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Sodium Nutrition & Your Health
Michigan State University Cooperative Extension Service
Penny Ross, Judy Anderson, Foods and Nutrition
Reprinted October 1992
4 pages

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Michigan State University • Cooperative Extension Service • E-1857, Reprinted October 1992

A salt shaker on the stove or kitchen table is a common sight in many homes.

Whether it's sprinkled on at the table or added during processing, salt finds its way into many of the foods we eat. Next to sugar, salt is the most commonly used food additive.

Common table salt is a chemical compound known as sodium chloride. It is made of 40 percent sodium and 60 percent chloride. It is the sodium in salt that causes problems for some people.

Sodium is as essential to the body as air and water. Together, sodium and chloride help regulate body water balance. Normal, healthy kidneys aid in this process by monitoring body sodium concentration. If we eat salty foods, the kidneys will remove any unneeded sodium. If our intake is low or sodium is lost through perspiration, diarrhea or vomiting, the kidneys will reabsorb dietary sodium until body sodium concentration is once again normal.

Sodium also plays a role in the transmission of nerve impulses and the contraction of muscles. It is essential for the absorption of glucose into cells and the transport of other nutrients across cell membranes.

How much salt does a person need?

Sodium requirements for healthy people vary with age, physical activity, outside temperatures and humidity levels. The suggested dietary intake for sodium is between 1,100 and 3,300 milligrams (1 to 3 grams) per day. We can easily meet our sodium need by consuming about one teaspoon of salt each day.

Many people consume much more than this, however. It is not uncommon for Americans to consume as much as four teaspoons of salt daily.

Why should we be concerned about our sodium intake?

Today, salt has become such an overused seasoning that it may be associated with the development of high blood pressure, a symptom of heart disease. High blood pressure, or hypertension, affects about one in four Americans. Certain groups, such as black Americans, people with a family history of high blood pressure and overweight people, are more likely to have high blood pressure. It puts an extra strain on the heart and, if left untreated, can

lead to stroke, heart disease, kidney failure or blood vessel damage.

That is why it is extremely important to have your blood pressure checked regularly. Along with antihypertensive drugs, a sodium-restricted diet, weight loss for the overweight and exercise are among the most important ways to treat high blood pressure.

To help reduce the risk of high blood pressure, some medical researchers suggest that salt consumption be reduced to about 5 grams a day. Salt is 40 percent sodium, so 5 grams (or 5,000 milligrams) of salt contains 2,000 milligrams of sodium. This amount is found in about one teaspoon of salt. If you have been advised to "de-salt" your diet, it doesn't mean you are doomed to a cuisine of tasteless foods. Just a few changes in your eating habits can help reduce your sodium intake significantly.

Where does the sodium in our diet come from?

About one-fourth of your sodium intake comes from the salt you add to food. The rest comes from "hidden sources"—sodium that is added to products during processing to help preserve and flavor them.

The main sources of salt include:

1 ♦ **The Salt Shaker and Seasoned Salts.** These are probably the most obvious and overused sources of sodium. Many people develop a taste for salt when they are young. This is particularly true if children's foods are salted to adult tastes. Our salty appetite is so ingrained that many people find unsalted food tasteless. The desire for salt is a learned taste and therefore one that can be unlearned.

2 ♦ **Canned Vegetables.** Salt is added to many canned vegetables for flavor. If you enjoy canned foods, look for brands without added salt, or try fresh or plain frozen vegetables.

3 ♦ **Smoked Meats, Cured Products, Hot Dogs, Canned Fish.** These items are highly processed and high in sodium. In these, salt is used both as a flavoring and as a curing agent. Fresh meats, fish and poultry are fairly low in sodium. Some canned fish is now available packed without salt.

4 ♦ **Pickles, Olives, Sauerkraut.** These foods, whether purchased or homemade, are preserved in a salt water brine and must be avoided by persons on sodium-restricted diets. If you are not sure whether a commercially prepared food is preserved in salt, check the ingredients label to see if salt or other sodium-containing compounds are present.

5 ♦ **Canned and Dry Soups, Condiments, Salad Dressings.** Read the labels on these foods to determine if sodium is present. If sodium appears as one of the first few ingredients, it means the sodium content is high.

