

The Dinner Fork--Friend or Foe in Reducing the Risk of Disease

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A fork can be a great asset in terms of eating a meal. However, it can also help dig one's grave. It is well known that many chronic diseases such as heart disease, cancer, stroke, diabetes, osteoporosis, and obesity can be either promoted, prevented, or delayed by diet and lifestyle. Tools, such as the Dietary Guidelines for Americans and the Food Guide Pyramid, have been developed by government health and research agencies to help consumers make healthy choices (1,2). Individuals can either follow these guides to promote their own health and prevent disease or choose to ignore them and chance the consequences of shortened lives and/or deterioration in the quality of life.

RELEVANT FACTS AND FIGURES

Cancer is the second leading cause of death. Approximately one in every four Americans will develop some form of cancer in their lifetime (3). A large percentage of the estimated 38,500 cancers diagnosed in North Carolina in 1996 could have been prevented, some through health-promoting lifestyle choices (4). The incidence of cancer is increasing and is projected to be the number one cause of death in the U.S. and North Carolina by the year 2000 (5).

Researchers have estimated that more than a third of all cancer deaths (560,000 expected in 1997) that occur in the U.S. each year are related to diet (6,7). Evidence has been accumulating on the relationship between the increased consumption of fruits and vegetables and prevention of cancer (8,9). Based on the association between fruit and vegetable consumption and cancer prevention, Americans are encouraged to eat five or more servings of fruits and vegetables each day (8).

5 A DAY FOR BETTER HEALTH

One way nutrition and health experts guide Americans about how to eat to promote health is through the national 5 A Day For Better Health campaign. This campaign is jointly sponsored by the National Cancer Institute in the U.S. Department of Health and Human Services and the

Produce for Better Health Foundation, a nonprofit consumer education foundation representing the fruit and vegetable industry (8). The slogan, "5 A Day For Better Health," was created to help Americans eat five or more servings of fruits and vegetables each day in order to reduce the risk of certain diseases including cancer.

Most Americans do not consume the recommended (from the Food Guide Pyramid) servings of fruits (2-3) and vegetables (3-5) each day. The 5 A Day Baseline Survey showed that only 8% of American adults knew they should eat at least five servings of fruits and vegetables each day. In fact, only 23% of those surveyed actually did so. The average adult intake of fruits and vegetables in 1991 was about 3.5 servings each day (8). The latest Behavioral Risk Factor Surveillance System survey of North Carolinians shows that the higher the educational level, the higher the percentage of North Carolinians who reported consuming fruits and vegetables five or more times per day. The data also suggest that generally people with higher incomes are more likely to report eating fruits and vegetables five or more times per day (10).

ARE YOU GETTING 5 SERVINGS OF FRUITS AND VEGETABLES A DAY?

You may want to rate your diet "the 5 A Day Way" for a few typical food intake days. Follow these steps:

Step 1. Write down every fruit or vegetable you ate yesterday in a column.

Step 2. Determine the amount of each item you ate and enter that amount beside it. (Use the section below to get an idea of the amount of food it takes to equal a serving).

Step 3. Add the amounts.

Step 4. Did you have at least 2 servings of fruits and 3 of vegetables?

Step 5. Decide what changes you can make to achieve the minimum of 5 servings a day.

A SERVING IS NOT NECESSARILY A HELPING!

Sometimes we think that five servings of fruit and vegetables are too much food to eat each day. This might be because we confuse a helping with a serving. The amount of food in one serving is often much less than the typical helpings we take, especially if we like the food.

The amount of fruit or vegetable that constitutes one serving is shown below (2):

Fruits:

1 medium apple, banana, or orange

cup of chopped, cooked or canned fruit

3/4 cup of fruit juice

1/4 cup dried fruit

Vegetables:

1 cup of raw leafy vegetables

cup of other vegetables, cooked or chopped raw

3/4 cup of vegetable juice

VARY THE FRUITS AND VEGETABLES THAT YOU EAT

Different fruits and vegetables contain different combinations of nutrients and other healthful components. No single one can give you all the nutrients in the amounts you need. Therefore, to get the nutrients and other components needed for good health, vary the ones you eat.

HOW CAN YOU EAT MORE FRUITS AND VEGETABLES EACH DAY?

FIRST: If cost is a barrier, try to get the lowest prices. Many individuals believe fruits and vegetables are too expensive to eat 5 servings each day. To cut costs:

1. Buy them fresh in season when they are plentiful and the price is lowest. Taking advantage of seasonal fruits and vegetables will allow you to eat five or more servings of fruits and vegetables each day and stay within a limited budget.

Produce in Season		Spring	Summer	Fall	Winter
FRUITS	apples	*		*	*
	apricots		*		
	avocados	*		*	*
	berries		*		
	cantaloupes		*	*	
	cherries		*		
	dates			*	*
	figs		*	*	
	grapefruit	*			*
	grapes		*	*	
	honeydew		*	*	

	lemons	*	*	*	*
	melons		*	*	
	nectarines		*		
	oranges	*	*	*	*
	peaches		*	*	
	pears	*		*	*
	plums		*	*	
	prunes			*	
	strawberries	*	*		
	watermelons		*		
VEGETABLES	artichokes	*			
	artichokes	*			
	asparagus	*			
	beets	*			*
	broccoli	*			*
	Brussels sprouts			*	*
	cabbage	*	*	*	*
	carrots	*	*	*	
	cauliflower	*			*
	celery	*	*		*
	corn		*	*	
	cucumbers		*	*	
	eggplant		*	*	
	green beans		*		
	lettuce	*			

	lima beans		*	*	
	okra		*		
	onions	*	*	*	
	peas	*			
	peppers		*	*	
	potatoes	*	*	*	*
	spinach				*
	squash		*	*	*
	tomatoes		*	*	

2. Buy canned and/or frozen fruits and vegetables anytime but especially when the store is running specials on them. Canned or frozen fruits and vegetables are very nutritious and have a longer storage time than fresh. Many times they are less expensive when the fresh items are in season.

