

# Who Recommends Dietary Supplements?

---

## Some Prominent Nutrition Experts, Some Professional Organizations, and Even Government Reports

### ADVICE FROM DR. WALTER WILLETT AND DR. MEIR STAMPFER OF HARVARD:

#### *What vitamins should I be taking, Doctor?*

Dr. Walter Willett and Dr. Meir Stampfer, two prominent physician-researchers at Harvard Medical School and the Harvard School of Public Health, have offered the advice excerpted below on the use of nutritional supplements. (Willett & Stampfer, 2001)

**“Given the greater likelihood of benefit than harm, and considering the low cost, we conclude that a daily multivitamin that does not exceed the RDA of its component vitamins makes sense for most adults...”**

**“Substantial data suggest that higher intakes of folic acid, vitamin B-6 and vitamin D will benefit many people, and a multivitamin will ensure an adequate intake of other vitamins for which the evidence of benefit is indirect. A multivitamin is especially important for women who might become pregnant; for persons who regularly consume one or two alcoholic drinks per day; for the elderly, who tend to absorb vitamin B-12 poorly and are often deficient in vitamin D; for vegans, who require supplemental vitamin B-12; and for poor urban residents, who may be unable to afford adequate intakes of fruit and vegetables.”**

**“Although one could measure blood levels to identify those who would benefit most from multivitamins, this would be much more expensive than simply recommending that all adults take a supplement (at a typical cost of \$20 to \$40 per year). Education regarding nutrition is vitally important, but it has been far less effective than supplementation or the fortification of food in raising blood folic acid levels.”**

**“However, a vitamin pill is no substitute for a healthful lifestyle or diet, because foods contain additional important components, such as fiber and essential fatty acids. In particular, a vitamin supplement cannot begin to compensate for the massive risks associated with smoking, obesity, or inactivity. The cost of a multivitamin supplement is so low—similar to that of about a quarter of a serving of fruit or vegetables—that it is unlikely to displace healthful foods in most persons’ budgets.”**

### RECENT REITERATION OF MULTIVITAMIN ADVICE

Drs. Willett and Stampfer recently reiterated their multivitamin advice in a joint letter with Dr. Bruce Ames and Dr. Joyce McCann, following a National Institutes of Health Conference. (Ames, McCann, et al., 2007) The conference reviewed the evidence on multivitamin/mineral (MVM) supplements and concluded that there was not sufficient evidence to recommend for or against the use of MVM supplements for the prevention of chronic disease. (NIH State of the Science Conference on Multivitamins, 2006) This review, however, was limited to evidence from randomized controlled trials (RCTs) which included only 63 of the 11,261

available reports. By so limiting the scope of the NIH review, much relevant epidemiologic and mechanistic evidence was omitted from consideration, according to the authors of this letter. Their bottom line:

**“Of course, everyone would agree that all persons should be encouraged to eat a good diet, but we are far from achieving this goal, especially among the poor. In most cases, a simple way to improve micronutrient status is to take an MVM. However, even if one eats an ideal diet and takes an MVM, some vitamins can remain below recommended concentrations in some groups... A significant fraction of Americans have micronutrient intakes below the Estimated Average Requirement. Why establish values such as the Estimated Average Requirement and not take simple steps to eliminate deficiencies? Because MVMs are cheap, readily available, and nontoxic, why not recommend that people take an MVM, particularly because much epidemiologic, biochemical, and other evidence points to the need for an adequate supply of vitamins and minerals for optimum function on many levels? At a minimum, taking an MVM is good insurance.”** (Ames, McCann, et al., 2007)

### **ADVICE FROM TWO OTHER HARVARD PHYSICIANS**

Dr. Kathleen M. Fairfield and Dr. Robert H. Fletcher of Harvard Medical School and the Harvard School of Public Health reviewed the benefits of vitamins in protecting against chronic disease and concluded that a multivitamin would be prudent for virtually all adults. The physicians observed that “a large proportion of the general population” has less-than-optimal

intakes of a number of vitamins, exposing them to increased disease risk. They emphasized that the cost of routinely using a multivitamin is small—about \$20 to \$30 per year for brand-name products or as little as \$10 annually for the large, economy-size container of a store-brand product. (Fairfield & Fletcher, 2002; Fletcher & Fairfield, 2002)

