



Dietary Salt and Sodium

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Dietary Salt

Sodium chloride, salt, contains 40% sodium and 60% chloride by weight. Some foods naturally contain sodium however, usually in small amounts. Some people add salt in cooking and at the table, but the majority of dietary salt and sodium comes from foods where salt has been added during processing or preparation.

Functions of Sodium

Sodium has many important functions in the body including:

- maintaining water balance
- maintaining acid-base balance
- transmission of nerve impulses
- regulating muscle contractions
- absorption and transport of some nutrients

Too Much Salt

Although sodium has important roles in the body, most people consume more sodium than they need. There is no Dietary Reference Intake (DRI) for sodium; however, 2,400 milligrams sodium or less per day is recommended for healthy adults. The typical American diet provides two to three times this amount.

Sodium and High Blood Pressure

High sodium intake may contribute to high blood pressure in "salt sensitive" individuals. For these individuals, too much salt and sodium intake may be related to the development of high blood pressure. High blood pressure puts extra strain on the heart. This strain can lead to heart problems, including heart attack, stroke, and kidney failure. Most evidence suggests that individuals at risk for high blood pressure reduce their chances of developing this condition by consuming less salt and sodium and maintaining a healthy weight.

There is no way at present to tell who may be sodium sensitive or who may develop high blood pressure from consuming too much sodium. However, many health professionals recommend that the population as a whole should reduce sodium intake. The Dietary Guidelines for Americans recommend to choose sensibly to moderate your salt intake.

Sources of Sodium

- The saltshaker: Table salt is the most common source of sodium. A level teaspoon contains about 2,000 milligrams of sodium. You can reduce sodium in your food by not adding salt in preparation or at the table.
- Foods naturally contain sodium: All foods that come from animals contain some sodium, and some plants, such as beets, carrots, celery, and spinach contain more sodium than others.

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- Processed foods: In general, processed foods provide the majority of sodium in the diet. Salt or other sodium compounds are added to food during preparation or processing for flavor or preservation. These foods include cured meats (hot dogs, bologna, sausage, bacon); pickled foods (pickles, olives, sauerkraut); canned vegetables; frozen peas and lima beans; salted snack foods (potato chips, crackers, corn chips); soy and other sauces; baking soda; baking powder; monosodium glutamate (MSG); and other seasonings.
- Drinking water: Soft water contains more sodium than hard water. In some areas of the country the drinking water may be high in sodium. Water softeners increase the sodium content of the water. Contact the local health department if you want more information on the sodium content of the water in your community.
- Medications: Many over-the-counter medications contain sodium. These include medications for indigestion, headache remedies, cough medicines, laxatives, as well as many others. Check the label of over-the-counter medications for sodium content.

Sodium on the Food Label

The Nutrition Facts Panel on food labels lists the number of milligrams of sodium per serving of food. The Nutrition Facts Panel also lists the percent Daily Value one serving provides for sodium based on a 2,000-calorie reference diet.

The following terms are used on food labels to describe the sodium content of foods.

- Sodium free: product contains 5 or less mg sodium per serving
- Very low sodium: 35 mg or less per serving
- Low sodium: 140 mg or less per serving
- Reduced sodium: usual sodium level was reduced by at least 25 percent
- Unsalted or no salt added: no salt added during processing; however, the product may still contain sodium

Salt and other sodium products are common food additives and food preservatives. Be a label reader and watch for these ingredients.

- Monosodium glutamate - used to enhance food flavor
- Disodium phosphate - quick cook cereals and processed cheeses
- Sodium alginate - used in chocolate milk and ice cream; holds chocolate in suspension
- Sodium benzoate - a preservative
- Sodium hydroxide - used to process "Dutch Chocolate"
- Sodium propionate - inhibits molds in bread and cake

Sodium and Baby Food

As a parent, you should not add salt to baby's food. Too much salt is a burden on your baby's kidneys. Baby food manufacturers have reduced the salt in baby foods. If you prepare baby food at home, be certain you do not salt the vegetables or meats before or after pureeing. You should not puree those foods prepared for other family members if salt was added.