3. Grow your own garden! It can be as simple as one tomato plant or as large and complex as your situation will allow. Or, start a community garden through your neighborhood, your church or other group or organization so you can share the work and the rewards. Some people plant one or more fruit trees (although these can be somewhat expensive) and enjoy the bounty for more years thereafter. The initial expense can be recouped in a few years. You will be amazed how plentiful and delicious garden fresh produce can be! If you have never gardened before, start slow with one or a few plants and expand as you learn more about gardening. Call your [local cooperative extension center](#) for the technical information that is available to make fruit and vegetable production successful.

4. Visit your local farmer's market for extra value, variety and freshness of the produce found there. Negotiate with the farmer for a lower price. Oftentimes, he would rather sell the produce at a lower price than haul it back home.

SECOND: Find ways to incorporate more fruits and vegetables into meals and snacks. Try new fruits and vegetables and new recipes. Remember to use a variety of fruits and vegetables to maximize the diversity of protective components provided. Some suggestions include:

In the mornings:

- add sliced fruit or berries to cereal
- drink a glass of juice with breakfast
- add a bowl of fresh fruit as a part of breakfast
- top waffles, french toast or pancakes with fruit
- take a banana, apple or pear to eat on the way to work

At lunch:

- have a garden salad with cauliflower, carrots or broccoli
- add lettuce, onion, tomatoes, or sprouts to sandwiches
- include a piece of fruit, such as a banana, plum, apple or orange
- have soup that is made with vegetables
- include strips of raw vegetables
- mix mashed banana into plain yogurt

For snacks:

- try vegetable strips or pieces
- have fruit, whole or in pieces
- drink 100% fruit or vegetable juice

For dinner:

- include at least one vegetable side dish
- add vegetables to a main dish, stir fry, casserole, or side dish
- drink a glass of vegetable juice
- slice strips of carrots into Jell-O
- include sweet peas in your rice dish
- have a garden salad with added vegetables of your choice
- serve a baked fruit or fruit salad

For dessert:

- serve gelatin with fruit
- top low-fat frozen yogurt or ice cream with fruit
- add chopped fruits and berries to muffins, cakes, or cookies
- serve a baked fruit or fruit salad

THIRD: Eat more fruits and vegetables while dining out.

Eating away from home is on the rise. Overall spending for food purchased away from home in 1994 rose to 47 cents for every food dollar from 34 cents in 1970 (11). While, it is generally

more difficult to include fruits and vegetables when eating out, it is not impossible. Look for them on the menu and ask the waiter/waitress about their availability. Pick restaurants you know include them on the menu.

SUMMARY

Following the above suggestions will help your fork "load" become more healthy. Changing behavior is not always easy to do. Take it slow at first so that you don't become discouraged. Have a plan and stick to it. Remember, your destiny is your decision.

For more information about nutrition, diet, and health, contact [Jacquelyn W. McClelland](#), NCSU Box 7605, Raleigh NC 27695-7605.

At North Carolina State University the North Carolina Cooperative Extension Service promotes the 5 A Day message through its field faculty who are located in every county, through giving leadership to the statewide North Carolina 5 A Day Coalition, and through the NCI-funded 5 A Day community research project, "Black Churches United For Better Health," in ten counties in Eastern North Carolina.

References:

1. Nutrition and Your Health: Dietary Guidelines for Americans. Washington, DC: US Depts. Of Agriculture and Health and Human Services; 1995. Home and Garden Bulletin No. 232.
2. The Food Guide Pyramid. Washington, DC: Human Nutrition Information Service, USDA, 1992, Home and Garden Bulletin No 252.
3. US Department of Health and Human Services, Public Health Service. Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Washington, DC: US Govt. Printing Office; 1990. [DHHS publication (PHS) 91 550212].
4. The North Carolina Cancer Control Plan 1996-2001, May, 1996. Advisory Committee on Cancer Coordination and Control. North Carolina Department of Environment, Health, and Natural Resources.
5. Advisory Committee on Cancer Coordination and Control. The North Carolina Cancer Control Plan, May, 1996. North Carolina Department of Environment, Health and Natural Resources, Publication No. 96-5608.
6. Doll, R., Peto, R. (1981) The causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today. J Natl Cancer Institute; 66: 1191-1308.

7. Cancer Facts & Figures, 1997. Atlanta, Ga: American Cancer Society; 1997. Publication No. 5008.97.
8. Subar, AF, Heimendinger, J., Patterson, BH, Krebs-Smith, SM, Pivonka, E, Kessler, R. Fruit and Vegetable Intake in the United States: The Baseline Survey of the Five A Day for Better Health Program. Am J Health Promotion. 1995; 9(5)352-260.
9. Heimendinger, J., Van Duyn, M.A.S. Dietary Behavior Change: the Challenge of Recasting the Role of Fruit and Vegetables in the American Diet. Am J Clin Nutr. 1995; 61 (S): 1397S-1401S.
10. Cowan, A. North Carolina Behavioral Risk Factor Surveillance System. 1994. NC Department of Environment, Health and Natural Resources. Division of Health Promotion, (personal communication).
11. USDA. Food Retailing Review. 1996. The Food Institute.

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