



Sodium, Salt, and Edema

Sodium helps regulate the balance of fluids in your body. When water builds up in your tissues, one of the most effective ways of getting rid of it is to reduce the amount of salt or sodium in your diet. Doing so can reduce the amount of fluid in the tissues, which in turn reduces the volume of blood your heart has to pump. Avoiding salt in your diet reduces the amount of sodium chloride in your food. If the edema is severe or if it doesn't respond to a low salt diet, your doctor may recommend a low-sodium diet. A diet that is low in salt is not necessarily low in sodium. Research has shown that a low-salt diet will have a greater impact on your health if it is coupled with a diet rich in calcium, magnesium, potassium and phosphorus.

Your taste for salt will decrease over time. Therefore, if you decrease your salt intake in steps, you will hardly notice its absence. You will notice how much more flavorful your food tastes.

Here are some ways to cut back on salt:

- Most salt enters the diet with prepared and packaged foods. Read the labels of all prepared foods and look for low-salt versions.
- Don't salt your food automatically.
- Don't add salt during cooking; let your family season to taste on their own plates.
- Put the tip of a toothpick into two holes in your saltshaker and break them off. Now when you use your shaker you will be getting less salt. Each day close off two more holes.

Here are some salty foods to avoid:

- Those preserved in brine or pickled, such as olives, sauerkraut, pickles, pickled herring and pickled eggs
- Salted condiments such as relish, catsup, soy sauce, and Worcestershire sauce
- Prepared meat products such as hot dogs, sausage, salami, dried beef, smoked meats, cooked chicken breasts and rolls, cold cuts, and canned meats
- Breaded or battered foods, both fresh and frozen
- Seasonings containing salt, such as coating and baking mixes for meat and celery salt
- Packaged/bottled sauces such as clam sauce, red spaghetti sauce, and curry sauce
- Salted snack foods such as potato chips, corn chips, pretzels, crackers, and salted nuts
- Buttermilk
- Some instant breakfast drinks

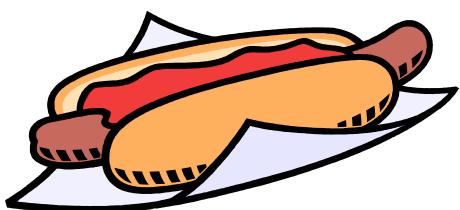
- Most packaged and canned soups, stews, vegetables, and pasta dinners
- Pre-seasoned frozen vegetables

Instead of seasoning your food with salt, try these substitutes:

- Fresh or frozen lemon juice: it doesn't make food sour, but "brightens" the taste, peppering up everything from vegetables to chicken and fish
- Peppers: bell peppers, hot peppers, and freshly grated peppercorns
- Garlic: fresh chopped garlic, dried garlic flakes, bottled garlic puree
- Fresh herbs: these are far superior to the store-bought variety and can grow in a window-sill garden
- Potassium-containing salts (not potassium chloride, which is dangerous): available in most supermarkets, and have the benefit of acting as a potassium supplement, which may help you if your blood potassium levels are sometimes low

To decrease your sodium intake:

- Read the labels of all prepared foods. Most of the sodium in your diet will come hidden in prepared foods. Many foods now have low sodium versions. Don't be misled by "light" or "reduced sodium" labels. "Light" soy sauce has over 500 mg of sodium per tablespoon!
- Check the serving size on processed foods when adding up your sodium intake.
- Ask your physician about the sodium content of your prescriptions. Most medicines contain less than 5 mg of sodium per dose, but some contain up to 120 mg per dose.
- Do not use celery flakes or parsley flakes—they are really high in sodium.



Drs. Robbins and Hemnes recommend that their patients follow a low salt diet with no added salt and that patients not exceed 2000 mg of sodium per day. In the following pages is a guideline that outlines this type of diet. For patients prone to heart failure, it is also wise to limit your fluid intake to 2000 cc of fluid per day. This is equal to eight 8 ounce glasses of fluid per day.

