

# SCANNING THE LITERATURE

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## Join Your Patients in the Phyte Against Disease!

Hu FB, Willett WC. Optimal diets for prevention of coronary heart disease. *JAMA* 2002; 288:2569-2578.

**Context:** Coronary heart disease (CHD) remains the leading cause of mortality in industrialized countries and is rapidly becoming a primary cause of death worldwide. Thus, identification of the dietary changes that most effectively prevent CHD is critical.

**Objective:** To review metabolic, epidemiologic, and clinical trial evidence regarding diet and CHD prevention. **Data Sources and Study Selection:** We searched MEDLINE through May 2002 for epidemiologic and clinical investigations of major dietary factors (fat, cholesterol, omega-3 fatty acids, trans-fatty acids, carbohydrates, glycemic index, fiber, folate, specific foods, and dietary patterns) and CHD. We selected 147 original investigations and reviews of metabolic studies, epidemiologic studies, and dietary intervention trials of diet and CHD. **Data Extraction:** Data were examined for relevance and quality and extracted by 1 of the authors. **Data Synthesis:** Compelling evidence from metabolic studies, prospective cohort studies, and clinical trials in the past several decades indicates that at least 3 dietary strategies are effective in preventing CHD: substitute nonhydrogenated unsaturated fats for saturated and trans-fats; increase consumption of omega-3 fatty acids from fish, fish oil supplements, or plant sources; and consume a diet high in fruits, vegetables, nuts, and whole grains and low in refined grain products. However, simply lowering the percentage of energy from total fat in the diet is unlikely to improve lipid profile or reduce CHD incidence. Many issues remain unsettled, including the optimal amounts of monounsaturated and polyunsaturated fats, the optimal balance between omega-3 and omega-6 polyunsaturated fats, the amount and sources of protein, and the effects of individual phytochemicals, antioxidant vitamins, and minerals.

**Conclusions:** Substantial evidence indicates that diets using nonhydrogenated unsaturated fats as the predominant form of dietary fat, whole grains as the main form of carbohydrates, an abundance of fruits and vegetables, and adequate omega-3 fatty acids can offer significant protection against CHD. Such diets, together with regular physical activity, avoidance of smoking, and maintenance of a healthy body weight, may prevent the majority of cardiovascular disease in Western populations.

Bazzano LA, He J, Ogden LG, et al. Fruit and vegetable intake and risk of cardiovascular disease in US adults: the first National Health and Nutrition Examination Survey Epidemiologic Follow-up Study. *Am J Clin Nutr* 2002; 76:93-99.

**Background:** Epidemiologic studies report inconsistent findings on the association of fruit and vegetable intake with the risk of cardiovascular disease. **Objective:** The objective was to examine the relation between fruit and vegetable intake and the risk of cardiovascular disease. **Design:** We studied 9608 adults aged 25-74 y participating in the first National Health and Nutrition Examination Survey Epidemiologic Follow-up Study and free of cardiovascular disease at the time of their baseline examination between 1971 and 1975. Fruit and vegetable intake at baseline was measured with a food-frequency questionnaire. The incidence of and mortality from cardiovascular disease were obtained from medical records and death certificates.

**Results:** Over an average of 19 y, 888 strokes (218 fatal), 1786 ischemic heart disease events (639 fatal), 1145 cardiovascular disease deaths, and 2530 all-cause deaths were documented. Consuming fruit and vegetables  $\geq 3$  times/d compared with  $<1$  time/d was associated with a 27% lower stroke incidence [relative risk (RR): 0.73; 95% CI: 0.57, 0.95; P for trend = 0.01], a 42% lower stroke mortality (0.58; 0.33, 1.02; P for trend = 0.05), a 24% lower ischemic heart disease mortality (0.76; 0.56, 1.03; P for trend = 0.07), a 27% lower cardiovascular disease mortality (0.73; 0.58, 0.92; P for trend = 0.008), and a 15% lower all-cause mortality (0.85; 0.72, 1.00; P for trend = 0.02) after adjustment for established cardiovascular disease risk factors. **Conclusion:** We showed an inverse association of fruit and vegetable intake with the risk of cardiovascular disease and all-cause mortality in the general US population.

