



The Salt You Eat

Objectives:

- ❖ Learn recommended amount of sodium in the human diet.
- ❖ Learn how to read nutrition labels for information about sodium content.
- ❖ Explore what types of food have high sodium content and what foods have lower sodium content.

Background:

Sodium is an essential element for the normal functioning of the human body. In addition to contributing to the ionic balance in the blood, sodium ions are essential for establishing the ion gradient necessary for establishing the electron transport chain involved in cellular respiration. Sodium ions are also an important component of the normal functioning of nerve cells. Sodium deficiency can be a potentially dangerous, even fatal, condition.

40,000 years ago, many populations of early humans lived on the interior of the African continent, which is an environment with very little sodium. Throughout the Middle Ages, in fact, salt (sodium chloride) from the Sahara was traded south of the desert for gold. By some reports, the exchange was on a pound for pound basis! Moreover, many of the foods that early humans would have hunted and gathered (meat, freshwater fish, fruits, tubers, etc.) contain little sodium.

Today however, salt and other sodium rich food additives such as baking soda are inexpensive to process and to transport. For most humans living in the industrialized, contemporary world, our problem is not too little sodium, but too much. Most of us enjoy the flavor of salt in our food, and some of us even crave it.

Questions:

- 1.) Why do you think we might crave salt even though our bodies usually get plenty of it?

- 2.) What might be the health consequences of eating too much sodium?

How Much Sodium is Too Much?

The American Heart Association recommends that healthy individuals with no special dietary restrictions consume no more than 2400 mg of sodium (1 1/4 teaspoon of table salt) per day. People on sodium restricted diets should consult their physician for recommended daily amounts.

What are the common sources of sodium?

from the American Heart Association

When you must watch how much sodium (salt) you eat, you must be aware of both natural sodium content and added sodium content. Ordinary table salt is sodium chloride - 40 percent sodium by weight. When you buy prepared and packaged foods, read the labels and look for the different sodium compounds that are added to foods. Watch for the words "soda" (soda refers to sodium bicarbonate, or baking soda) and "sodium" and the symbol "Na" on labels. These are products that contain sodium compounds.

Some drugs contain large amounts of sodium. Make it a practice to read carefully the labels on all over-the-counter drugs. Look at the ingredient list and warning statement to see if sodium is in the product. A statement of sodium content must appear on labels of antacids containing 5 mg or more per dosage unit (tablet, teaspoon, etc.) Some companies are now producing low-sodium over-the-counter products. Most spices naturally contain sodium in very small amounts.

Nutrition Information Labels

To help us monitor the amount of sodium we consume and to keep that amount within healthy limits, the Food and Drug Administration (FDA) requires food manufacturers to list the sodium content per serving on food packages.

| Nutrition Facts | | | |
|--|----------------------|--------------|---------------|
| Serving Size 1/2 cup (114g) | | | |
| Servings Per Container 4 | | | |
| Amount Per Serving | | | |
| Calories 90 | Calories from Fat 30 | | |
| % Daily Value* | | | |
| Total Fat 3g | 5% | | |
| Saturated Fat 0g | 0% | | |
| Cholesterol 0mg | 0% | | |
| Sodium 300mg | 13% | | |
| Total Carbohydrate 13g | 4% | | |
| Dietary Fiber 3g | 12% | | |
| Sugars 3g | | | |
| Protein 3g | | | |
| Vitamin A 80% | • | | Vitamin C 60% |
| Calcium 4% | • | | Iron 4% |
| *Percent Daily Values are based on a diet of 2,000 calories. Your daily values may be higher or lower depending on your calorie needs: | | | |
| | Calories | 2,000 | 2,500 |
| Total Fat | Less than | 65g | 80g |
| | Less than | 20g | 25g |
| Cholesterol | Less than | 300mg | 300mg |
| Sodium | Less than | 2,400mg | 2,400mg |
| Total Carbohydrate | | 300g | 375g |
| | | 25g | 30g |
| Calories per gram: | | | |
| Fat | • | Carbohydrate | • |
| | | Protein | |

SODIUM LABELLING GUIDELINES SET BY THE FDA

- Sodium-free - less than 5 milligrams of sodium per serving
- Very low-sodium - 35 milligrams or less per serving
- Low-sodium - 140 milligrams or less per serving
- Unsalted, no salt added or without added salt - made without the salt that is normally used, but still contains the sodium that is a natural part of the food itself.