Hidden Sources of Sodium:

- Some chewable antacid tablets
- Aspirin (50 mg/tablet)
- Celery flakes
- Parsley flakes
- Some prescription drugs (ask your pharmacist)
- Laxatives
- Mouthwashes
- Toothpastes
- Sauerkraut
- Canned tomato juice
- Canned vegetables with added salt
- Olives
- Cheese
- Milk
- Cold cuts, Frankfurters
- Any salted crackers, chips

Sodium levels in salt. The American Heart Association (AHA) recommends that healthy adults reduce their sodium intake to no more than 2,000 milligrams per day. This is about 1 teaspoon of sodium chloride (salt).

They further recommend that if you have heart failure, you reduce your sodium to 2000 mg. Some doctors advise PAH patients to follow the AHA guidelines. Listings of the sodium content of various foods and other guidelines can be found on the AHA's website (www.americanheart.org).

1/4 teaspoon salt = 500 mg sodium

1/2 teaspoon salt = 1,000 mg sodium

3/4 teaspoon salt = 1,500 mg sodium

1 teaspoon salt = 2,000 mg sodium

1 tsp baking soda = 1,000 mg sodium

How to interpret sodium descriptions. Prepared foods must follow these FDA set guidelines when making claims on their labels. The amounts given below are for one serving, so you must read the label to determine the serving size.

- Sodium-free means less than 5 milligrams of sodium per serving
- Very low-sodium means 35 milligrams or less per serving
- Low-sodium means 140 milligrams or less per serving
- Unsalted, no salt added or without added salt mean exactly what they say: no salt is added to the food. These foods are not necessarily low in sodium, because some sodium may naturally be present in the ingredients.
- Healthy means less than 360 mg sodium per serving, or no more than 480 mg per meal for meal-type products.

LOW SALT DIET (2000 MG SODIUM)

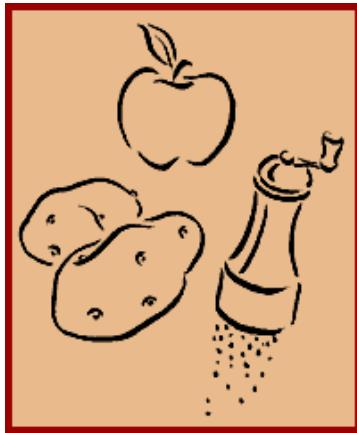
Purpose of the diet: to help lower the stress on your heart and to help your body from “holding on” to extra fluid. Even if you are taking a water pill for this, it is important to have less salt in your diet.

Description of the diet: a low salt or two gram sodium diet excludes the use of the salt shaker at the table or when cooking. The diet also excludes foods high in sodium like cured meats, canned meats, vegetables or soups, and pickles.

Guidelines:

- Take away the salt shaker...do not use before, during or after cooking. Also, avoid garlic salt, celery salt, lemon pepper and seasoned salt.
 - o To season your foods, it is best to use onions, garlic powder, herbs and salt free seasonings like Mrs. Dash[®] or Pleasoning Seasonings[®] (www.pleasoning.com).
- Read the ingredient list on foods. Watch for words like salt and sodium. You want this to be one of the last words on the ingredient list.
- Avoid lunch meat, canned meats, ham, hot dogs, pizza, pepperoni, bacon and bologna.
 - o Buy, cook, and eat fresh meats like chicken, beef, pork, and fish.
- Limit milk to two cups or 16 ounces daily.
 - o Only use low sodium version of cheeses like ricotta, cream cheese, and cottage cheese.
- Avoid rice, potato or pasta mixes, instant hot cereals, and canned soups and vegetables.
 - o Cook fresh or frozen foods from scratch instead of using foods from boxes or cans.
 - o If you buy canned foods, buy the “no salt added” versions.
- Avoid potato chips, pretzels, salted nuts, and dill pickles.
 - o Buy the unsalted versions of chips and pretzels or other low salt snack foods.
- Be careful of bread products. They may contain a lot of salt.
 - o Buy crackers with unsalted tops.
- Frozen dinners should have less than 500 milligrams of sodium per serving.
- Fresh, frozen and canned fruits are good to eat.
 - o Avoid dried and candied fruits.
- Avoid pudding and cake mixes.
 - o Marshmallows, gelatin, hard candy, jelly beans, gum drops, and lollipops are the best sweets to choose.
- Avoid ketchup, mustard, soy sauce, Worcestershire sauce, barbecue sauce, baking soda, baking powder, meat tenderizers or sauces, olives, canned gravies and mixes and chili sauce.