Byers T, Nestle M, McTiernan A, et al. American Cancer Society guidelines on nutrition and physical activity for cancer prevention: Reducing the risk of cancer with healthy food choices and physical activity. *CA Cancer J Clin* 2002; 52:92-119.

The American Cancer Society (ACS) has set aggressive challenge goals for the nation to decrease cancer incidence and mortality--and to improve the quality of life of cancer survivors--by the year 2015. To address these critical goals, the ACS publishes the Nutrition and Physical Activity Guidelines to serve as a foundation for its communication, policy, and community strategies and ultimately, to affect dietary and physical activity patterns among Americans. These guidelines, published every five years, are developed by a national panel of experts in cancer research, prevention, epidemiology, public health, and policy, and as such, they represent the most current scientific evidence related to dietary and activity patterns and cancer risk. The American Cancer Society guidelines include recommendations for individual choices regarding diet and physical activity patterns, but those choices occur within a community context that either facilitates or interferes with healthy behaviors. Therefore, this committee presents one key recommendation for community action to accompany the four recommendations for individual choices for nutrition and physical activity to reduce cancer risk. This recommendation for community action underscores just how important community measures are to the support of healthy behaviors by means of increasing access to healthful food choices and opportunities to be physically active. The ACS guidelines are consistent with guidelines from the American Heart Association for the prevention of coronary heart disease as well as for general health promotion, as defined by the Department of Health and Human Services' 2000 Dietary Guidelines for Americans.

**Comments:** Avoidance of cardiovascular disease, stroke, and cancer are big issues for our patients. Combined, these diseases take the lives of 1.5 million Americans annually—at a cost of almost \$500 billion in 2001. Furthermore, these conditions represent just a sample of the problems that we may address effectively by urging our patients to eat better—factor COPD, dementia, macular degeneration, and osteoporosis into the equation and the potential reduction in cost and human suffering is almost unfathomable.

The importance of counseling patients—on each visit—about the food that they eat cannot be overemphasized. Hippocrates said, “Let your food be your medicine,” and it is increasingly clear from the literature that he was on to something big! In an exhaustive review, Hu and Willett concluded that unprocessed foods help prevent cardiovascular disease. A diet low in saturated fat and refined grains, and high in fruits, vegetables, unrefined grains, and low-fat dairy products carries a cardioprotective wallop even after adjustments for differences in dietary folate, fiber, vitamin supplements,

alcohol intake, smoking, and saturated and monounsaturated fat intake. Bazzano et al examined 9608 patients over 19 years and demonstrated significant reductions in cardiovascular, stroke, and all-cause mortality from eating only three or more servings of fruits and vegetables a day. And the American Cancer Society has published guidelines for cancer prevention which point out that the incidence of lung, colon, and prostate cancers are all inversely related to fruit and vegetable intake. These guidelines were also noted to be “consistent with guidelines from the American Heart Association for the prevention of coronary heart disease as well as for general health promotion.”

These data are all the more intriguing when likened to our most common secondary and tertiary interventions. The HOPE, CURE, and other major studies examining the effects of ACE-inhibitors, antiplatelet agents, and statins demonstrate comparable reductions of events (though not necessarily of mortality). However, dietary interventions are cheaper, associated with higher rates of compliance, and truly get to the root of the problem, and so belong in our armamentarium right alongside the Altace, Plavix, and Pravachol.

We all must eat, but we have a choice of whether to eat poorly. Physicians know that if patients were to improve their diets and exercise habits, they would be healthier. Data show that a surprising number of our patients, particularly those of lower socioeconomic status, are unaware of the relationship between diet and disease, and we must bring this information into the examination room. Simple recommendations, worked in over the course of a routine office visit, to increase whole food intake and reduce fat and processed foods can have a profound impact on the health of our patients. The next time you hear, “I just don’t feel good, doc!” try replying, “What did you have for breakfast?”