Sodium and Perspiration

Use regularly salted foods to replace sodium lost from perspiration. Normally, your body will adapt during perspiration so that you will not lose too much sodium. If you are healthy, a well balanced diet will give you enough sodium. However, sometimes you may need more salt if you are working under extremely hot conditions and sweating excessively. When that occurs, you should eat your regular diet with some salty foods and drink sufficient water, rather than taking salt tablets. Salt tablets contain much more sodium than the amount of sodium lost from perspiration.

Physicians and sports nutritionists do not recommend sweating off weight to meet a weight classification because this can cause stress to the heart and blood vessels and result in poor performance. You lose body water, not body fat when you sweat off weight over a period of several hours. Drinking water will quickly restore the weight loss. You should not lose weight by water and salt restriction but reduce your calories and increase physical activity to achieve about a one to two pound loss per week.

Salt Substitutes

Salt substitutes and "light" salts are not for everyone. Some substitutes contain ingredients that may be harmful for certain people. Check with your physician or dietitian before using them.

Suggestions for Lowering

Salt at Restaurants

- Call ahead and ask if the restaurant has special menus.
- Select single item, identifiable foods rather than combinations. Plain broiled meats, baked potato, and green salad can be ordered without salt. Ask for oil and vinegar to use on the green salad or carry your own dressing with you.
- Ask for a wedge of lemon and use lemon juice on your salad or other vegetables. Many restaurants use packets of lemon juice with a preservative containing sodium.
- Avoid gravies, sauces, catsup, and mustard. These are high in sodium.
- Choose fresh vegetables rather than cooked ones. Canned vegetables contain salt. Restaurants use salt and often monosodium glutamate to season cooked vegetables.

- Remove skin from chicken or turkey and order inside portions of roasts if possible. Ask that steak or chops be prepared without salt.

Healthy Choices to Lower Sodium through the Food Guide Pyramid

Breads, Cereals, Rice, and Pasta Group

- Read the Nutrition Facts Panel to compare the sodium content of cereals.
- Snack foods are typically high in sodium. There are lots of reduced sodium or no-salt-added snacks available.

Fruit and Vegetable Groups

- To keep the sodium content down try seasoning vegetables without salt. Herbs and spices can provide a tasteful alternative.
- Canned vegetables are higher in sodium than fresh or frozen. Try the low-sodium or "no-salt added" versions.
- Plain frozen vegetables contain less salt than those frozen with sauces.
- Canned vegetable juices are high in sodium, select reduced sodium versions.

Meat, Poultry, Fish, Dry Beans, Eggs, and Nut Group

- Processed luncheon meats are high in sodium. Compare labels to select lower sodium luncheon meats.
- Choose unsalted nuts.
- Most canned soups are very high in sodium. Reduced-sodium soups are available; however, they still contain substantial sodium.
- Many frozen dinners, convenience foods, combination dishes, and packaged mixes are also high in sodium. Check the Nutrition Facts Panel to compare the sodium content of these foods.

Milk, Yogurt, and Cheese Group

- Cheeses vary in sodium content, but tend to be higher in sodium than milk or yogurt.
- Processed cheeses, cheese foods, and cheese spreads contain more sodium than natural cheese. Reduced sodium cheeses are available.

Fats, Oils, and Sweets

- As a general rule, salad dressings and condiments are high in sodium.

References

- Greeley, A. A pinch of controversy shakes up dietary salt. 1999. FDA Consumer Magazine. Pub. No. FDA 98-2316.
- Insel, P., Turner, R.E. and Ross, D. Nutrition. 2001. Jones and Bartlett Publishers, Sudbury, MA.
- Whitney, E.N. and Rolfes, S.R. Understanding Nutrition, 9th ed. 2002. Wadsworth/Thomson Learning, Belmont, CA.

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