Reduced Sodium Diet



Purpose

Sodium is essential to the body. It is a mineral that helps the body regulate fluid balance. Under certain conditions, excess sodium can cause the body to retain too much fluid. This could be harmful for people with conditions such as high blood pressure or heart disease. These conditions are often managed by reducing sodium in the diet. For many patients, restricting the total amount of sodium to 4 grams a day is enough to reduce harmful fluid retention. However, some patients will have to restrict their total sodium intake to 2 grams a day.

Nutrition

If the patient follows the prescribed sodium limitations and chooses a variety of foods from each of the basic food groups (breads and grains, fruits, vegetables, meat alternatives, dairy products), these diets are nutritionally adequate.

Special Considerations

1. Table salt: This is a large source of sodium in the everyday diet. It's used in the kitchen in food preparation and added at the table. It is also added to many commercially canned and frozen foods. Table salt is about one-half sodium, so its use must be restricted in these diets.
2. Finding the Sodium in a Diet: Sodium occurs naturally in many foods, and some foods contain more sodium than others.

On food labels, the sodium content of foods is usually listed in milligrams (mg) per serving. One gram = 1000 mg. So, on a 2 gram sodium diet, a person should have no more than 2000 mg of sodium each day. As a helpful guide: for the 2 gram diet, purchase products with no more than 200 mg of sodium per serving.

Sodium compounds, in addition to table salt, are often added to commercially processed foods. Some of those more commonly used are baking soda, brine, monosodium glutamate (MSG), baking powder, disodium phosphate, or sodium benzoate. Read food labels on all items before purchasing or using.

3. Common medications: Antacids, laxatives, and cough remedies often contain sodium compounds. Check with a physician or pharmacist if there is a question about prescription or over-the-counter medications.
4. Fast food restaurants: Avoid them because the foods they serve tend to be very high in sodium. When dining in other restaurants, ask that no salt be used in the preparation of your meal.
5. Salt substitutes: Never use these unless the physician has approved it. They may replace the sodium with another mineral that could also be harmful to certain patients. Herbs and spices may be used in place of salt to add flavor and variety to meals.
6. Water softeners: They exchange the calcium in hard water with sodium from a salt brine. Avoid drinking home or commercially softened water. When purchasing bottled water, check the label to be sure it contains no sodium. Do not use softened water to prepare foods or beverages.
7. Diet Differences: A few things that are allowed on the 4 gram diet are not permitted on the 2 gram diet. Follow the guide below:

Sample Menu - 2 Gram Sodium Diet

Breakfast	Lunch	Dinner
<ul style="list-style-type: none"> • orange sections <i>1/2 cup</i> • whole wheat toast <i>1 slice</i> • cereal <i>3/4 cup</i> • unsalted margarine <i>2 tsp</i> • jelly <i>2 tsp</i> • skim milk <i>1 cup</i> • coffee • creamer/sugar <i>1 tsp</i> <p>Snack unsalted soft pretzel <i>1</i> apple juice</p>	<ul style="list-style-type: none"> • chicken noodle soup* <i>1/2 cup</i> • lean hamburger <i>3 oz</i> • hamburger bun <i>1</i> • sliced tomato <i>2 oz</i> • lettuce • mayonnaise <i>1 tsp</i> • unsalted crackers <i>3</i> • vanilla wafers <i>3</i> • canned peaches <i>1/2 cup</i> • skim milk <i>1/2 cup</i> • coffee • creamer/sugar <i>1 tsp</i> 	<ul style="list-style-type: none"> • baked chicken breast <i>3 oz</i> • baked potato <i>1 med</i> • green beans <i>1/2 cup</i> • tossed salad • diet Italian dressing <i>1 Tbsp</i> • whole wheat bread <i>1 slice</i> • unsalted margarine <i>2 tsp</i> • angel food cake <i>1 slice</i> • strawberries <i>1/2 cup</i> • skim milk <i>1 cup</i> • coffee • creamer/sugar <i>1 tsp</i>
<i>*Low Sodium</i>		