6 ♦ **Baking Powder and Baking Soda.** These are used as leavening agents in purchased or homemade baked goods, such as cookies, cakes and quick breads. Baking soda and powder contain sodium bicarbonate.

Sodium content of everyday foods

Beverages and Fruit Juices

	Serving Size	Sodium (mg)
Cola, <i>regular</i>	8 ounces	16
Cola, <i>low calorie</i>	8 ounces	21
Coffee or tea	8 ounces	1-2
Apple juice	8 ounces	5
Orange juice, <i>frozen</i>	8 ounces	5
Tomato juice, <i>commercially canned or bottled</i>	8 ounces	878
Beer	12 ounces	25
Wine, <i>red or white</i>	4 ounces	12-19

Dairy Products

Cheese		
<i>Cheddar</i>	1 ounce	176
<i>Colby</i>	1 ounce	171
<i>Swiss</i>	1 ounce	74
<i>Parmesan, grated</i>	1 ounce	528
<i>American</i>	1 ounce	406
Cottage cheese	4 ounces	457
Milk, <i>whole or lowfat</i>	8 ounces	122
Vanilla pudding, <i>instant</i>	4 ounces	400
Yogurt, <i>with fruit</i>	8 ounces	133

Eggs, Meat, Fish, Poultry

Whole egg	1	59
Fish		
<i>Bass, raw</i>	3 ounces	57
<i>Sole</i>	3 ounces	201
<i>Salmon, canned, salt added</i>	3 ounces	443
<i>Tuna</i>	3 ounces	303
Shrimp		
<i>Raw</i>	3 ounces	137
<i>Canned</i>	3 ounces	1,955
Beef		
<i>Cooked, lean</i>	3 ounces	55
<i>Cornd</i>	3 ounces	802
Pork, <i>cooked lean</i>	3 ounces	59
Bacon	2 slices	274
Ham	3 ounces	1,114
Chicken, <i>roasted</i>	½ breast	69
Bologna	1 slice	220
Hot dog	1	639
Salami	1 slice	255
Sausage	1 patty	217

7 ♦ **Water.** Sodium is also found in drinking water. Amounts of sodium in water vary across the country. Home water softeners will add sodium to your water, too. This does not mean that you must stop drinking water. But if your sodium intake must be severely restricted, water may be a factor in determining your daily sodium intake.

How to break the sodium habit

Low-sodium shopping and cooking need not be a difficult task. Here are some ways to reduce the sodium in your diet and still enjoy flavorful foods:

- Check labels to see if salt or sodium compounds are added to the foods you buy. Avoid products with high sodium content.
- When possible, eat fresh vegetables—most canned ones contain salt. When vegetables you enjoy are not in season, remember that frozen vegetables (without sauces) contain much less sodium than regular canned vegetables. If you buy vegetables canned without added salt, don't salt the cooking liquid or add salt at the table.
- Omit entirely or use only half the salt called for in a recipe. Many recipes include salt as an ingredient for flavor only. Salt need not be added to cookies, cakes, pie crusts or quick breads. Salt can also safely be omitted from home-canned vegetables, because it is used for flavor only and does not preserve the product in any way.

Fast Foods	Serving Size	Sodium (mg)
Cheeseburger	1	709
French fries	2½ ounces	146
Shake	1	266

Fruits		
Apple	1 raw	2
Banana	1	2
Peach	1	1
Cantaloupe	½	24
Pear	1	1

Breads, Cereals and Grain Products		
Bread		
White	1 slice	114
Whole wheat	1 slice	132
Rye	1 slice	139
Cereals		
Cream of Wheat, regular	¾ cup	2
Cream of Wheat, mix'n eat	¾ cup	350
Oatmeal, regular	¾ cup	1
Cheerios	1¼ cup	304
Corn flakes	1 cup	256
Puffed wheat or rice	2 cups	2
Rice, white	1 cup	6
Stuffing mix	1 cup	1,131
Corn chips	1 ounce	231
Popcorn, plain	1 cup	1
Potato chips	10 chips	200
Pretzel twists	1	101