### **HEALTH PROFESSIONALS RECOMMEND DIETARY SUPPLEMENTS**

The Council for Responsible Nutrition and the CRN Foundation sponsored numerous surveys of physicians, nurses, and other health professionals from 2007 to 2009—the “Life...supplemented” Healthcare Professionals (HCP) Impact Studies. (Dickinson, Bonci, et al., 2012; Dickinson, Boyon, et al., 2009; Dickinson, Shao, et al., 2011) The surveys were conducted and analyzed by Ipsos Public Affairs. In addition to the published articles reporting results of these surveys, the “Life...supplemented” website provides summary information. (CRN, 2012) Physicians surveyed included primary care physicians, ob/gyns, cardiologists, dermatologists, and orthopedists. Other health professionals surveyed included nurses, nurse practitioners, pharmacists, and dietitians. The surveys asked, among other things, whether various healthcare professionals “ever recommend dietary supplements” to their patients or clients, and the reasons for such recommendations. The following table shows the percentage of each professional group that responded positively to this question, and the top reasons they gave for recommending dietary supplements.

## PERCENTAGE OF HEALTH PROFESSIONALS WHO “EVER RECOMMEND” DIETARY SUPPLEMENTS TO PATIENTS OR CLIENTS, AND TOP REASONS FOR SUCH RECOMMENDATIONS

HEALTH PROFESSIONALS	PERCENT WHO “EVER RECOMMEND” DIETARY SUPPLEMENTS TO PATIENTS/CLIENTS	TOP REASONS FOR RECOMMENDING DIETARY SUPPLEMENTS
<b>Physicians</b> n=900 (primary care, ob/gyn, other)	79%	Bone health, overall health/wellness, joint health, heart health, healthy cholesterol
<b>Orthopedists</b> n=300	91%	Bone health, joint health, musculoskeletal pain, overall health/wellness
<b>Cardiologists</b> n=300	72%	Healthy cholesterol, heart health, overall health/wellness, bone health
<b>Dermatologists</b> n=300	66%	Skin/hair/nails, overall health/wellness, bone health, anti-aging
<b>Nurses</b> n=277	82%	Overall health/wellness, bone health, flu/colds, joint health, immune health, healthy cholesterol
<b>Nurse practitioners</b> n=300	96%	Bone health, overall health/wellness, fill nutrition gaps, women’s health, joint health
<b>Pharmacists</b> n=300	93%	Joint health, bone health, flu/colds, eye health, lower cholesterol
<b>Dietitians</b> n=300	97%	Bone health, fill nutrition gaps, overall health/wellness, healthy cholesterol, heart health

### ADDING A “SUPPLEMENT FLAG” TO FOOD GUIDE PYRAMIDS

Scientists at the USDA Human Nutrition Research Center on Aging at Tufts University have given careful thought to the nutritional needs of the elderly. Older people have lower energy needs and tend to eat less. A national survey showed that about 40 percent of people over the age of 70 consumed less than two-thirds of the recommended energy intake, making it difficult for them to get recommended amounts of nutrients. Calcium, vitamin D, and vitamin B-12 are of particular concern for the elderly. The researchers emphasize the importance of educating older Americans to select nutrient-dense foods within all the food groups. To assist in nutrition education, these scientists developed a modified Food Guide Pyramid for the elderly. It sits on a base of water, emphasizing the need for at least eight glasses of water daily. Symbols are added to encourage the consumption of more fiber-rich grains, fruits,

vegetables, and legumes. “Finally, a flag should be placed on the top of the 70+ Food Pyramid indicating that supplements of calcium, vitamin D and vitamin B-12 are frequently appropriate to promote optimal health.” (Russell, Rasmussen, et al., 1999)

In a book about diet and health, Dr. Willett offers a “Healthy Eating Pyramid” that places more emphasis on whole grains, decreases the emphasis on dairy products, and relegates refined grain products as well as red meats and butter to the tip of the pyramid, along with sweets and fats—to be consumed “sparingly.” A sidebar accompanies the pyramid, recommending “multiple vitamins for most.” (Willett, 2001) The current website for *The Nutrition Source*, a publication of the Harvard School of Public Health, also shows an updated “Healthy Eating Pyramid” with a sidebar that recommends: “Daily multivitamin plus extra vitamin D (for most people).” (HSPH, 2012)



