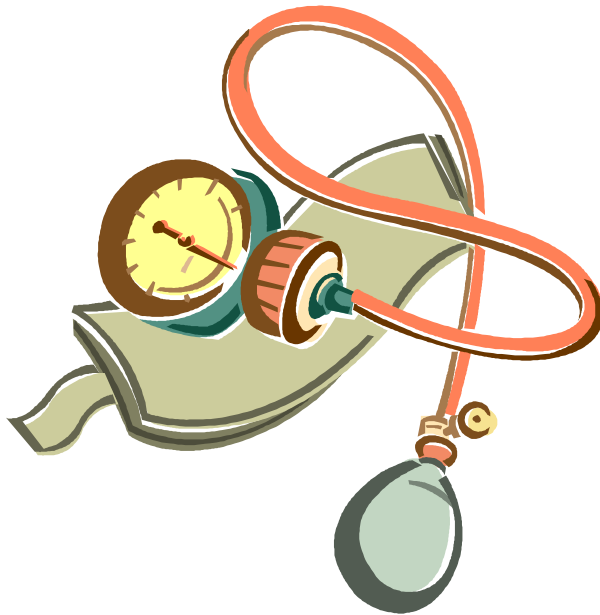


# **Nutrition for Hypertension**



**May 2006**

**KSC/CCAFS Health Education and Wellness Program**

**Jessica Crews, BS, CHES  
Kris S. Calderon, PhD, CHES**

## Introduction

According to recent estimates, nearly one in three U.S. adults has high blood pressure, but because there are no symptoms, nearly one-third of these people don't know they have it. In fact, many people have high blood pressure for years without knowing it. Uncontrolled high blood pressure can lead to stroke, heart attack, heart failure or kidney failure. This is why high blood pressure is often called the "silent killer." The only way to tell if you have high blood pressure is to have your blood pressure checked.

## What is Blood Pressure?

Blood pressure is the force in the arteries when the heart beats (systolic pressure) and when the heart is at rest (diastolic pressure). It's measured in millimeters of mercury (mm Hg). High blood pressure (or hypertension) is defined in an adult as a blood pressure greater than or equal to 140 mm Hg systolic pressure or greater than or equal to 90 mm Hg diastolic pressure.



High blood pressure directly increases the risk of coronary heart disease (which leads to heart attack) and stroke, especially when it's present with other risk factors.

High blood pressure can occur in children or adults, but it's more common among people over age 35. It's particularly prevalent in African Americans, middle-aged and elderly people, obese people, heavy drinkers and women who are taking birth control pills. It may run in families, but many people with a strong family history of high blood pressure never have it. People with diabetes mellitus, gout or kidney disease are more likely to have high blood pressure, too.

### American Heart Association (AHA) recommended blood pressure levels (JNC VII Current Guidelines):

Blood Pressure Category	Systolic (mm Hg)		Diastolic (mm Hg)
Normal	less than 120	and	less than 80
Prehypertension	120–139	or	80–89
<b>High</b>			
Stage 1	140–159	or	90–99
Stage 2	160 or higher	or	100 or higher

# American Heart Association Goals for Dietary Intake

- Consume a variety of fruits, vegetables, and grain products
- Include fat-free and low-fat dietary products, fish, legumes, poultry, and lean meats
- Limit intake of foods with high content of saturated fatty acids and trans-fatty acids (<10% of total calories) and cholesterol (<300 mg per day)
- Substitute with unsaturated fats from vegetables, fish, and nuts

## Nutrients that May Benefit Hypertension

- Calcium has been found to reduce blood pressure in different populations
- High potassium diets are often associated with lower blood pressure
- Magnesium deficiency causes walls or arterial constriction, raising blood pressure
- Vitamin C seems to help normalize blood pressure

## The DASH Diet

Adopting the DASH (Dietary Approach to Stop Hypertension) diet can decrease a person's blood pressure and reduce the risk of heart disease and stroke. The DASH diet emphasizes fruits, vegetables, and low-fat dairy products.

The DASH diet recommends the following servings of each food group.

Type of food	Number of servings for 1600 - 3100 Calorie diets	Servings on a 2000 Calorie diet
Grains and grain products (include at least 3 whole grain foods each day)	6 - 12	7 - 8
Fruits	4 - 6	4 - 5
Vegetables	4 - 6	4 - 5
Low fat or non fat dairy foods	2 - 4	2 - 3
Lean meats, fish, poultry	1.5 - 2.5	2 or less
Nuts, seeds, and legumes	3 - 6 per week	4 -5 per week
Fats and sweets	2 - 4	limited

A diet that emphasizes fruits, vegetables, and low-fat dairy products might act as a natural diuretic that could help many people reduce blood pressure without the use of medication, according to a report in an issue of *Hypertension: Journal of the American Heart Association*. Reports from Harvard School of Public Health show that a diet rich in plants lowers high blood pressure. Other studies show that similar eating patterns lower cholesterol, help to control diabetes and cause weight loss in people who are overweight.

## Shake Your Salt Habit

The average American consumes about 2500 to 7500 mg of salt daily. That's roughly one to three teaspoonfuls. Your body actually needs only about 0.5 grams of salt (0.2 grams [200 mg] sodium [Na]) each day. Reducing the amount of sodium you consume may help you reduce or avoid high blood pressure. That's important because people with high blood pressure are more likely to develop heart disease and stroke.



### American Heart Association Sodium Recommendations

Healthy American adults should reduce their sodium intake to no more than 2300 mg per day. This is about 1 teaspoon of sodium chloride (salt). To illustrate, the following are sodium equivalents in the diet:

1/4 teaspoon salt = 600 mg sodium

1/2 teaspoon salt = 1200 mg sodium

3/4 teaspoon salt = 1800 mg sodium

1 teaspoon salt = 2400 mg sodium

## References

*DASH Diet Eating Plan*. Retrieved on 13 April 2006 from <http://www.dashdiet.org>

DASH (High Plant) Diet Controls High Blood Pressure. Gabe Mirkin, M.D. Retrieved on 19 April 2006 from <http://www.drmirkin.com/heart/8614.html>

*High Blood Pressure*. American Heart Association. Retrieved on 19 April 2006 from <http://www.americanheart.org/presenter.jhtml?identifier=2114>

*Nutrition for Hypertension* (presentation). Dr. Kristine Calderon. 11 May 2005.

*Shake Your Salt Habit*. American Heart Association. Retrieved on 18 April 2006 from <http://www.americanheart.org/presenter.jhtml?identifier=2106>

*What is Blood Pressure?* American Heart Association. Retrieved on 19 April 2006 from <http://www.americanheart.org/presenter.jhtml?identifier=2112>

## Resources

American Heart Association  
[www.americanheart.org](http://www.americanheart.org)

National Heart, Blood and Lung Association  
<http://www.nhlbi.nih.gov/index.htm>

DASH Diet Eating Plan  
[www.dashdiet.org](http://www.dashdiet.org)

Joint National Committee on Blood Pressure (JNC VII) Guidelines  
<http://www.nhlbi.nih.gov/guidelines/hypertension/jncintro.htm>