This Sample Diet Provides the Following			
Calories	2090	Fat	55 gm
Protein	105 gm	Sodium	1850 mg
Carbohydrates	300 gm	Potassium	4450 mg

Diet Differences	
4 Gram	2 Gram
Use a total of 1/2 teaspoon of table salt per day in cooking and food preparation. Do not add salt at the table.	Use no table salt in cooking and food preparation. Do not add salt at the table.
Limit prepared salad dressings and condiments such as mustard or catsup to a total of 3 tablespoons per day.	Do not use commercially prepared salad dressings or condiments such as mustard or catsup.
Do not eat Bleu, Roquefort, Stilton, or Gorgonzola cheeses. Limit other natural or aged cheeses to 2 oz. per day.	Do not eat any natural or aged cheeses.
Limit buttermilk to 8 oz. per week.	Do not drink buttermilk.
Limit regular peanut butter to 3 teaspoons per week.	Do not eat regular peanut butter.

Choosing Foods For A Reduced Sodium Diet	
Choose	Avoid
Breads: English muffin; white, wheat, pumpernickel, other types of regular or unsalted bread and rolls	sweet rolls, breads or rolls with salted tops, packaged cracker or bread crumb coatings, packaged stuffing mixes, biscuits, corn bread
Cereals: regular cooked cereals such as oats, cream of wheat, rice, or farina; puffed wheat; puffed rice; shredded wheat	instant hot cereals, any other regular ready-to-eat cereals
Crackers and snack foods: all unsalted crackers and snack foods, unsalted peanut butter	salted crackers and snack items, regular peanut butter, party spreads and dips

Pasta, rice and potatoes: all types of pastas such as macaroni, spaghetti, rigatoni, ziti; potatoes, rice	macaroni and cheese mix; seasoned rice, noodle, and spaghetti mixes; canned spaghetti; frozen lasagna, macaroni and cheese, rice, and pasta dishes; instant potatoes; seasoned potato mixes
Dried beans and peas: pinto beans, white northern beans, black-eyed peas, lima beans, lentils, split peas, etc.	any beans or peas prepared with ham, bacon, salt pork, or bacon grease; all canned beans
Meats and alternatives: fresh or frozen meat, poultry, and fish; low sodium canned tuna and salmon; eggs	salted, smoked, canned, spiced, and pickled meats, poultry and fish; bacon; ham; sausage; scrapple; regular canned tuna or salmon; cold cuts; luncheon meats; hot dogs; pre-breaded frozen meats, fish, and poultry; TV dinners; meat pies; kosher meats