## ADVICE FROM *DIETARY GUIDELINES FOR AMERICANS*

*Dietary Guidelines for Americans*, first published by the U.S. Department of Agriculture and the Department of Health and Human Services in 1980, must by congressional mandate be updated every five years. All editions of the *Dietary Guidelines* emphasize maintaining a healthy weight and choosing foods sensibly. Of the three most recent editions, the 2005 guidelines express the strongest concern about low intakes of some nutrients. (Department of Agriculture and Department of Health and Human Services, 2005) The nutrients of concern include the following:

- For adults: calcium, potassium, fiber, magnesium, vitamin A (as carotenoids), vitamin C, and vitamin E.
- For children and adolescents: calcium, potassium, fiber, magnesium, and vitamin E.

The 2000 and 2005 editions also recognize special needs for supplements for certain population groups. (Department of Agriculture and Department of Health and Human Services, 2000, 2005) These include:

- B-12 supplements for people over the age of 50, because their absorption of B-12 from food may not be efficient.

- Synthetic folic acid from fortified foods or supplements for women of childbearing age who may become pregnant and for those in the first trimester of pregnancy.
- Vitamin D from fortified foods or supplements for older adults, for people with dark skin, and for people not exposed to sufficient sunlight.

The 2010 *Dietary Guidelines for Americans* recognize that the probability of adequacy is tenuous for numerous vitamins and minerals and note that “in some cases, fortified foods and dietary supplements may be useful in providing one or more nutrients that otherwise may be consumed in less than recommended amounts.” (Department of Agriculture and Department of Health and Human Services, 2010; Dietary Guidelines Advisory Committee, 2010)

## POSITION OF THE ACADEMY OF NUTRITION AND DIETETICS

The Academy of Nutrition and Dietetics (formerly the American Dietetic Association) advocates meeting nutritional needs through wise selection of a wide variety of foods, but has adopted a policy statement recognizing that additional nutrients from supplements “can help some people meet their nutrition needs as specified by science-based nutrition standards such as the Dietary Reference Intakes.” (Marra & Boyar, 2009) The policy statement notes: “Many Americans do not consume the amount and types of foods necessary to meet recommended micronutrient intakes,” perhaps in part because only about three to four percent of Americans follow the recommendations of the *Dietary Guidelines for Americans*. (King, 2007)

The statement acknowledges that multivitamin and mineral supplements “can be an effective way to increase nutrient intakes to meet recommended levels of multiple nutrients... In some cases such as with calcium, an additional supplement may be considered

to help meet recommended intakes, particularly in at-risk groups (e.g., older adults) where supplementation has been shown to have positive outcomes.” (Marra & Boyar, 2009)

The policy statement also mentions a number of special needs that can be met by supplements:

- Supplemental vitamin D for infants, children, and teens who do not consume large amounts of milk fortified with vitamin D.
- Folic acid for women of childbearing age who may become pregnant.
- Folic acid and a multivitamin with iron for many pregnant women.
- Supplemental B-12 and vitamin D for people over age 50.
- Vitamin D for people with low exposure to sunlight and for people with dark skin, who have a decreased ability to synthesize vitamin D from sunlight.

## OLDER AMERICANS ACT

The Nutrition Program established by the Older Americans Act provides congregate meals (senior dining) and meals on wheels (home-delivered meals) to older Americans who are at high nutritional risk. When Congress re-authorized the Older Americans Act in 2006, it included “sense of Congress” language encouraging nutrition providers to consider whether people participating in the program would benefit from a multivitamin-mineral supplement. This notion has been opposed by some on the grounds that the cost of supplements would take away from the amount of food or the number of meals that could be provided. (Marra & Wellman, 2008) However, it is difficult to imagine what other expenditure would provide more nutritional impact for those who are already at risk.

A brand-name multivitamin with minerals can be purchased at a retail store for about seven cents a day. If store brands are purchased or if products are bought on sale, the price, even at retail, can be cut substantially. Products distributed through a Federal feeding program would undoubtedly be purchased in bulk at even more of a savings. Adding a multivitamin/mineral supplement to a Federal feeding program may be controversial, but it deserves careful consideration and a realistic cost/benefit analysis.

## COST OF A MULTIVITAMIN WITH MINERALS OR A FORTIFIED BREAKFAST CEREAL

This table shows the cost of a daily multivitamin with minerals, compared to the cost of a serving of a fortified breakfast cereal. The cereal will, of course, provide calories as well as additional nutrients. Prices were obtained in supermarkets and drug stores in the upper Midwest in early 2012.

