

# DIETARY GUIDANCE ON SODIUM: SHOULD WE TAKE IT WITH A GRAIN OF SALT?

INSIGHT 3

From the USDA Center for Nutrition Policy and Promotion

May 1997

## Should Americans Cut Back on Salt?

Recently, a major television network aired a report criticizing Federal Government recommendations to eat less salt. Many of the experts interviewed in this report stated that there is no need for most Americans to cut back on sodium and sodium chloride—known commonly as salt. Unfortunately, this program incorrectly portrayed the current scientific evidence on the association between salt consumption and blood pressure. What are the facts concerning salt and high blood pressure?

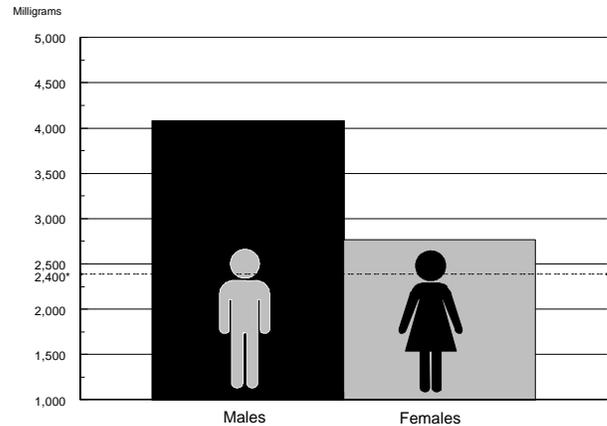
### Nutrition Insights

#### 1. How much sodium do Americans consume and how much should they consume?

Although sodium plays an essential role in regulation of body fluids and blood pressure, most Americans consume more sodium and salt than their bodies need. Leading health authorities, including the National Academy of Sciences, the National High Blood Pressure Education Program, and the American Heart Association, recommend that Americans limit sodium intake to no more than 2,400 milligrams a day. The 4<sup>th</sup> edition of the *Dietary Guidelines for Americans* (1995) urges consumers to “Choose a diet moderate in salt and sodium” and refers to the Daily Value of 2,400 milligrams of sodium found on the Nutrition Facts Label. This recommendation is made to avoid excessive sodium intake rather than to impose sodium restriction on the general population. It should be noted that the Federal Government’s dietary recommendations are based on the recommendations of an independent advisory panel made up of widely recognized nutrition experts from throughout the country.

Most adult Americans are eating much more than the recommended limit, even when salt added at the table or in preparation is not counted (fig. 1). Additionally, about two-thirds of Americans report they add salt to their food at the table. Approximately 75 percent of dietary sodium consumed is added to food during processing, with only about 20 percent coming from salt added in cooking or at the table (the rest comes from sources such as water treatment and medications). Although much of the sodium in the American diet comes from products found in the grain group and from the meat, poultry, fish, dry beans, eggs, and nuts group (fig. 2), components of mixed dishes found in these groups, such as spaghetti with meat sauce and pizza, account for most of this sodium contribution.

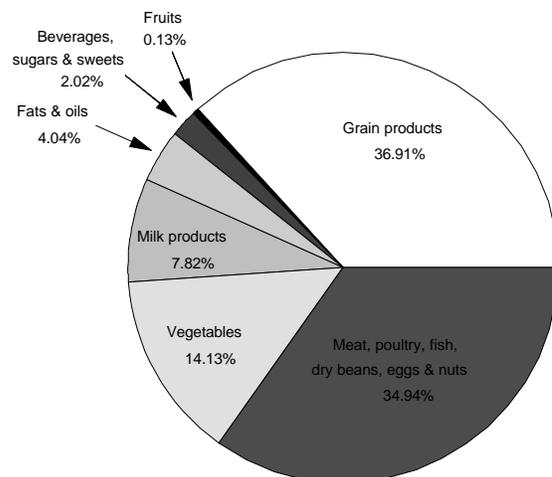
Figure 1. Average dietary sodium intake, by sex, adults 19 years and over



\* Recommended maximum level.

Source: USDA, Continuing Survey of Food Intakes by Individuals, 1994, 1-Day Data.

Figure 2. Food group contributions to sodium intake, percent of total



Source: USDA, Continuing Survey of Food Intakes by Individuals, 1994, 1-Day Data.