Choosing Foods For A Reduced Sodium Diet

Choose	Avoid
Fruits and vegetables: fresh, frozen, or low-sodium canned vegetables or vegetable juices; low sodium tomato paste and sauce; fresh, canned, or frozen fruit and juices	regular canned vegetables and vegetable juices, regular tomato sauce and tomato paste, olives, pickles, relishes, sauerkraut or vegetables packed in brine, frozen vegetables in butter or sauces, crystallized and glazed fruit, maraschino cherries, fruit dried with sodium sulfite
Dairy products: milk, cream, sour cream, non-dairy creamer, yogurt, low-sodium cottage cheese, low sodium cheese	buttermilk, Dutch processed chocolate milk, processed cheese slices and spreads, regular cheese, cottage cheese
Fats and oils: margarine regular butter, or mayonnaise limited to 4 teaspoons per day; unsalted butter, margarine, cooking oils, or shortenings; salt free gravies, cream sauces, and salad dressings	bacon grease; salt pork; commercially prepared sauces, gravies, and salad dressings
Soups: salt-free soups and low-sodium bouillon cubes	regular commercially canned or prepared soups, stews, broths, or bouillon; packaged and frozen soups
Desserts: gelatin, sherbet, fruit	regular commercially prepared and packaged baked

ices, pudding and ice cream as part of milk allowance, angel food cake, salt-free baked goods, sugar, honey, jam, jelly, marmalade, syrup	goods, chocolate candy
Beverages: coffee, tea, soft drinks, fruit flavored drinks that do not contain sodium	softened water; carbonated beverages with sodium or salt added; check with physician about alcoholic beverages
Condiments: fresh and dried herbs; lemon juice; low-sodium mustard, vinegar, Tabasco sauce; low-sodium or no-salt-added ketchup; extracts (almond, lemon, vanilla); baking chocolate and cocoa; seasoning blends that do not contain salt	table salt, lite salt, bouillon cubes, meat extract, Worcestershire sauce, tartar sauce, ketchup, chili sauce, cooking wines, onion salt, prepared mustard, garlic salt, meat flavorings, meat tenderizers, steak and barbecue sauce, seasoned salt, monosodium glutamate (MSG), Dutch processed cocoa

Flavoring Food Without Salt

Onion, garlic, lemon, vinegar, black pepper, and parsley improve the flavor of many kinds of food. For gourmet-type dishes, use fruit, fruit juices, or sweet and sour sauce. Use fresh or dried herbs and spices to flavor foods. Remember that two teaspoons of chopped fresh herbs equals 1/2 teaspoon of the dried form. Always store dried herbs and spices in a cool, dry place in airtight containers. When flavoring, start with small amounts (1/4 tsp for four servings) and increase to taste. Don't use more than three herbs or spices in one dish. Certain herbs and spices blend better with some foods than with others, so experiment and use the suggestions below as a guide.

Vegetables		Meats, Poultry, Fish and Eggs	
Asparagus:	lemon, chives	Beef:	bay leaf, dry mustard, nutmeg (in meat loaf), sage, dill, green pepper, fresh mushrooms, tomatoes
Broccoli:	lemon, oregano, rosemary	Veal:	bay leaf, curry, ginger, apricot or current jelly, fresh mushrooms, tomatoes, tarragon, dry mustard
Carrots:	lemon, orange, nutmeg, mint, basil, marjoram, oregano, thyme, brown sugar, ginger, cinnamon, mace, anise, dry mustard	Pork:	sage, caraway, nutmeg, apples, applesauce, cranberry sauce, tarragon, dry mustard
Corn:	green pepper, fresh tomatoes, paprika, hot pepper sauce	Lamb:	curry, mint, dill, sage

Peas:	mint, dill, fresh mushrooms, basil, marjoram, savory	Poultry	sage, tarragon, fresh mushrooms, poultry seasoning, curry, peach, apricot, pineapple, lemon, hot pepper sauce, bay leaf
Potatoes:	mace, chives, rosemary, dill	Fish & Eggs:	dill, basil, tarragon, curry, dry mustard, paprika, cayenne, thyme, green pepper, fresh mushrooms, tomatoes, hot pepper sauce, chives, Bay leaf adds flavor to fish chowders
Sweet Potatoes:	mace, ginger, basil, cinnamon, cloves, brown sugar, nutmeg, allspice, oregano, lemon, orange		
Spinach:	nutmeg, oregano, basil, marjoram, rosemary, thyme, allspice, mace, lemon		
Tomatoes:	basil, oregano, thyme, sugar, dill, marjoram, vinegar		