The FDA and USDA have proposed that, effective January 1, 1998, individual foods bearing the claim "healthy" must not exceed 360 mg sodium per reference amount while "meal type" products must not exceed 480 mg sodium per reference amount.

Activity:

Before you look at any nutrition labels, write down your prediction of what you think are the sodium contents per serving of the following food items.

| Food Item | Predicted Sodium Content per Serving | Actual Sodium Content per Serving (from label) | Number of Servings per Container | Total Amount of Sodium in Container |
|---------------------|--------------------------------------|--|----------------------------------|-------------------------------------|
| Macaroni and Cheese | | | | |
| Soup | | | | |
| Canned Corn | | | | |
| Spaghetti Sauce | | | | |
| Bread | | | | |
| Potato Chips | | | | |
| V-8 Juice | | | | |
| Salad Dressing | | | | |

Now look at the food labels of these items and complete the rest of the table. To calculate the Total Amount of Sodium in Container, multiply Number of Servings per Container by Actual Sodium Content per Serving.

Questions:

- 1.) Which food item had the most sodium per serving?
- 2.) How many servings of this item do you think you or an average person might realistically eat in one sitting? You may look at the measuring cups and spoons to help you estimate.
- 3.) How many milligrams of sodium would be consumed if this many servings were eaten?

Working in teams of two, construct a sample diet for one person for one day. Include three main meals (breakfast, lunch, dinner), snacks and drinks. Make sure you include everything, including toppings or flavorings such as butter, salad dressing, ketchup, jam, salt, soy sauce, etc. The amount of sodium should not exceed 2400 mg. The total amount of calories should be between 1800 and 2200. You may consult the food labels available as well as the handout listing sodium contents of common foods. Write your sample diet in the chart below.

Breakfast

| Food Item | Amount and Units | Sodium Amount | Calories |
|-----------|------------------|---------------|----------|
| | | | |
| | | | |
| | | | |

Total Sodium:

Total Calories:

Lunch

| Food Item | Amount and Units | Sodium Amount | Calories |
|-----------|------------------|---------------|----------|
| | | | |
| | | | |
| | | | |

Total Sodium:

Total Calories:

Dinner

| Food Item | Amount and Units | Sodium Amount | Calories |
|-----------|------------------|---------------|----------|
| | | | |
| | | | |
| | | | |

Total Sodium:

Total Calories:

Snacks

| Food Item | Amount and Units | Sodium Amount | Calories |
|-----------|------------------|---------------|----------|
| | | | |
| | | | |
| | | | |

Total Sodium:

Total Calories:

Drinks

| Food Item | Amount and Units | Sodium Amount | Calories |
|------------------|-------------------------|----------------------|-----------------|
| | | | |
| | | | |
| | | | |
| | | | |

Total Sodium:

Total Calories:

Grand Totals: _____ **Sodium:** _____ **Calories:** _____.

Question:

Based on what you learned from constructing your diet, what general advice would you give people about choosing foods so as to limit sodium in their diet? Think about what types of food you would recommend that people avoid. Think about what types of food you would recommend that people eat a lot of.

The American Hear Association makes the following suggestions regarding how to avoid sodium in your diet:

- Choose fresh, frozen or canned food items without added salts.
- Select unsalted nuts or seeds, dried beans, peas and lentils.
- Avoid adding salt and canned vegetables to homemade dishes.
- Select unsalted, fat-free broths, bouillons or soups.
- Select skim milk or low-fat milk, low-sodium, low-fat cheeses, as well as low-fat yogurt.
- When dining out, be specific about what you want and how you want it prepared. Request preparation of your dish without salt.
- Learn to use spices and herbs to enhance the taste of your food.