the addition of soy sauce or broth ingredients.
- Instead of chips or french fries, opt for fruits or vegetables as a side dish.
- Undesirable processed foods are frozen dinners, prepackaged foods, and portioned soups. Condiments containing “hidden” sodium include ketchup, mustard, soy sauce, various salad dressings, and barbecue sauce.

- Note that most of the sodium that enters the body is not salt from the salt shaker. This is sodium from processed foods - salty snacks, cheese, sandwiches and hamburgers, meat dishes and pasta, soups and cold cuts, pizza, and even bread.
- To effectively reduce excess weight, in addition to limiting sodium / salt, you should gradually reduce the total number of daily calories consumed.

General tips for non-aggressive calorie reduction:

Eat small meals throughout the day, avoiding long breaks between meals and bouts of overeating after a break.

Reduce the amount of meat you eat by increasing the amount of vegetables, fruits, dried legumes, or whole grains.

Replace desserts and sweets with fruits and vegetables.

Replace drinking juice or carbonated sugary drinks with clean water.

In addition to reducing sodium intake, the effectiveness of the DASH diet is achieved by increasing the amount of potassium in the diet.

The most potassium-rich foods are potatoes (regular and sweet), yogurt (regardless of fat content), orange juice, bananas, apricots, prunes, various legumes (soybeans, lentils, beans, peas), almonds. ^[21]

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Received 06/17/2020

Abstract: The DASH diet was developed specifically to combat hypertension and alleviate diseases, one of the symptoms of which is high blood pressure. The key principle of the diet is to limit the amount of salt consumed, as well as the emphasis on foods rich in potassium, magnesium and calcium.

The diet is based on the consumption of healthy and wholesome meals based on fruits, vegetables, low-fat dairy products, whole grains and legumes, with limited or no lean meats and fish, and cardiovascular-healthy fats. The diet is rich in tasty, satisfying and healthy dishes, without drastic restrictions. If you need to reduce weight, you should additionally pay attention to the daily caloric content of the diet.

The DASH diet is suitable for almost any member of the family and makes everyone healthy.