## 2. What is the relationship between dietary salt and sodium intake and high blood pressure?

Over 30 years of scientific evidence shows that a diet containing more than 6 grams of salt per day (2,400 milligrams of sodium—the amount in a little more than a teaspoon of salt) is associated with elevated blood pressure. Increased blood pressure can lead to hypertension, heart disease, stroke, and kidney disease. It is important to note that elevated blood pressure can harm the body before symptoms occur. In the United States, hypertension affects nearly 1 in 4 Americans. Because it is not technically or economically feasible to determine who might develop high blood pressure from eating too much salt, and because consuming less salt or sodium is not harmful, it is understandable why the Federal Government recommends that healthy normal individuals moderate their salt and sodium intake. Clinical trials have shown that reducing sodium intake decreases blood pressure in people with and without high blood pressure, and therefore decreases the risk of developing hypertension and heart disease.

Despite the overwhelming evidence on the relationship between sodium intake and high blood pressure, some scientists have questioned the significance of this relationship. For example, Midgley et al., in an article appearing in the *Journal of the American Medical Association* (275:1560-1597, 1996) reported that dietary sodium restriction for older hypertensive individuals might be considered, but the evidence in people with normal blood pressure does not support current recommendations for universal dietary sodium reduction. However, the actual data in this paper show the expected lower blood pressure in people without hypertension who reduced salt intake. Several experts have criticized the methodology of this study and arrived at different conclusions when analyzing similar data.

Likewise, Alderman et al. reported in the journal *Hypertension* (25:1144-1152, 1995) that people treated for high blood pressure who had particularly low sodium intakes experienced more heart attacks than apparently similar people who had higher sodium intakes. However, this was a limited study in a number of ways, including the fact that the study subjects were people being treated for high blood pressure, and should not be projected to the general population. The authors concluded that additional research is needed to confirm their findings.

A recent meta-analysis of 32 clinical trials testing the effects of reducing sodium intake on blood pressure, published by Cutler et al. in the *American Journal of Clinical Nutrition* (65(suppl):643S-651S, 1997) concludes that: (1) there is no evidence that moderate sodium reduction presents any safety hazards and (2) the blood pressure reduction that would result from a substantial lowering of dietary sodium in the U.S. population could reduce cardiovascular morbidity and mortality.

**Nutrition Insights** is issued intermittently by the Center for Nutrition Policy and Promotion, an organization of the U.S. Department of Agriculture. **Nutrition Insights** may be accessed at the CNPP Web Site at <http://www.usda.gov/fcs/cnpp.htm>

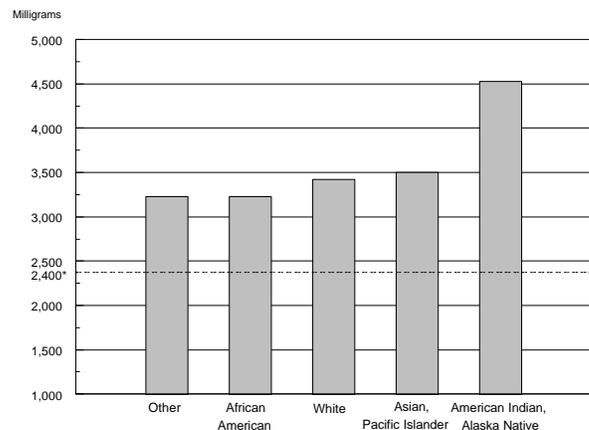
The mission of the Center for Nutrition Policy and Promotion is to improve the nutritional status of Americans by serving as the focal point within the U.S. Department of Agriculture for linking scientific research to the consumer.

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital and family status. USDA is an equal opportunity employer.

## 3. Are there specific groups of Americans for whom sodium intake is particularly important?

High blood pressure is more prevalent and more severe in African Americans than in the general population. Consequently, they suffer more cardiovascular and renal disease than other ethnic groups. Dietary salt reduction has been found to be effective in the treatment and prevention of hypertension in African Americans. Dietary sodium intake in the African American population is somewhat lower than in the White population, but still higher than the recommended level (fig. 3).

**Figure 3. Average dietary sodium intake, by race, adults 19 years and over**



\* Recommended maximum level.

Source: USDA, *Continuing Survey of Food Intakes by Individuals, 1994, 1-Day Data*.

## 4. How can I moderate my sodium intake?

The *Dietary Guidelines for Americans* offer the following tips to help consumers cut back on salt:

- **Read the Nutrition Facts Label on food packages to determine the amount of sodium in foods and choose lower sodium varieties. Many processed foods such as frozen dinners, packaged mixes, and canned soups contain a considerable amount of sodium.**
- **Request less salt in meals when eating out.**
- **Use herbs and spices, rather than salt, to enhance the flavor of foods. For example, try curry powder or onion powder to spice up rice dishes.**

**Contributors: Etta Saltos, Ph.D., R.D. and Shanthy Bowman, Ph.D., Center for Nutrition Policy and Promotion.**