PRODUCT	COST PER DAY	COST PER MONTH
Store-brand multivitamin with minerals	\$0.05 per day	\$ 1.50 per month
Brand-name multivitamin with minerals	\$0.07 per day	\$2.17 per month
Fortified breakfast cereal 1 oz. (no milk)	\$0.31 per day	\$9.28 per month
Fortified breakfast cereal with 1/2 cup milk	\$0.46 per day	\$13.80 per month

## Bottom Line

Most people would benefit from adding a multivitamin and mineral supplement to their daily dietary intake, to ensure adequacy of a number of nutrients that are often not consumed in recommended amounts. A multivitamin would supply the extra vitamin B-12 and vitamin D recommended for the elderly. A multivitamin or a fully fortified breakfast cereal would supply the extra folic acid recommended for women of childbearing age.

## REFERENCES

- Ames, B. N., McCann, J. C., Stampfer, M. J., & Willett, W. C. (2007). Evidence-based decision making on micronutrients and chronic disease: long-term randomized controlled trials are not enough. [Letter to the Editor]. *Am J Clin Nutr*, 86, 522-525.
- CRN. (2012). Life...supplemented, Healthcare professionals impact study. Retrieved January 15, 2012, from [http://www.lifesupplemented.org/supplements/healthcare\\_professionals\\_impact\\_study.htm](http://www.lifesupplemented.org/supplements/healthcare_professionals_impact_study.htm)
- Department of Agriculture and Department of Health and Human Services. (2000). *Dietary Guidelines for Americans, Fifth Edition*.
- Department of Agriculture and Department of Health and Human Services. (2005). *Dietary Guidelines for Americans, Sixth Edition*.
- Department of Agriculture and Department of Health and Human Services. (2010). *Dietary Guidelines for Americans, Seventh Edition*.
- Dickinson, A., Bonci, L., Boyon, N., & Franco, J. C. (2012). Dietitians use and recommend dietary supplements: report of a survey. *Nutr J*, 11, 14.
- Dickinson, A., Boyon, N., & Shao, A. (2009). Physicians and nurses use and recommend dietary supplements: report of a survey. *Nutr J*, 8, 29.
- Dickinson, A., Shao, A., Boyon, N., & Franco, J. C. (2011). Use of dietary supplements by cardiologists, dermatologists and orthopedists: report of a survey. *Nutr J*, 10, 20.
- Dietary Guidelines Advisory Committee. (2010). *Report of the Dietary Guidelines Advisory Committee on the 2010 Dietary Guidelines for Americans*.
- Fairfield, K. M., & Fletcher, R. H. (2002). Vitamins for chronic disease prevention in adults: scientific review. *J Am Med Assn*, 287(23), 3116-3126.
- Fletcher, R. H., & Fairfield, K. M. (2002). Vitamins for chronic disease prevention in adults: clinical applications. *J Am Med Assn*, 287(23), 3127-3129.
- HSPH. (2012). Healthy eating plate and healthy eating pyramid. Retrieved January 15, 2012, from <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/pyramid>
- King, J. C. (2007). An evidence-based approach for establishing dietary guidelines. *J Nutr*, 137(2), 480-483.
- Marra, M. V., & Boyar, A. P. (2009). Position of the American Dietetic Association: nutrient supplementation. *J Am Diet Assoc*, 109(12), 2073-2085.
- Marra, M. V., & Wellman, N. S. (2008). Multivitamin-mineral supplements in the Older Americans Act Nutrition Program: not a one-size-fits-all quick fix. *Am J Public Health*, 98(7), 1171-1176.
- NIH State of the Science Conference on Multivitamins. (2006). Panel report. <http://consensus.nih.gov/2006/multivitaminstatement.htm>
- Russell, R. M., Rasmussen, H., & Lichtenstein, A. H. (1999). Modified Food Guide Pyramid for people over seventy years of age. *J Nutr*, 129(3), 751-753.
- Willett, W. C. (2001). *Eat, Drink and Be Healthy*. New York, N.Y.: Simon & Shuster Source.
- Willett, W. C., & Stampfer, M. J. (2001). Clinical practice. What vitamins should I be taking, doctor? *N Engl J Med*, 345(25), 1819-1824.