Soups		
Beef bouillon	1 cup	1,152
Chicken noodle	1 cup	1,107
Cream of mushroom	1 cup	1,076
Tomato, with milk	1 cup	932
Vegetable beef	1 cup	957

- Be aware that many seasonings and condiments contain large amounts of sodium. Some in common use are:
 - butter salt
 - celery salt
 - garlic salt
 - onion salt
 - catsup
 - chili sauce and chili powder
 - bouillon cubes
 - meat and vegetable extracts

- barbecue sauce
- meat tenderizers
- soy sauce
- Worcestershire sauce
- cooking wine
- popcorn salt
- mixed spice seasonings
- monosodium glutamate (MSG)
- canned broth or gravy
- dehydrated salad dressings

You can add flavor to foods without sprinkling on salt. A squeeze of fresh lemon juice on vegetables or minced garlic rubbed into meats will do wonders for the flavor. Or try experimenting with new herbs and spices. Salt is only one of a world of seasonings. Fill your stove top shaker with some of the herbs and spices listed below and give it a shake. Here are some suggestions to get you started:

Allspice—soups, stews, pot roast, meat loaf, sauces

Caraway seed—breads, noodles, baked apples, vegetables, dips

Cumin—rice, chili, meat loaf, soups, stews, Mexican dishes

Curry powder—lamb, beef, rice, chicken, sauces, dried beans

Dill weed—vegetables, noodles, sauces, dips, eggs, salads, salad dressings

Dry mustard—eggs, meat, salad dressings, potato salad

Oregano—tomato dishes, pasta sauces, eggs, fish, stuffing, poultry

Paprika—fish, lamb, beef, poultry, soups, stews, vegetables

Tarragon—sauces, casseroles, poultry, venison, egg dishes, salad greens

Basil—pasta sauces, pork chops, roasts, meat loaf, rice

Garlic—tomato dishes, dips, meats, poultry, fish, marinades

Ginger—cakes, cookies, Oriental dishes, vegetables, baked or stewed fruits

Fennel seed—fish, seafood, tomato sauce, pizza, vegetables, potato salad

Cloves—cakes, cookies, cooked fruits, stews, pot roast, soups



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Vegetables

	Serving Size	Sodium (mg)
Green beans		
<i>canned</i>	1 cup	326
<i>frozen</i>	3 ounces	3
Broccoli, <i>cooked</i>	1 cup	35
Carrots		
<i>raw</i>	1	34
<i>frozen</i>	3.3 ounces	43
<i>canned</i>	1 cup	386
Corn		
<i>frozen</i>	1 cup	7
<i>canned</i>	1 cup	384
Peas		
<i>frozen</i>	3 ounces	80
<i>canned</i>	1 cup	493
Potatoes		
<i>baked</i>	1 medium	5
<i>frozen french fries, salted</i>	2.5 ounces	270
<i>mashed, salt and milk added</i>	1 cup	485
<i>au gratin</i>	1 cup	1,095
Sauerkraut, <i>canned</i>	1 cup	1,554
Tomatoes		
<i>raw</i>	1	14
<i>whole, canned</i>	1 cup	390
<i>stewed, canned</i>	1 cup	584

Condiments, Fats and Oils

Baking powder	1 teaspoon	339
Baking soda	1 teaspoon	821
Catsup	1 tablespoon	156
Garlic powder	1 teaspoon	1
Garlic salt	1 teaspoon	1,850
Meat tenderizer	1 teaspoon	1,750
Onion powder	1 teaspoon	1
Onion salt	1 teaspoon	1,620
Pickles		
<i>dill</i>	1	928
<i>sweet</i>	1	128
Soy sauce	1 tablespoon	1,029
Worcestershire sauce	1 tablespoon	206
Butter	1 tablespoon	116
Margarine	1 tablespoon	140
Oil, <i>vegetable</i>	1 tablespoon	0
Salad dressings		
<i>French, bottled</i>	1 tablespoon	214
<i>Italian, bottled</i>	1 tablespoon	116
<i>Mayonnaise</i>	1 tablespoon	78
Vinegar	½ cup	1

These charts approximate sodium values for various foods. Values given are taken from The Sodium Content of Your Food, USDA Home and Garden Bulletin 233.